

National Institutions

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Antigua & Barbuda

Antigua and Barbuda form part of the Leeward Islands in Eastern Caribbean. West Antigua is basically volcanic rock rising at Boggy Peak; the east and north are mostly low-lying limestone areas and the rest of the Island is marked by a central plain. It has springs but no rivers. Barbuda is mostly flat with a large lagoon to the west. The total area of the Islands is 441 sq kms.

Upto 1960 Agriculture, (mainly Sugar and Cotton) was the dominant sector of the economy. With a relative and absolute decline in agricultural production, the Government resorted to a programme of Economic Diversification with emphasis on tourism. However, it is recognized that Agriculture will have play a vital role in the economy so as to reduce the heavy reliance on tourism, and to provide linkage with the tourism sector.

The basic policy measure is to achieve as far as possible, self-sufficiency and realize import substitution in the important sub-sectors of Livestock, Fisheries, Fruits and Vegetables.

Currently, the contribution of Agriculture to the gross domestic product and employment is estimated at approximately 10%. One of the main constraints to agricultural development is the shortage of adequate trained personnel. Therefore, the Government places high priority on human resource development and training which would provide the necessary skills for accelerating agricultural development.

The following measures are being taken to provide training opportunities in the country :-

- The restructuring of school curriculum to include the teaching of agriculture at both primary and secondary levels, is an important innovation. Courses are offered in Agricultural Science at Ordinary Level at the following secondary schools:- All Saints, Jennings, Ottos Comprehensive and Princess Margaret. However, there are no local Certificate or Diploma courses at tertiary level.
- The Division of Agriculture offers some in-service training in Agriculture for its trainees, extension and other technical staff. The faculty of CARDATS, CARDI and the University of the West Indies through the Caribbean Agricultural Extension Project complement the Ministry staff in both staff and farmer training.
- Training at technician level is made available at the Eastern Caribbean Institute of Agriculture and Forestry in Trinidad, and at the Regional Educational programme for Animal Health - Assistants in Guyana. The University of West Indies, St. Augustine, Trinidad is the main source of higher level training.
- Training attachments, workshops, both regionally and extra-regionally, are also availed of.
- The Antigua State College is also considering offering courses in Agriculture.

Australia

The development of Australian rural industries has been determined by a number of interacting factors. The most important of these have been the availability of profitable markets, the opening up of new land (including development of transport facilities) and technical and scientific advances (including plant and animal breeding).

Long term prospects for expansion of rural production will depend in the future, as they have in the past, on profitable markets. The Australian domestic market, with the inherent advantages of relative reliability of supply and stability in prices, will expand. Overseas markets are less predictable with consequent uncertainty for Australian agriculture.

The main administrative responsibilities relating to agriculture are divided between the six States (namely: New South Wales, Queensland, South Australia, Tasmania, Victoria, and Western Australia), Northern Territory and the Australian Government. Constitutional powers relating to agricultural production rest primarily with the States, and the Northern Territory, which administer such matters as advisory and extension services, internal quarantine, production controls (where applicable), land tenure and settlement policy, and intra-State trade.

The main areas of accepted Australian Government responsibility are overseas marketing, promotion and information services for exporters, quarantine services for imports and health and quality standards for exports, the provision of credit and financial incentives which are uniform throughout Australia, and all matters relating to agriculture in the Australian Territories.

Most recent policy measures of the Australian Government have been designed to encourage the sound development of existing and new primary industries, to stimulate productivity, to encourage efficient resource utilization, to assist in the development and maintenance of markets for agricultural products, and to promote stability and confidence in the rural sector.

Agricultural education, training and research are to some extent also State responsibilities. For example, in New South Wales, the Department of Agriculture and Fisheries has highly developed research and advisory services covering all general and specialist branches of agriculture and fisheries. And in Victoria, specific courses are provided from time to time by the Department of Agriculture and Rural Affairs, educational institutions and agricultural consultant firms to meet specific training needs identified by developing nations. In most cases, such courses are supported by the Australian Development Assistance Bureau as part of its international aid programme.

Agricultural education at tertiary level in Universities and Colleges of Advanced Education is funded by the Australian Government. The overall responsibility for education, including agricultural education, in the Australian Capital Territory is vested in the federal Department of Education, and in the various States and the Northern Territory in their respective departments of education.

The policy of the Australian Government is to encourage the quality, adequacy and availability of agricultural education. There is an awareness among government and rural industry organizations of the importance of continuing evaluation of the needs and opportunities in agricultural education. Courses available to satisfy these needs range from formal degree and certificate courses to short courses for farmers and farm employees. The subject content of such courses is updated in an attempt to keep pace with changing circumstances in the rural sector.

Some Australian Universities offer undergraduate and higher degrees in agriculture and related fields, while the agricultural colleges and other tertiary educational institutions offer degrees, diplomas and certificates which are predominantly practically oriented. Agriculture and related topics are taught at varying levels in the secondary schools. In some States the rural youth organizations are active in encouraging young people to be interested in farming.

AUSTRALIAN CAPITAL TERRITORY

AUS 1 THE AUSTRALIAN NATIONAL UNIVERSITY

Enquiries The Registrar, The Australian National University, GPO Box 4, Canberra, ACT 2601. Tel: 062-49 5111. Telex: AA62760 NATUNI. Fax: 062-489062

Managing agency Largely autonomous.

General details 1) 2 terms: March- June; July-December.
2) Residential accommodation is available.
3) Students from abroad are accepted.

Courses **FORESTRY**
4-year course leading to BSc (For)
The course aims to give a thorough appreciation of the basic biological, physical and social sciences pertinent to the forest ecosystem, as well as a comprehensive knowledge of the science, art and business of forestry.
Entry standard: Minimum aggregate of marks or tertiary entrance score in state-territory year 12 assessment, or equivalent.

1-year Graduate Diploma course in more specialised training in selected aspects of Forestry and Forest Science.
Entry standard: First degree in Forestry or equivalent.

1-2 year courses of research leading to MSc (For) and 2-4 year courses of study and research leading to PhD.
Research facilities are available for: Soil science, Forest botany, Wildlife management, Forest protection, Fire, Forest pathology, Pest Control, Dendrology, Ecology, Physiology, Silviculture, Wood science, Utilisation, Engineering, Hydrology, Mensuration, Economics, Recreation operation analysis, Forest management and planning, Land and biological conservation.
Entry standard: Appropriate first degree or diploma.

NEW SOUTH WALES

Australia

AUS 2 HAWKESBURY AGRICULTURAL COLLEGE

Enquiries The Registrar, Hawkesbury Agricultural College, Bourke St. Richmond, NSW, 2753. Tel: 045-701333. Fax: 045-783979. Intern:(6145).

Managing agency Governing Council responsible to Australian Government.

General details 1) Residential accommodation is available. 2) Students from abroad are accepted.

Courses **AGRICULTURE**
3.5-year course leading to Bachelor of Applied Science.
Entry standard: GCE 'A' level or university entrance.

AGRICULTURE MECHANISM
2-year course leading to Associate Diploma.
Entry standard: 'A' levels or equivalent.

BIOLOGICAL AND CHEMICAL TECHNOLOGIES
2-year course leading to Associate Diploma.
3-year course leading to Bachelor of Applied Science.
Entry standard: 'A' levels or equivalent.

FOOD TECHNOLOGY
2-year course leading to Associate Diploma in Food Control.
3-year course leading to Bachelor of Applied Science.
Entry standard: GCE 'A' level or university entrance.

HOME ECONOMICS
3-year course leading to Bachelor of Applied Science.
4-year course leading to B.Ed.
Entry standard: 'A' levels or equivalent.

ENVIRONMENTAL HEALTH
3-year course leading to Bachelor of Applied Science.
Entry standard: 'A' levels or equivalent.

HORTICULTURE
2-year course leading to Associate Diploma.
3.5-year course leading to Bachelor of Applied Science.
Entry standard 'A' levels or equivalent.

LAND ECONOMY
3-year course leading to Bachelor of Business in Land Economy (including Valuation).
3-year course leading to Diploma of Business in Land Economy.
Entry standard: 'A' levels or equivalent.

Note: Postgraduate courses are also available in Agriculture, Social Ecology, Food Sciences, Land Economy. Students should hold an appropriate first degree or diploma.

AUS 3 MACQUARIE UNIVERSITY

Enquiries The Registrar, Macquarie University, NSW, 2109. Tel: (02)805 7111 Telex: Macquni AA 23377. Fax : (02) 805-7565

Managing agency Largely autonomous.

General details 1) 2 terms: Mar/Jul, Jul/Nov. 2) Residential accommodations is available. 3) Students from abroad are accepted.

Courses	BIOLOGICAL SCIENCES 3-4 year Bachelor Degree courses in Animal Science, Biochemistry, Biology, Botany and Zoology. Entry standard: Higher School Certificate or its equivalent. Higher Degree courses (1-2 years for MSc and 3-5 years for PhD) in Animal Physiology, Biology, Botany, Entomology, Microbiology, Plant Physiology, Soil Science, and Zoology. Entry standard: Appropriate Honours degree or equivalent.
AUS 4	ORANGE AGRICULTURAL COLLEGE
Enquiries	The Secretary, Orange Agricultural College, P O Box 883, Orange, NSW 2800. Tel:(063) 635555. Fax: (063) 635698
Managing agency	State Government.
Courses	FARM MANAGEMENT 2-year course leading to Associate Diploma in: Farm Management Curriculum covers Business management, Farm management, Animal production, Plant production. Farm Secretarial Studies Course provides students with a thorough understanding and training in the techniques and business recording aspects of farm production. Entry standard: Higher School Certificate or equivalent, plus 1 year's practical experience for the Farm Management course. HORTICULTURE 2-year course leading to Associate Diploma in Horticulture (Fruit and Vegetables). Course is designed to upgrade skills of horticultural managers or those people involved in fruit and vegetable enterprises who require further expertise and management skills. Entry standard: Higher School Certificate or equivalent, plus some work experience. LAND MANAGEMENT 4-year external course leading to Associate Diploma. Course provides practical management training in the sustainable utilisation and restoration of land and associated environments, and will appeal to those wishing to upgrade, extend or develop expertise in the conservation and management of land resources. Entry standard: Higher School Certificate or equivalent. Note: Starting in 1989 courses will be available leading to Bachelor of Business (Agricultural Commerce) and a postgraduate Diploma in Farm Business Management.
AUS 5	RIVERINA-MURRAY INSTITUTE OF HIGHER EDUCATION
Enquiries	The Principal, Riverina-Murray Institute of Higher Education, Riverina Campus (School of Agriculture), P O Box 588, Wagga Wagga, NSW 2650. Tel: 069 232222. Telex: RIVCOL 69050.

Australia

Managing agency Council of Riverina College of Advanced Education, NSW.

General details 1) 2 terms commencing Feb and Jul. 2) Residential accommodation is available 3) Students from abroad are accepted.

Courses **AGRICULTURE**
2.5-year Associate Diploma course in Agriculture (Farming Strand and Horse Husbandry Strand).
Entry standard: NSW High School Certificate or equivalent.
Evidence of ability to be involved in the operation of a farm or a horse enterprise during the period of study.

4 years external study leading to Associate Diploma in Agricultural Protection.
Entry standard: NSW Higher School Certificate or equivalent.

3-year Bachelor Degree course.
The vocational course provides a training in general agriculture with an emphasis on the application of science, technology and management practices into modern agriculture.
Entry standard: Higher School Certificate or equivalent including passes in science and mathematics.

HORTICULTURE
2-year course or 4 years external study leading to Associate Diploma in Horticulture (Viticulture).
The course provides an advanced understanding of the production aspects of grape growing and vineyard management relevant to the wine-making and dried fruits industry.

2-year course or 4 years external study leading to Associate Diploma in Horticulture (Amenity Horticulture).
The course provides training in the areas of nursery production, landscaping services and similar small horticultural business.
Entry standard: NSW Higher School Certificate or equivalent.

AUS 6 UNIVERSITY OF NEW ENGLAND

Enquiries The Academic Secretary, University of New England, Armidale, NSW 2351. Tel: 067-733333. Telex: 66050. Fax: 067-733122.

Managing agency Autonomous.

General details 1) 2 terms: Feb/Jun, Jul/Nov 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
4-year courses leading to Bachelor of Rural Science with specialisation in Agricultural Economics, Agricultural Engineering, Agronomy, Animal Science and Production, Biochemistry, Nutrition, Ecosystem Management, Farm Management, Genetics, Horticulture, Natural Resources, Soil Science.
Entry standard: Usual university matriculation.

1-year postgraduate courses leading to Diploms in subjects listed above (Dip.Ag.Ec., Dip.Sc.Ag., Dip. Hort.Sc., Dip.Nat. Res.)
Entry standard: Approved pass degree.

1-3 year courses leading to higher degree in wide range of subjects as listed above MSc., MSc.Stud, MSc.Ag., M.Rur.Sc., M Ec.
Entry standard : Appropriate first degree

AUS 7 UNIVERSITY OF NEW SOUTH WALES

Enquiries The Registrar, University of New South Wales, P O Box 1, Kensington, NSW 2033. Tel: 02-6630351. Telex: AA 26054.

Managing agency Largely autonomous.

General details 1) 2 terms: Mar/Jun, Jul/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **FOOD SCIENCE AND TECHNOLOGY**
3-4 year courses leading to BSc and BSc (Tech)
Entry standard: University matriculation
1-2 year course leading to Master of Applied Science in Food Technology.
Entry standard: Appropriate first degree.

1-year course leading to Graduate Diploma in Food Technology.
Entry standard: Appropriate first degree.

WOOL AND PASTORAL SCIENCES

3-4 year course leading to BSc.
Course includes study of biology, chemistry, biochemistry and mathematics, together with a broad education in the applied sciences of agronomy, nutrition, genetics, reproductive biology, health, ecology, wool technology and management.
Entry standard: University matriculation.

1-year course leading to Graduate Diploma.
Entry standard: Appropriate first degree.

AUS 8 UNIVERSITY OF SYDNEY

Enquiries The Registrar, University of Sydney, NSW 2006. Tel: 692 2222. Telex: AA 20056. Fax: 692 4203

Managing agency Largely autonomous.

General details 1) 3 terms: Mar/May, Jun/Aug, Sep/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURAL SCIENCE**
4-year course leading to BSc(Agr). Specialisation in plant sciences or animal husbandry.
Entry standard: University matriculation.

1-year courses leading to MSc.in Agriculture.
Entry standard: Appropriate first degree.

AGRICULTURAL ECONOMICS

4-year course leading to Bachelor of Agricultural Economics.
Subjects offered include: Animal science, Crop botany, Econometrics, Accounting, Agronomy.
Entry standard: University matriculation.

1-year courses leading to Master of Agricultural Economics.

Entry standard: Appropriate first degree.

VETERINARY SCIENCE

5-year course leading to Bachelor of Veterinary Science.

Subjects studied include: Animal production, Veterinary clinical pathology, Veterinary surgery, Veterinary medicine, Veterinary public health.

Entry standard: Appropriate first degree.

1-year course leading to Master of Veterinary Science.

2-year course leading to Ph.D.

Entry standard: Appropriate first degree.

AUS 9

UNIVERSITY OF TECHNOLOGY, SYDNEY

Enquiries

The Principal, University of Technology, PO Box 123, Broadway 2007, New South Wales. Tel.20930.

General details

Two semesters - autumn and spring.

Courses

HORTICULTURE

4-year course leading to Bachelor of Applied Science in Urban Horticulture.

Syllabus includes: Plant protection, Plant ecophysiology, Australian ecology, Horticultural science, Horticultural management.

Entry standard: Higher School Certificate or equivalent.

BIOLOGICAL SCIENCES

3-year courses (6 years part-time) leading to Bachelor of Applied Science in:

Applied Biology

with specialisation in Environmental Biology or Biotechnology.

Biomedical Science

specialisation in Biochemistry, Cellular Pathology or Microbiology.

Entry standard: Higher School Certificate or equivalent.

QUEENSLAND

AUS 10

DARLING DOWNS INSTITUTE OF ADVANCED EDUCATION

Enquiries

The Registrar, Darling Downs Institute of Advanced Education, Post Office, Darling Heights, Toowoomba, Queensland 4350. Tel: (076) 312100. Telex: 40010. Fax: (076) 301182

Managing agency

Autonomous.

Courses

AGRICULTURAL ENGINEERING

4-year course leading to BE (Agr).

Entry standard: A tertiary entrance score of 810 or its equivalent including mathematics, chemistry and physics.

2-year course leading to Master of Engineering by thesis.

The course aims to enable students to demonstrate a broad knowledge of agricultural engineering and Australian agriculture and have a detailed knowledge of at least one significant aspect of agricultural engineering.

Entry standard: Appropriate first degree.

AUS 11

GRIFFITH UNIVERSITY

Enquiries The Registrar, Griffith University, Nathan, Brisbane, Queensland, 4111. Tel: 07-27571111. Telex: AA40362. Fax: 07-2773759

Managing agency Autonomous.

General details 1) 2 terms Feb/Jun, Jul/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

ENVIRONMENTAL STUDIES

3-year course leading to BSc at the School of Australian Environmental Studies.

The course aims to provide an understanding of the inter-relationships between human societies and their environment and develop communication, problem-solving, laboratory and fieldwork skills. Students may choose from a number of specialisations including Land and Water Processes and Environmental Pollution and Health.

Entry standard: Year 12 at a Queensland secondary school or equivalent. Overseas students may be required to undertake a written or oral examination in specified subjects.

3-year part-time course leading to MSc.

This is a postgraduate course which focuses on environmental impact assessment and resource management.

Entry standard: An Honours degree or equivalent.

Note: Study leading to the award of research degrees of MPhil or PhD may be undertaken on a full-time or part-time basis, although the School prefers its PhD candidates to be full-time students.

AUS 12

JAMES COOK UNIVERSITY OF NORTH QUEENSLAND

Enquiries The Registrar, James Cook University of North Queensland, Townsville, Queensland 4811. Tel: 077-814111. Telex: AA 47009. Fax: (077) 796371

Managing agency Largely autonomous.

General details 1) 2 semesters: February-July, July-November.
2) Residential accommodation is available.
3) Students from abroad are accepted.

Courses

AGRICULTURE

1-2 year postgraduate course leading to MSc in Tropical Agriculture.

Subjects covered include: Tropical crops/pastures/farming systems, Socio-economic themes in agriculture, Animal production, Biometrics; with elective subjects: Soils and biogeography, Computer programming, Land use management in the tropics, Ruminant nutrition, Animal reproduction and management, Plant/herbivore relationships, Tropical agro-ecosystems.

Entry standard: Appropriate Honours degree or equivalent.

TROPICAL ECOLOGY

1-2 programme leading to MSc in Tropical Ecology by coursework and research.

The course aims to provide an introduction to the techniques and principles of resources management in the tropics, especially through research projects.

Entry standard: Appropriate Honours degree or equivalent.

VETERINARY SCIENCE

1-2 year programmes leading to MSc by coursework and research,

Entry standard: A recognised veterinary degree and at least two years' postgraduate experience.

1-2 year programmes leading to MSc by research.

1-2 year programmes leading to PhD by research in Animal Health and Animal Production.

Entry standard: Appropriate first degree.

AUS 13

QUEENSLAND AGRICULTURAL COLLEGE

Enquiries

The Registrar, Queensland Agricultural College, Lawes, Queensland 4343. Tel: (075) 620217.

Managing agency

State Government.

Courses

AGRICULTURE

1-year postgraduate course leading to Diploma of Applied Science. Specialisations available in Agricultural Marketing, Agricultural Mechanisation, Agronomy, Animal Production, Farm Management, Horticultural Production, Plant Protection, Urban Parks Management. Entry standard: Appropriate degree plus work experience.

1-2 year postgraduate course leading to Master of Agricultural Studies.

Entry standard: Appropriate Honours degree or equivalent.

FARM MANAGEMENT

2-year course leading to Associate Diploma of Applied Science in Farm Management.

Strands available in Agronomy, Apiculture, Grazing Animal Production, Horse Husbandry, Horticulture and Intensive Livestock Production.

Entry standard: Completion of secondary education to Year 12.

FOOD STUDIES

2-year course leading to Associate Diploma of Applied Science in: Food Processing

Subjects studied include Commodities, Laboratory techniques, Production control, quality assurance.

Stock and Meat Inspection

Subjects studied include Animal health, Field practice, Legislation, Meat inspection, Meat science, Stock husbandry.

Entry standard: Completion of secondary education to Year 12.

4-year sandwich course leading to Bachelor of Applied Science in Food Technology.

Subjects studied include Food sciences, Food analysis, Industrial management.

Entry standard: Tertiary entrance score of at least 810 or equivalent.

HORTICULTURE

4-year sandwich course leading to Bachelor of Applied Science in Horticultural Technology.

Specialisations are available in Horticultural Production, Plant Protection, Urban Parks Management.

Entry standard: Tertiary entrance score of at least 810 or equivalent.

POSTHARVEST TECHNOLOGY

3.5-year sandwich course leading to Bachelor of Applied Science.

Subjects studied include: Handling and distribution, International trade practices, Packaging, Postharvest physiology, Postharvest technology.

Entry standard: Tertiary entrance score of at least 810 or equivalent.

RURAL STUDIES

2-year course leading to Associate Diploma of Applied Science in Rural Techniques.

Strands available in Agricultural Mechanisation, Agronomy, Animal Husbandry, Wilderness Reserves and Wildlife.

Entry standard: Completion of secondary education to Year 12.

4-year sandwich courses leading to Bachelor of Applied Science in: Rural Management

Specialisations available in Agricultural Marketing and Farm Management.

Rural Technology

Specialisations available in Agricultural Mechanisation, Agronomy, Grazing Animal Production, Monogastric Animal Production, Plant Protection.

Entry standard: Tertiary entrance score of at least 810 or equivalent.

SOIL AND WATER MANAGEMENT

3.5-year sandwich course leading to Bachelor of Applied Science.

Subjects studied include: Soil and water engineering, Personnel management, Agricultural extension, Land management, Quantitative analysis.

Entry standard: Tertiary entrance score of at least 810 or equivalent.

AUS 14**TECHNICAL CORRESPONDENCE SCHOOL****Enquiries**

The Supervisor, Technical Correspondence School, P O Box 1326, South Brisbane, Queensland 4101. Tel: (07) 8443766. Telex: 140923.

Managing agency

Department of Education.

Courses**RURAL STUDIES**

4-year part-time course leading to Associate Diploma of Applied Science (Rural)

The course provides students with a knowledge and understanding of production and management practices in the horticultural, agricultural and animal husbandry rural industries. The flexible correspondence mode employed allows students to select from a range of subjects which relates to their vocational and/or interest needs.

Entry standard: Completion of Year 12 with a minimum of sound achievement in English, maths or a science subject, or equivalent.

AUS 15 UNIVERSITY OF QUEENSLAND

Enquiries The Registrar, University of Queensland, St Lucia, Queensland 4067. Tel: 07-3773687. Telex: UNIVOLD AA40315. Fax: (07) 371 5896.

Managing agency Largely autonomous.

General details 1) 2 terms: Feb/Jun, Jul/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
1-year postgraduate course leading to Diploma in Agricultural Studies.
Streams of specialisation: Agricultural Economics; Tropical Horticultural Science; Agricultural Extension; Natural Resources Management; Plant Breeding; Rural Development, Administration and Management; Soil Science; Tropical Animal Production; Tropical Crop Science; Tropical Pasture Science.
Entry standard: Appropriate degree and some experience.

1-2 year postgraduate course leading to Master of Agricultural Studies.
Streams of specialisation: Agricultural Systems; Agricultural Extension; Natural Resources Management, Plant Breeding; Rural Development, Administration and Management; Soil Science; Tropical Animal Production; Tropical Crop Science; Tropical Pasture Science.
Entry standard: Appropriate degree plus at least 3 years' approved experience.

Supervised research courses leading to Master of Agricultural Science and Doctor of Philosophy can be taken in nearly all areas of agricultural science, with the exception of agricultural engineering.

SOUTH AUSTRALIA

AUS 16 FLINDERS UNIVERSITY OF SOUTH AUSTRALIA

Enquiries The Registrar, Flinders University of South Australia, Bedford Park, SA, 5042. Tel: 08-2753911. Telex: AA 89624 FLINDU.

Managing agency Autonomous.

General details 1) 3 terms: Mar/May, Jun/Aug, Sep/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **ANIMAL PHYSIOLOGY**
2-3 year postgraduate course leading to MSc.
Entry standard: Appropriate Bachelor degree.

BIOLOGICAL SCIENCES
3-4 year course leading to BSc.
Entry standard: Usual university entrance.

EARTH SCIENCES
3-4 year course leading to BSc.
Entry standard: Usual university entrance.

PLANT PHYSIOLOGY

2-3 year postgraduate course leading to MSc.

Entry standard: Appropriate Bachelor degree.

AUS 17**ROSEWORTHY AGRICULTURAL COLLEGE****Enquiries**The Academic Secretary, Roseworthy Agricultural College,
Roseworthy, SA 5371. Tel: 085-248057.**Managing agency**

Autonomous.

General details

1) Semesters commence Feb and July 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses**SUNDRY**

2-year courses at vocational and technician level leading to Associate Diploma and

3-year courses leading to Bachelor degree in Agriculture, Natural Resources Management and Wine Marketing

Entry standard: Secondary education or adult admission.

1-year course leading to Postgraduate Diploma in Agriculture, Natural Resources and Wine.

Entry standard: Appropriate degree or diploma.

AUS 18**UNIVERSITY OF ADELAIDE****Enquiries**

The Registrar, University of Adelaide, GPO Box 498 Adelaide, SA 5001 (5001). Tel: 08-2285333. Cables: UNIVAD, Adelaide.

Managing agency

Autonomous.

General details

1) 3 terms: Mar/May, Jun/Aug, Aug/Dec. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses**AGRICULTURAL SCIENCE**

4-year course leading to Bachelor Degree.

Course comprises studies in the various sciences, both pure and applied, that are basic to agriculture. In the later years students may select subjects from a wide range of applied studies relevant to agriculture.

Entry standard: University matriculation or equivalent.

PEST MANAGEMENT

1-year postgraduate course leading to Master of Agriculture.

Entry standard: Ordinary degree plus at least 3 years' professional experience, or Honours degree in an appropriate discipline.

SUNDRY

3-year postgraduate courses leading to Master of Agriculture in Agricultural Biochemistry, Agronomy, Animal Sciences, Entomology, Plant Pathology, Plant Physiology, Soil Science, Biometry.

Entry standard: Appropriate Honours degree or Master's qualifying period.

TASMANIA

AUS 19 TASMANIAN STATE INSTITUTE OF TECHNOLOGY

Enquiries The Principal, Tasmanian State Institute of Technology, Off-Campus Studies Centre, P O Box 1214, Launceston, Tasmania.7250. Tel: 003-260201. Fax: 003-265223.

Managing agency Tasmania State Government

Courses **AGRICULTURAL BUSINESS MANAGEMENT**
4-year external course leading to Associate Diploma of Business in Agriculture.
Subjects covered include: Agricultural marketing, Agricultural taxation, Business planning, Whole farm analysis, Agricultural business law.
Entry standard: Higher School Certificate; For Mature Age Entry (over 21 years of age) work experience is necessary.

APPLIED BIOLOGY
3-year course leading to Bachelor of Applied Science in General Science (Applied Biology).
Students select two majors from Mathematics, Physics (Electronics) Geography, Computing, Chemistry and Applied Biology (eg. Agroforestry, Genetic Engineering and Tissue Culture).
Entry standard: Higher School Certificate or equivalent.

AQUACULTURE
2-year course leading to Associate Diploma of Applied Science.
Entry standard: Higher School Certificate or equivalent.

3-year course leading to Diploma of Applied Science.
Entry standard: Higher School Certificate or completion of the Associate Diploma course.

The courses are designed so that students in their second year of study may elect to either complete Associate Diploma award requirements or transfer to the Diploma course.

AUS 20 UNIVERSITY OF TASMANIA

Enquiries The Registrar, University of Tasmania, Box 252C, GPO Hobart, Tasmania 7001. Tel: 002-202101. Telex: UNTAS AA 58150.

Managing agency Largely autonomous.

General details 1) 3 terms: Mar/May, Jun/Aug, Sep/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
4-year BAgr Sc courses covering Soil Science, Crop and Pasture Agronomy, Horticultural Science, Animal Production, Microbiology, Plant Pathology, Entomology, Agricultural Economics and Marketing, Agricultural Engineering, Farm Management and Agricultural Extension.
Entry standard: Usual university matriculation.

1-3 year Higher Degrees (MAgr Sc) by research in most of the above mentioned courses.
Entry standard: Appropriate Bachelor degree with Honours.

2-5 years for PhD by research in most of the above mentioned courses.

Entry standard: Appropriate Bachelor degree with Honours or equivalent status.

VICTORIA

AUS 21 DEAKIN UNIVERSITY

Enquiries The Registrar, Deakin University, Geelong Victoria 3217. Tel: (052) 471111. Telex: DUNIV AA 35625. Fax: (052) 44 2777.

Managing agency Autonomous.

General details 1) 2 terms: Mar/Jul, Jul/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **BIOLOGICAL AND HEALTH SCIENCES**
3-4 year courses leading to BSc with major subjects: Biochemistry, Biology, Human Nutrition.
Entry standard: Secondary education to Year 12.

DIETETICS

1-year postgraduate course leading to Graduate Diploma of Dietetics.

One-third of the course is formal coursework, the rest consists of practical experience in areas such as hospitals, community health centres, day care centres and industrial catering services.

Entry standard: Appropriate first degree.

NUTRITION

3-year part-time postgraduate course leading to Graduate Diploma of Human Nutrition.

The course is intended for professionals already working in areas where some knowledge of nutrition is needed.

Entry standard: Appropriate first degree.

AUS 22 LA TROBE UNIVERSITY

Enquiries The Registrar, La Trobe University, Bundoora, Victoria 3083. Tel: (03) 479 1111 Telex: AA 33143. Fax: 03 478 5814.

Managing agency Largely autonomous.

General details 1) 3 terms: Mar/May, Jun/Aug, Sep/Oct. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURAL SCIENCE**
4-year course leading to Bachelor of Agricultural Science.
The course concentrates on the sciences concerned with soil productivity, plant and animal production, business management, and agricultural marketing and policy.
Entry standard: Higher School Certificate to include passes in chemistry, English and either physics or a branch of mathematics.

Postgraduate programmes of coursework or research in a specific area of **Agricultural Biology** or in **Agricultural Economics** leading to MAgSci (2 years) or PhD (3 years).

Australia

1-year programme of postgraduate study leading to the Postgraduate Diploma of Agriculture is also available.

Entry standard: Appropriate first degree.

AUS 23 MARCUS OLDHAM FARM MANAGEMENT COLLEGE

Enquiries The Principal, Marcus Oldham Farm Management College, Private Bag 116, Mail Centre, Geelong, Victoria 3221.

Managing agency Private.

General details 1) 3 terms: Feb/Apr, May/Jul, Aug/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted but must have relevant practical experience in their own country or in Australia.

Courses FARM MANAGEMENT

3-year course leading to Associate Diploma in Farm Management.

Syllabus includes: Animal production, Plant production, Agricultural engineering, Farm practice.

Entry standard: Passes in matriculation examinations plus 1 year's full-time farming experience.

AUS 24 MONASH UNIVERSITY

Enquiries The Registrar, Monash University, Wellington Road, Clayton, Victoria 3168. Tel: 03-565 4000. Telex: AA32691. Fax: 61 03 543 4061.

Managing agency Autonomous.

General details 1) 2 Semesters: March-June, July-October. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses AGRICULTURAL ECONOMICS

3-4 year courses leading to Bachelor degree in Economics including Agriculture and Development.

Entry standard: Usual university entrance.

1-2 year courses of research and/or coursework leading to Masters degree in Economics including International Trade and Development.

Entry standard: Relevant first degree.

EARTH SCIENCES

3-4 year courses leading to Bachelor degree in Earth Sciences.

Entry standard: Usual university entrance.

AUS 25 ROYAL MELBOURNE INSTITUTE OF TECHNOLOGY

Enquiries The Admissions Officer, Royal Melbourne Institute of Technology, GPO Box 2476V, Melbourne, Victoria 3001. Tel: 03-6620611. Telex: AA 36406. Fax: (03) 6632764

Managing agency Largely autonomous.

General details 1) 2 terms commencing Feb and July. 2) No residential accommodation available. 3) Students from abroad are accepted.

Courses

APPLIED BIOLOGY.

3-year course leading to Bachelor of Applied Science.

Subjects covered include: Genetics, Plant science, Zoology, Microbiology, Biochemistry, Food microbiology, Plant pathology, Animal physiology.

(Students may end the course after 2 years and take out an Associate Diploma in Applied Biology).

Entry standard: Higher School Certificate - Year 12 - or equivalent. Required subjects include English, chemistry, biology, physics and maths.

BIOTECHNOLOGY

3-year course leading to Bachelor of Applied Science.

Subjects studied include: Molecular biology, Industrial microbiology, Industrial biochemistry, Biological engineering; elective subjects include Applied mycology, Cell technology, Enzymology and metabolism, Food microbiology.

Entry standard: Higher School Certificate - Year 12 - or equivalent.

Required subjects include English, chemistry, biology, physics and maths.

FOOD SCIENCE AND TECHNOLOGY

4-year course leading to Bachelor of Applied Science.

Subjects studied include: Food chemistry, Microbiology, Food technology, Computer programming, Nutrition.

Entry standard: Higher School Certificate - Year 12 - or equivalent. Required subjects include English, chemistry, biology, physics and maths.

AUS 26**UNIVERSITY OF MELBOURNE**

Enquiries

The Registrar, University of Melbourne, Parkville, Victoria 3052.
Tel: (03) 344 4000 Telex: AA 35185. Fax: (03) 344 5104

Managing agency Autonomus.

General details 1) 3 terms: Mar/May, May/Aug, Aug/Oct. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

AGRICULTURAL SCIENCE

4-year course leading to Bachelor of Agricultural Science.

Subjects studied include: Soil science, Agricultural economics, Molecular biology, genetics and breeding, Rural sociology, Animal physiology, Crop and livestock management systems.

Entry standard: University matriculation.

1-year course leading to Postgraduate Diploma in Agricultural Science.

Entry standard: Appropriate first degree.

1-year course leading to Master of Agricultural Science.

Entry standard: Appropriate first degree

1-year course leading to Master of Agricultural Studies.

This is a coursework degree available in Animal production and Agricultural extension.

Entry standard: Appropriate first degree.

AGRICULTURAL ENGINEERING

4-year course leading to Bachelor of Engineering (Agriculture).

Subjects studied include: Agricultural mechanisation, Hydrology, Agricultural water management, Farm buildings and environmental control, Crop storage and handling, Agricultural systems and management.

Entry standard: University matriculation.

1-2 year postgraduate course leading to Master of Engineering Science (Agriculture).

Subjects offered: Agricultural meteorology, Groundwater hydrology, Agricultural waste management, Tillage and traction, Systems management, Crop processing and storage.

Entry standard: Appropriate first degree.

FOREST SCIENCE

4-year course leading to Bachelor of Forest Science.

Subjects covered include: Botany, Forest pathology, Forest planning, Wood science, Silviculture, Forest hydrology, National parks and urban forest management.

Entry standard: University matriculation.

1-year course leading to Postgraduate Diploma in Forest Science.

Elective subjects include: Silviculture, Wood science, Forest economics, Forest planning.

Entry standard: Appropriate first degree.

1-year postgraduate course leading to Master of Forest Science.

Entry standard: Appropriate first degree.

Note: Courses are also available leading to Doctor of Agricultural Science and Doctor of Forest Science.

AUS 27

VICTORIAN COLLEGE OF AGRICULTURE AND HORTICULTURE

Enquiries

(A) The Principal, VCAH, Burnley Campus, Swan Street, Richmond, Victoria 3121. Tel. (03) 810 8800

(B) The Principal, VCAH, Glenormiston Campus, Glenormiston South, Victoria 3265. Tel. (055) 925303.

(C) The Principal, VCAH Dookie Campus, Dookie College, Victoria 3647, Tel. (058) 286371.

(D) The Principal, VCAH, Langerenong Campus, Dooen, Victoria 3401. Tel. (053) 847208.

(E) The Principal, VCAH, Gilbert Chandler Campus, Sneydes Road, Werribee, Victoria 3030. Tel. (03) 741 8033.

(F) The Principal, VCAH, McMillan Campus, South Road, Warragul, Victoria 3820, Tel. (056) 23 5366.

Managing agency College Council.

Courses

(A) HORTICULTURE

2-year course leading to Associate Diploma of Applied Science. Specialisation in Anemity Horticulture, Arboriculture, Landscape Construction Management, Nursery Production and Management. Entry standard: Year 12 level or equivalent with recommended subjects

English and a branch of science.

3.5-year course leading to Bachelor of Applied Science.
Options in Nursery Production, Floriculture and Anemity Horticulture.

Subjects studied include: Fundamental horticulture, Plant science, Plant health, Horticultural engineering, Communications and Business management.

Entry standard: Year 12 level or equivalent, with recommended subjects English, mathematics and a branch of science.

1-year course leading to Graduate Diploma of Applied Science.

In addition to core units elective subjects include: Plant breeding, Post-harvest technology, Computer software/development, Rural landscape development, Plant tissue culture, Ornamental plants, Revegetation and environment.

Entry standard: Appropriate degree or equivalent.

(B) FARM MANAGEMENT

2 years full-time internal and external study leading to Associate Diploma of Applied Science.

Areas of study include: Farm management systems, Business management, Animal production, Plant production, Finance and marketing.

Entry standard: Year 12 level or equivalent.

(C) AGRICULTURE

3-year course leading to Bachelor of Applied Science.

Subjects available for major study include Animal industries, Plant industries, Production horticulture, Information services, Financial services, Marketing organisations and Technical support industries.

Entry standard: Year 12 level or equivalent with recommended subjects English, mathematics and a branch of science.

(D) AGRICULTURE

2 years full-time internal and external study leading to Associate Diploma of Applied Science (Agricultural Services).

Students undertake studies in business skills in conjunction with practical skills associated with agriculture.

Entry standard: Year 12 level or equivalent.

FARM PRODUCTION

2-year course leading to Associate Diploma of Applied Science.

Areas of study include major agricultural industries of dairy, pig, poultry, grazing, field crop and food production horticulture.

Entry standard: Year 12 level or equivalent.

(E) DAIRY TECHNOLOGY

3-4 year course leading to Associate Diploma of Applied Science (Dairy Technology).

Course is designed to train students in the skills required to manage a production unit in a dairy factory.

Entry standard: Year 12 level or equivalent.

(F) FARM MANAGEMENT

Farm Management courses conducted by part-time study at a range of locations throughout Gippsland and by home study. These include Dairy Management, Sheep Management, Beef Management, Farm Financial Management, Pig Management.

Australia

Entry standard: Substantial and relevant industry experience.

Note: Farm Management courses are offered at all campuses of VCAH.

AUS 28 VICTORIAN SCHOOL OF FORESTRY

Enquiries The Principal, Victorian School of Forestry, Creswick, Victoria
3363. Tel: 053-452100.

Managing agency Forests Division, Department of Conservation, Forests and Lands.

General details 1) 3 terms: Feb/May, May/Aug, Sep/Dec. 2) Residential
accommodation is available. 3) Students from abroad are accepted.

Courses **FORESTRY**
4-year course leading to Bachelor of Forest Science.
Entry standard: Usual university matriculation.

3-year part-time sandwich course in Conservation and Resource
Development leading to Certificate of Applied Science.
Entry standard: Year 11 or secondary education up to GCE 'O' level.
Note: The School conducts tailored short courses in aspects of
forestry and land resource management, further training of
professionals and para-professionals in forestry and land resource
management.

WESTERN AUSTRALIA

AUS 29 MURESK INSTITUTE OF AGRICULTURE

Enquiries The Principal, Muresk Institute of Agriculture, Northam, WA 6401.
Tel: 096-224555. Fax: 096 224529.

Managing agency Western Australian Institute of Technology.

General details 1) 2 terms: Mar/Jul, Jul/Nov. 2) Residential accommodation is
available.

Courses **AGRICULTURE**
2-year course leading to Associate Diploma in Agriculture.
The main emphasis of the course lies in farm management and
second year students must successfully manage a major portion
of the 1648 ha Muresk farm before being eligible to graduate.
Entry standard: Tertiary Entrance Exam score of 285.

3.5-year course leading to Bachelor of Business (Agriculture).
The aim of the course is to provide graduates with the skills,
knowledge and attitudes to enable them to assume managerial
responsibility in agriculture, and to provide a framework for
career specialisation in agriculture.
Entry standard: TEE score of 310 plus pass in English.

HORTICULTURE

3.5-year course leading to Bachelor of Business (Horticulture).
Course is held at Curtin University of Technology*
Entry standard: TEE score of 310 plus pass in English.

RURAL JOURNALISM

3-year course leading to BA.
(2 years at Muresk and 1 year at Curtin)

Entry standard: University entrance.

* Muresk Institute of Agriculture is a branch of Curtin University of Technology.

AUS 30 MURDOCH UNIVERSITY

Enquiries The Registrar, Murdoch University, South Street, Murdoch, WA 6150.

Managing agency Largely autonomous.

General details 1) 2 semesters: Mar/Jul, Jul/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses HORTICULTURAL SCIENCE

4-year course leading to BSc.

Subjects covered include: Soil science, Biochemistry, Genetics, Plant physiology, Plant ecology, Plant taxonomy, Microbiology, Biometrics, Agricultural economics.

Entry standard: Completion of secondary school year 12, or equivalent.

VETERINARY MEDICINE

5-year course leading to Bachelor of Veterinary Medicine and Surgery.

Subjects covered include: Animals, plants and ecosystems, Chemistry for life sciences, Animals and society, Functional morphology of the higher vertebrates, Statistical methods, Cell biology.

Entry standard: Completion of secondary school year 12, or equivalent.

Research courses leading to M Phil (2 years) and PhD (3 years) are available in Horticultural Science and Applied Veterinary Medicine to students with appropriate Honours degree.

AUS 31 UNIVERSITY OF WESTERN AUSTRALIA

Enquiries The Registrar, Faculty of Agriculture, University of Western Australia, Nedlands, WA 6009. Tel: 09-3803838. Telex: AA92992.

Managing agency Largely autonomous.

General details 1) 3 terms: Mar/May, May/Aug, Sep/Oct. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses AGRICULTURE

4-year course leading to BSc.

Subjects studied include: Agricultural economics, Agricultural microbiology, Agronomy, Animal science and production, Biometrics, Soil science, Plant nutrition.

Entry standard: Usual university entrance.

1-year course leading to Postgraduate Diploma in Science.

Entry standard: Appropriate Honours degree.

1-year course leading to MSc by thesis.

Entry standard: Appropriate Honours degree.

HORTICULTURE

4-year course leading to BSc.

Subjects studied include: Soil science, Biochemistry, Genetics, Plant physiology, Plant ecology, Plant taxonomy, Microbiology, Science and its communication, Biometrics, Agricultural economics.

Entry standard: Usual university entrance.

1-year course leading to MSc.

Current research activities include: Crop environment interactions, Crop and pasture improvement, Plant nutrition, Plant pathology, Plant propagation through tissue culture, Soil microbiology, Study of environmental stresses, Weed ecology and control.

Entry standard: Appropriate Honours degree

NATURAL RESOURCE MANAGEMENT

2-year course leading to MSc by coursework and thesis.

Entry standard: Appropriate Honours degree.

The Bahamas

Bahamas is an archipelago of 700 islands formed by the two oceanic banks of Little Bahama and Great Bahama. Thirty are inhabited. The islands are usually long and narrow, rising to a low ridge backed by lagoons and swamps. It has a total land area of 13,935 sq kms.

The current agricultural and rural development policies of the Bahamas are to achieve greater self-sufficiency in food supplies and to increase the number of farmers and others involved in activities related to agriculture. The urgency of the situation is indicated by the fact that over 80% of the food consumed in the Bahamas is imported and only about 7% of the work force is directly engaged in agriculture.

Measures continue to be taken to develop the country's agricultural, fishery and mineral resources and, thereby, to broaden its economic base. To improve agriculture, which is mainly concerned with producing fresh vegetables, fruits and meat and dairy products for an expanding domestic market, some 450,000 acres of high agricultural potential have been reserved exclusively for farming purposes, and a concerted effort is being made to improve the circumstances of the small farmers. Active measures are also being taken to conserve and develop the country's 800,000 acres of forest and to create, with United Nations' assistance, a modern fishing industry.

In order to achieve these objectives Government has recently introduced credit schemes for land development and farming equipment and extended those dealing with agricultural supplies. It has also made more Crown land available for farming purposes. In addition to facilitating production, Government is implementing plans to establish collecting and packing houses for produce, in five of the important farming areas, with a view to raising the efficiency of the marketing system.

It is fully appreciated that the success of the agricultural and rural development plans will depend upon competent and motivated man-power. Hence agricultural science has been introduced into the school system and at the College of the Bahamas, and farming training schemes have also been organized. The educational drive is supported by the Extension Service. At present the Service is very small, consisting of some professional officers and leaders of the farming community. The officers have been allocated different crops or problems and are responsible for the necessary applied research, demonstrations and extension. One of their main duties is that of collaborating with teachers so that a new generation of farmers can be produced.

As regards Fisheries, there are no educational schemes in operation at present.

BAH 1

COLLEGE OF THE BAHAMAS

Enquiries

The Principal, College of the Bahamas, P O Box N-4912, Nassau, Bahamas. Tel: (809) 323-8550/1/2/3.

Bahamas

Managing agency College Council.

Courses

AGRICULTURE.

2-year courses leading to Associate of Arts degree in:

Agriculture

Subjects studied include Livestock science, Soil science, Plant physiology, Vertebrate/Invertebrate zoology, Crop protection, Agricultural economics.

Agriculture with Chemistry

Subjects studied include Agricultural geography, Soil science, Agricultural botany, Plant physiology, Crop protection, Organic chemistry, Agricultural economics.

Agriculture with Physics

Subjects studied include Soil science, Agricultural botany, Plant physiology, Physics.

Entry standard: 5 GCE 'O' levels or equivalent to include English language and mathematics.

Bangladesh

Bangladesh is mostly an alluvial plain with a network of navigable rivers: the eastern arms of the Ganges, Jamuna and Meghna rivers. Their deltas, with many islands, form Bangladesh's coastline on the Bay of Bengal. The total land area is 143,998 sq kms.

In Bangladesh 90% of the population live in rural areas. Most of these people are engaged in rice and jute farming, but there are also some 800,000 fishermen, three-quarters in inland fisheries. Government has attached top priority to the agriculture sector. The successive record annual food grain productions, amply manifest the success of the intensive efforts of the Government for agricultural development.

It is appreciated that the success of rural development plans will depend on the development of a large number of trained personnel, under the different agencies, to implement the programmes in a co-ordinated and cohesive manner, and on the development of local leaders through institutionalized methods, to act as change-agents for introducing innovations and technology for development purposes.

Seven previously existing specialized extension agencies have been successfully merged into a single and unified extension system, under the reorganised Department of Agricultural Extension, to provide extension and management services gradually encompassing various integrated aspects of farming system/practices to the farmers through one front line Agent. The innovative Extension and Research Programme, based on a system of Training and Visit which has a built-in linkage between research, extension and farmers problems, is being expanded throughout the country.

Agricultural education has already been introduced at primary and secondary school level and an 'A' level course in agriculture is available at some government and private colleges.

Agricultural training is imparted to farmers, as part of the rural development programme, informally by the agricultural extension staff through the recognized methods of extension education. Village/union level extension workers are normally trained in at least eight institutions where a Diploma in Agriculture is awarded after a two-year course. In-service training of union/thana extension workers is also imparted in one of these institutions. Higher level training is given by the Agricultural College, the Agricultural University and the other universities, which together supply most of the specialist manpower required by extension, education and research organizations throughout the country.

The Government took the historic step of consolidating agricultural research, which was scattered under nine different ministries, under the strengthened Bangladesh Agricultural Research Council (BARC) as the apex organization. For upgrading the quality of scientific manpower a Bangladesh Post-Graduate College of Agricultural Science was established under the Bangladesh Agricultural Research Institute (BARI).

Bangladesh

BAN 1 BANGLADESH ACADEMY FOR RURAL DEVELOPMENT

Enquiries The Director, Bangladesh Academy for Rural Development (BARD), P O Kotbari, Comilla. Tel: 6428, 6102, 5106 (PMBX). Cable: BARD, Comilla.

Managing agency Autonomous.

General details 1) Residential accommodation is available.
2) Students from abroad are accepted.

Courses RURAL DEVELOPMENT
Short courses concerned with Rural Development are held in the following subjects:

Participatory Rural Development
4-week training course for Professionals and Practitioners in Rural Development and Postgraduate Studies.

Research Methodology for Rural Development 2-3 week training course for Researchers and Professionals involved in Rural Development.

Land Reform, Co-operatives and Rural Development
2-week course for Field Staff and Professionals.

Integrated Rural Development
3-week course for Professionals and Rural Development Practitioners.

Irrigation Management and Land Use Development Planning
2-week course for Professionals, Rural Development Practitioners and Local Leaders.

Poverty Focused Rural Development
8-week course for Professionals, Rural Development Practitioners and Field Staff.

Entry standard: Minimum graduation.

BAN 2 BANGLADESH AGRICULTURAL RESEARCH COUNCIL

Enquiries The Director, Bangladesh Agricultural Research Council, Farmgate, Airport Road, Dhaka - 15. Tel: 314295, 316587, 325061-5. Telex: 642401 HID BJ.

Managing agency Ministry of Agriculture.

Courses SUNDRY
Up to 8-week in-service courses of training in the following areas of research: Agricultural Economics, Soils and Irrigations, Crops, Forestry, Livestocks, Fisheries and Agricultural Engineering.
Entry standard: Mainly for research workers in Agricultural Institutions, Organizations and Universities.

BAN 3 BANGLADESH AGRICULTURAL RESEARCH INSTITUTE

Enquiries The Director, Bangladesh Agricultural Research Institute, (BARI), Joydebpur, Gazipur. Tel: 391270, 390241, 390231. Cable: RESAGRI.

Managing agency Ministry of Agriculture.

Courses SUNDRY
3-month induction training programme for newly recruited scientists. BARI offers training to the Agricultural Extension Agencies. 1 week to 3 month training courses in: Cotton Production Technology, Advance Technology of different Oilseed Crops, Production Technology, Wheat Production Technology, Modern Potato Production, Potato Seed Production by tuber and botanical seeds, Storage of potatoes, Maize Production Technology, Advance Technology of Vegetable Production, Pest Management, Crop Disease Management, Soil/Water and Fertilizer Management, Method of Plant Pathological Research, Advanced Technologies of Crop Production, and Crop Production & Extension Management Specialist Training Course.
Entry standard: Agricultural degree or equivalent.

BAN 4 BANGLADESH AGRICULTURAL UNIVERSITY

Enquiries The Registrar, Bangladesh Agricultural University, Mymensingh.
Tel: PABX 4191, 4192, 4193. Cable: AGRIVARSITY.

Managing agency Autonomous.

General details 1) Courses start in Jul. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses SUNDRY
4-year Bachelor Degree courses in Agriculture, Veterinary Medicine, Agricultural Economics, Agricultural Engineering and Fisheries.
Entry standard: Pass in both SSC and HSC Examinations including physics, chemistry, mathematics and/or biology.

1-year Masters Degree courses in Agronomy, Soil Science, Plant Pathology, Entomology, Horticulture, Crop Botany, Agricultural Chemistry, Genetics and Plant Breeding, Bio-chemistry, General Animal Science, Animal Breeding, Animal Nutrition, Poultry Science, Dairy Science, Anatomy, Veterinary Medicine, Veterinary Surgery, Microbiology, Agricultural Economics, Farm Management, Agricultural Finance, Agricultural Co-operation, Agricultural Marketing, Farm Power and Machinery, Farm Structural Engineering, Food Technology, Irrigation and Water Management, Fisheries, Fisheries Biology and Limnology, Aquaculture & Management, Fisheries Technology.

2-year Masters Degree courses in Agricultural Statistics and Agricultural Extension Education.
Entry standard: Appropriate Honours degree or equivalent.

3-year PhD courses in Crop Botany, Soil Science, Agricultural Chemistry, Microbiology, Veterinary Medicine, Animal Breeding, Animal Nutrition, Fisheries, Plant Pathology, Horticulture, Entomology, Agronomy and Genetics, Plant Breeding.
Entry standard: Appropriate Masters degree or equivalent.

BAN 5 BANGLADESH CO-OPERATIVE COLLEGE

Enquiries The Principal, Bangladesh Co-operative College, Kothari, Comilla.
Tel: 6017. Cables: Cooperative, Comilla.

Managing agency Government of Bangladesh.

Bangladesh

- Courses** **CO-OPERATIVE STUDIES**
Short training courses (6-60 days) are available for officers of Co-operatives.
The aim is to improve the services and assistance of the Co-operatives.
- Note: Similar courses are also held at the Co-operative Zonal Institutes at: Feni, Moulvibazar, Faridpur, Muktagacha, Rangpur, Naogaon, Khulna, Kushtia, and the Rural Development Training Institute, Sylhet.
Entry standard: Inspectors of Co-operative Societies with a degree.
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- BAN 6** **BANGLADESH FOREST COLLEGE**
- Enquiries** The Director, Bangladesh Forest College, P O Box 385,
Chittagong. Tel: 211237.
- Managing agency** Ministry of Agriculture and Forests.
- Courses** **FORESTRY**
2-year course leading to BSc(For).
Entry standard: Public service commission examination or BSc degree.
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- BAN 7** **BANGLADESH INSTITUTE OF NUCLEAR AGRICULTURE**
- Enquiries** The Director, Bangladesh Institute of Nuclear Agriculture, P O Box
No 4, Mymensingh. Tel: 4401-4402, 4047. Cable: BINA Mymensingh.
- Managing agency** Ministry of Agriculture.
- Courses** **AGRICULTURE**
2-week training course in Nuclear Agriculture for
researchers/teachers in the use of radio-isotopes and radiation
techniques in agricultural research for increased crop production.
Entry standard: University degree.
-
- BAN 8** **BANGLADESH RICE RESEARCH INSTITUTE**
- Enquiries** The Director, Bangladesh Rice Research Institute, Joydebpur,
Dhaka. Tel: 391200. Cable: RICERES DHAKA.
- Managing agency** Autonomous.
- Courses** **RICE PRODUCTION**
4-month Certificate course for specialist training in Rice
Production intended mainly for in-service training for senior
extension personnel.
Entry standard: University degree in agriculture or science,
preferably with some field experience.
- 3-week course in Rice Production Technology to prepare field
extension workers in the latest methods.
Entry standard: University entrance standard; no previous
experience necessary.

Note: Longer period courses or training attachments are being arranged for international trainees. The Institute maintains close links with the International Rice Research Institute in the Philippines and has received support from a number of international and national aid agencies.

BAN 9 CENTRAL EXTENSION RESOURCES DEVELOPMENT INSTITUTE (CERDI)

Enquiries The Director, Central Extension Resources Development Institute, Joydebpur, Aazipur, Dhaka. Tel: 2184.

Managing agency Ministry of Agriculture.

Courses **AGRICULTURE**
1-4 week Instruction courses for trainers in Management Development, Induction Training, Extension Management and Communications, and Technical Updating Programmes.
Entry standard: Mainly for mid and senior level extensions personnel with University degree.

Note: CERDI has 11 Agricultural Training Institutes (ATI) located in different parts of the country. They are the field level training Institutes offering Certificate/Diploma courses in Agriculture. One Higher Agricultural In-service Training Institute offers courses for selected ATI graduates.

BAN 10 CENTRE ON INTEGRATED RURAL DEVELOPMENT FOR ASIA AND THE PACIFIC (CIRDAP)

Enquiries The Director, Centre on Integrated Rural Development for Asia and the Pacific, Chemeli House, 17 Topkhana Road, GPO Box 2883, Dhaka 1000. Tel.238751, 232430, 239686. Telex: 642333 CIRDAP BJ. Cable:CIRDAP DHAKA.

Courses **RURAL DEVELOPMENT**
Training courses ranging from 3 weeks to 2.5 years are arranged dealing with aspects of rural development including training of women extension workers, training methodology for trainers of IRD functionaires, training of field level officials responsible for implementation of rural development programmes and monitoring and evaluation, methods and techniques.

Note: Participants are mainly from member countries of CIRDAP.

BAN 11 UNIVERSITY OF DHAKA

Enquiries The Registrar, University of Dhaka, Ramna, Dhaka 2. Tel: Dhaka 255386.

Managing agency Syndicate of the University.

General details 1) 3 terms between July and June. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
2-3 year Bachelor Degree courses in Soil Science, Botany, Biochemistry and Zoology.
Entry standard: Secondary Certificate in Science.

Bangladesh

1-year Master Degree course.
Entry standard: Appropriate Honours degree.

BAN 12 UNIVERSITY OF RAJSHAHI

Enquiries The Registrar, University of Rajshahi, P O Rajshahi University, Rajshahi. Tel: Rajshahi 2441-9, 3993-8. Cables: University, Rajshahi.

Managing agency Autonomous.

General details 1) 3 terms: Aug/Sep, Nov/Dec, Feb/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **BIOLOGICAL SCIENCES**
2-3 year BSc courses in Botany and Zoology.
Entry standard: Higher School Certificate or its equivalent.

1-2 year MSc courses in Botany, Biochemistry, and Zoology.
Facilities are available for courses leading to PhD.
Entry standard: Appropriate first degree.

Barbados

Barbados is the most easterly of the Caribbean islands and has a total land area of 431 sq kms; it traditionally had a monoculture economy based on sugarcane. Sugar continues to dominate the agricultural sector, accounting for 99% of total agricultural exports in 1981. Even though its place as the main foreign exchange earner has been taken by tourism, sugar still accounts for almost all of the foreign exchange by the agricultural sector. Government supports the export of vegetables (onions, sweet peppers, okras, etc.) to regional and extra-regional markets and plans are being made to revive the cotton industry which has some potential as a foreign exchange earner.

In the past the potential of the Barbados fisheries was not exploited fully, even though the industry has made a creditable contribution to food supplies. Efforts are being directed towards upgrading the fishing fleet, improving facilities for servicing and shelter, and enhancing the efficiency of fishermen through the application of improved gear and new technology.

Over the years employment in the agricultural sector has been declining and will continue to do so if it remains unchecked. In order to increase employment in the agricultural sector Government plans to attack the productivity problems through training programmes for both farmers and managers, through the use of incentive wage systems, the use of an appropriate type and level of agricultural mechanization and through efficient land utilization.

The major agricultural institutions which are entrusted with implementation of Government's agricultural development strategy are the Ministry of Agriculture, the Barbados Agricultural Development Corporation, the Barbados Marketing Corporation and the Agricultural Credit Division of the Barbados National Bank. Support also comes from the Barbados Agricultural Society, a private sector organization, and regional and international institutions.

There are a number of regional and international institutions providing assistance in the area of training, expertise and funding for the development of the Barbadian agricultural sector. Government recognises the importance of these institutions as also, the necessity for effective rationalisation and proper co-ordination of such assistance in order to avoid unnecessary duplication and misuse of scarce resources. The Ministry of Agriculture also provides preliminary training consisting of orientation and experience within its various departments. Higher level training in agriculture is provided by the University of the West Indies Faculty of Agriculture at its St. Augustine (Trinidad) Campus.

BAR 1 **UNIVERSITY OF THE WEST INDIES, CAVE HILL CAMPUS**

Enquiries The Principal, University of the West Indies, Cave Hill Campus, P O Box 64, Bridgetown, Barbados, W.I. Tel: 425-1310. Telex:2257, UNIVADOS WB.

Managing agency University of the West Indies.

Courses

BIOLOGICAL SCIENCES.

3-4 year courses leading to BSc in:

Biology

Students may choose courses from Ecology, Physiology, Genetics Microbiology, Pathogenic micro-organisms, Cell biology, Cell biochemistry, Marine biology.

Meteorology

Subjects studied include Physical meteorology, Dynamic meteorology, Tropical meteorology, Radar meteorology, Oceanography, Hydro-and agro-meteorology, Synoptic meteorology.

Entry standard: University matriculation.

ENVIRONMENTAL STUDIES

Courses leading to postgraduate diplomas are available to students with good first degrees. More information obtainable from the university.

Belzie is flat and swampy and the coastline gradually rises to Maya Mountains and the Cockscombs. Shallow coastal waters of Caribbean Sea to the South and the East are dotted with islands bounded by a large coral reef. The total land area is 22,963 sq kms.

The Agriculture Department recruits and trains Extension Agents to provide technical assistance to farmers. It established a Research Station in 1948. In 1953 it established a hostel at the Research Station to provide formal and in-service training for its Extension Staff as well as training for farmers.

As agricultural development gathered momentum, the Ministry of Natural Resources expanded its training facility by establishing the Belize School of Agriculture in 1977. This school began by offering a one-year Certificate course in General Agriculture. In 1981 an additional optional year was introduced, allowing one-year graduates the opportunity to qualify for a Diploma in Agriculture. In September 1983, the one-year course was discontinued and replaced with a two-year Diploma Course.

Other Ministries also developed programmes to enhance agricultural development. Foremost were the Ministry of Social Services, Labour and Community Development, and the Ministry of Education.

In 1976 the Ministry of Social Services, Labour and Community Development established the National 4-H Centre to cater for the needs of 4-H club members and to foster the movement. This Centre has an enrolment of 20 and provides three months' basic agricultural training three times a year. This same Ministry established in 1978 the Youth Development Centre, with an enrolment of 20.

The Ministry of Education, conscious of the need to change attitudes with respect to production and consumption of agricultural commodities, streamlined its primary education system through the introduction in 1974 of the Rural Education and Agricultural Project. This project is aimed at specific schools scattered throughout the country. These schools are staffed with teachers with the same level of agricultural training. The programme is restricted to school children in the upper classes, eg IV-VI. The programme requires children aged 10-14 years to take care of a garden in the school and also to establish small gardens or small stock projects in their homes. The ultimate aim is to inculcate among children an appreciation of the importance of agriculture in the home as well as for the nation.

The efforts of the three Ministries have so far influenced agricultural development significantly. Facilities and training require improvement. Hopefully these will be achieved through national effort and the collaboration of outside agencies.

Belize

BEL 1 BELIZE COLLEGE OF AGRICULTURE

Enquiries The Director, Belize College of Agriculture, Central Farm, Cayo District. Belize, Central America. Tel: 092-2131.

Managing agency College Board of Directors responsible to the Ministry of Natural Resources.

Courses AGRICULTURE.
2-year course leading to Diploma in Agriculture.
Course includes practical work in Animal husbandry, Farm mechanisation, Crops.
Entry standard: High School Diploma.

Botswana

Botswana is a landlocked high plateau with thick bush and rocky hills in the east of the ridge forming a watershed between Molopo and Motwane rivers. The total land area is 600,372 sq kms.

The agricultural sector of Botswana's economy comprises: traditional farming, freehold farming in the various blocks of freehold land, and hunting and gathering which takes place almost everywhere and makes a major contribution to rural household consumption.

Despite the development of the Botswana Agricultural Marketing Board many land areas are still remote from existing depots and cannot take advantage of the guaranteed minimum prices. Poor roads discourage the carriage of supplies into and crops out of the land areas. The Government intends to set up an 'Arable Lands Development Programme (ALDEP)' with the aim to tackle this problem. The goals of ALDEP are derived directly from the main national planning objectives and can be defined as follows:

To increase production to achieve sustained self-sufficiency in basic grains and legumes at rural household and national levels plus export surpluses of these, and cash crops from all but the poorest rainfall years; in so doing, to raise the arable incomes (both self-employed and waged) through improved agricultural productivity, and to optimise income distribution effects by concentrating on smallholder development; to create employment in the land areas, absorb rural underemployment and reduce rural-urban drift.

The livestock industry, which is overwhelmingly dominated by cattle, accounts for the bulk of agricultural output, and beef is one of Botswana's major exports. Although increased attention will be paid to arable agriculture the livestock industry will continue to receive a high level of Government support and encouragement.

The task of implementing the programmes falls primarily on the agricultural extension services. The Department of Field Services has responsibility for the agricultural extension network. Responsibility for contact with farmers lies with a cadre of Agricultural Demonstrators based in the land areas of Eastern and Northern Botswana. To improve the extension effort, the country has been divided into Agricultural Regions. It is primarily through this network that the Ministry plans to implement the ALDEP. To reinforce the field-based work of Agricultural Demonstrators, farmers' courses are conducted at the Rural Training Centres (RTC): at Soebele, Mahalapye and Maun. Government ranches are also used for holding short courses for farmers. There are organized at both the RTCs.

There are a number of institutions offering training for the agricultural sector. The Botswana Agricultural College organizes Certificate and Diploma courses in Agriculture and Animal Health. Agricultural vocational training at grass-root level is provided by several training centres. Vocational training for meat inspectors and slaughterhouse personnel is provided by the Meat Training Centre in Lobatse and the Ranch Management Centre in Ramatlabama has started ranch management training courses.

Botswana

BOT 1 BOTSWANA AGRICULTURAL COLLEGE

Enquiries The Principal, Botswana Agricultural College, Private Bag 0027, Gaborone. Tel: 52381, 52384. Cable: AGRICOLA.

Managing agency Ministry of Agriculture.

General details 1) 3 terms: Mar/May, Jun/Aug, Sep/Dec. 2) Residential accommodation is available.

Courses **AGRICULTURE**
2-year course leading to Diploma in Agriculture.
The course covers Crop and Animal Production and Management and includes such subjects as Horticulture, Agricultural economics and farm management, Agricultural engineering.
Entry standard: Pass in Cambridge Overseas School Certificate with credits in English and two science subjects, or successful completion of certificate course in Agriculture.

Note: A course leading to a degree in Agriculture is being introduced in 1988 in conjunction with the University of Botswana.

ANIMAL HEALTH AND PRODUCTION
2-year course leading to Diploma in Animal and Health and Production.
Students are taught how to breed and rear livestock, livestock diseases (diagnosis, treatment and control) and public health. Courses are also included in extension and administration.
Entry standard: Pass in Cambridge Overseas School Certificate with credits in English and two science subjects, or successful completion of certificate course in Animal Health.

BOT 2 UNIVERSITY OF BOTSWANA

Enquiries The Registrar, University of Botswana, Private Bag 0022, Gaborone.

Managing agency Autonomous.

General details 1) 2 terms: Aug/Dec, Jan/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **RURAL DEVELOPMENT**
2-year Diploma course in Adult Education.
Entry standard: Third Class Cambridge International School Certificate or its equivalent, plus two years' practical experience.

Britain

Since 1973, when the UK joined the European Economic Community, UK agricultural policy has operated within the framework of the Community's Common Agricultural Policy (CAP). The objectives of the CAP, set out in the Treaty of Rome, are essentially the provision of adequate supplies of food at reasonable prices for consumers, with fair returns to farmers. The CAP seeks to achieve this in a number of ways, the most significant of which are the system of intervention buying and selling designed to support Community markets and a system of import levies and export refunds to bridge any gap between Community and world prices.

The level of production of agricultural goods under CAP has increased substantially in recent years, partly in response to rapid technical progress and farming efficiency, but also because the level of price support under the CAP has been set too high, stimulating increases in supplies at a time when world supplies have also increased while consumption has remained relatively static. This has resulted in the emergence of surpluses which are very costly to dispose of inside or outside the Community.

The Community has agreed to a number of measures to reform the CAP and tackle the problems of overproduction and its associated excessive budgetary costs. However, the UK Government believes further reform is necessary to bring agricultural production more into line with the demands of the market and to control the level of expenditure under the CAP and to contribute to the achievement of a better world market balance.

New schemes have been proposed and are expected to be introduced shortly to encourage farm woodlands and diversification. Existing schemes for forestry and the creation of Environmentally Sensitive Areas have been extended. The European Community has also agreed to the introduction of an extensification scheme (part EC-funded) which is aimed at reducing output of certain surplus products, such as cereals and beef and encouraging alternative activities such as forestry and non-agricultural enterprises.

Agricultural support in Northern Ireland and Scotland are primarily the responsibility of the United Kingdom Government. In Scotland, agriculture is a modern, efficient industry with livestock and livestock products accounting for more than 75% of the country's agricultural output.

The range of jobs in agriculture (and forestry) is very wide, many highly specialized, and the industry demands that employees are highly knowledgeable, skilled and responsible.

National Certificates Courses are one year, full-time, and are intended to provide a basic education for those aiming to work in practical agriculture. Although no formal entry qualifications are necessary, candidates are expected to be of average ability and the possession of good grades at GCE 'O' level (or their equivalent) is a distinct advantage for entry to courses.

Ordinary National Diploma courses have now been superseded by the Business and Technician Education Council's National Diploma (BTEC ND) courses in Agriculture, Horticulture and Forestry. The courses are organized on a sandwich basis and last for three years,

preparing students for technician/supervisory grades. Candidates are expected to possess four GCE 'O' levels at good grades (some colleges may specify one or two science based subjects).

BTEC Higher National Diploma (HND) courses are science based and are designed for students who wish to enter practical farming with a sound knowledge of the managerial and technological aspects of the industry, or related industries. The courses last three years and are organized on a sandwich basis. Candidates are expected to possess four GCE 'O' levels and one 'A' level in a science subject and one other subject studied at 'A' level standard, or BTEC ND/NC in sciences, or BTEC ND in agriculture.

Degree courses provide training in the scientific and technological aspects of agriculture or forestry, with a strong emphasis on science and economics. Graduates may take up posts in administration, advisory or research work within the industry or may take up farming or teaching. There are also opportunities to study at post-graduate level.

Post-graduate degree courses exist in several institutions. As well as post-graduate courses some also provide short courses, professional and development programmes and research opportunities, and contribute to agricultural and rural development projects overseas.

It is recommended that organizations and individuals from overseas should exercise care when selecting courses of training in the UK. It should be borne in mind that, whereas the purpose of training for UK students (for whom the courses are mostly intended) is to make them more efficient farmers in their own country, the purpose for which students from developing countries are being trained is usually to make them more efficient as extension agents or teachers. Nowadays the UK farmer is often of graduate or equivalent qualification and the industry is dependent on high technology inputs.

BRI 1 **ASKHAM BRYAN COLLEGE OF AGRICULTURE AND HORTICULTURE**

Enquiries The Principal, Askham Bryan College of Agriculture and Horticulture, Askham Bryan, York YO2 3PR. Tel: (0904) 702121.

Managing agency North Yorkshire County Council.

Courses **AGRICULTURE**
 3-year sandwich course leading to BTEC National Diploma.
 Subjects studied include: Crop production, Animal production, Milking equipment, Pig industry, Organisation and management, Applied economics, Machinery, Applied science, Nutrition of ruminants and non-ruminants, Communication studies.
 Entry standard: 4 approved passes at GCSE or an equivalent qualification. One year's full-time employment in agriculture.

3-year sandwich course leading to BTEC Higher National Diploma.
 Subjects studied include: Crop and grassland production, Animal production, Farm mechanisation, Farm management and organisation.
 Entry standard: 4 approved passes at GCSE plus 1 approved pass at GCE 'A' level and one other subject studied to 'A' level or equivalent. Completion of an appropriate period of practical experience.

HORTICULTURE

3-year sandwich course leading to BTEC National Diploma in Amenity Horticulture.

Subjects studied include: Applied science, Horticulture, Landscape studies; Arboriculture can be studied in the final year.

Entry standard: 4 approved passes at GCSE or equivalent plus one year's full-time employment in horticulture.

3-year sandwich course leading to BTEC Higher National Diploma in Landscape and Horticultural Technology.

Subjects studied include: Scientific principles, Soil for plant growth, Plant form and diversity, Propagation, Manipulation of plant growth, Plant protection, Identification of amenity requirement, Provision of amenity horticulture, Preliminary design, Surveying and landscape design appreciation, Landscape maintenance, Administration, Provision of leisure facilities, construction of amenity features, Mechanisation, General studies.

Entry standard: 4 approved passes at GCSE plus 1 approved pass at GCE 'A' level and one other subject studied to 'A' level or equivalent. Completion of appropriate period of practical experience.

AGRICULTURAL ENGINEERING

2-year BTEC National Diploma course in Engineering (Agricultural and Small Plant)

Subjects studied include: Engineering science, Mathematics, Engineering drawing, Diesel and petrol engineering technology, Hydraulics and pneumatics, Transmission systems, Mobile plant equipment, Agricultural machinery technology, Vehicle electrical systems, Manufacturing technology, Computer studies, Related agriculture, General and communication studies.

Entry standard: 4 approved passes at GCSE or CGLI Agricultural Mechanics Certificate (O15/394) Part II at Credit level.

BRI 2**AYLESBURY COLLEGE****Enquiries**

The Principal, Aylesbury College, Department of Agriculture and Horticulture, Hampden Hall, Stoke Mandeville, Aylesbury, Bucks. HP22 5TB. Tel: Aylesbury 434111 ext.407.

Managing agency

Buckinghamshire County Council, Education Committee.

Courses**AGRICULTURAL SECRETARIAL STUDIES**

2-year course in Business Studies for Agricultural Secretaries leading to the National Diploma of the Business and Technician Education Council.

Subjects studied include: Business in the economic environment, Communications, Collection and analysis of physical and financial information, Office management; plus options in Equestrianism, Horticulture and Agriculture.

Entry standard: 5 GCSE passes or appropriate alternatives.

BRI 3**BERKSHIRE COLLEGE OF AGRICULTURE****Enquiries**

The Principal, Berkshire College of Agriculture, Hall Place, Burchetts Green, Maidenhead SL6 6QR, Berkshire.

Tel: 062 882 4444/4446.

Managing agency Berkshire County Council.

Courses

AGRICULTURE

3-year sandwich course leading to National Diploma.

Subjects studied: (first year) Animal husbandry, Crop husbandry, Farm machinery, Farm records and accounts, Soil science, Botany, Zoology, Microbiology. (Third year) Animal production, Pig production, Crop production, Management, Mechanisation, Crop science, Animal science, Building and estate.

Entry standard: 4 'O' levels to include science, maths and English.

3-year sandwich course leading to National Diploma in Agricultural Merchandising.

Subjects studied: (first year) Animal husbandry, Crop husbandry, Farm machinery, Farm records and accounts, Soil science, Botany, Microbiology, Merchant business studies, Environmental studies. (third year) Principles of trade, Marketing, Finance, Law relating to agricultural businesses.

Entry standard: 4 GCE 'O' levels at Grade C or above, including a science and mathematics, and a subject testing the command of English, or National Certificate in Agriculture at credit level or equivalent academic qualifications.

AGRICULTURAL EDUCATION

1-year postgraduate university Diploma in Education course for those working, or planning to work, in agricultural extension posts in the third world.

Entry standard: Appropriate first degree.

AGRICULTURAL ENGINEERING AND MACHINERY MANAGEMENT

1-year postgraduate course leading to Advanced Diploma for those involved in technician and machinery management posts in the third world.

Entry standard: Appropriate first degree.

VETERINARY NURSING

2-term course leading to the Royal College of Veterinary Surgeon's Diploma.

Tuition in: (Preliminary examination) Anatomy and physiology; Management, Hygiene, Feeding, Breeds; First aid; Theory and practice of nursing - Parts I and II. (Final examination) Diagnostic aids, medical nursing, Radiography, Surgical nursing, Obstetrical and paediatric nursing.

Entry standard: Must be enrolled as a Trainee Veterinary Nurse by the Royal College of Veterinary Surgeons. Passes in 4 GCE subjects.

BRI 4

BIRMINGHAM COLLEGE OF FOOD & DOMESTIC ARTS

Enquiries

The Principal, Birmingham College of Food and Domestic Arts, Department of Applied Science and Food Technology, Summer Row, Birmingham B3 1JB. Tel: 021-2354071.

Managing agency The City of Birmingham Education Committee.

Courses

FOOD TECHNOLOGY/SCIENCE

2-year Ordinary TEC Diploma course in Food Technology.

Entry standard: 3 GCE 'O' levels.

2-year Higher TEC Diploma course in Food Science and Technology.
Entry standard: GCE 'A' level in chemistry plus 4 'O' levels.

BRI 5 BRISTOL POLYTECHNIC

Enquiries The Academic Registrar, Bristol Polytechnic, Coldharbour Lane,
Frenchay, Bristol BS16 1QY.
Tel: (0272) 656261.

Managing agency Avon County Council.

Courses **FOOD TECHNOLOGY**
3-year Sandwich course leading to HND in Science (Technology of
Food).
Entry standard: Minimum 1 GCE 'A' level or equivalent.

Note: The above mentioned course is run in conjunction with Seale
Hayne College in Devon. (see BR1 34)

BRI 6 BROOKSBY AGRICULTURAL COLLEGE

Enquiries The Principal, Brooksby Agricultural College, Brooksby, Melton
Mowbray, Leicestershire LE14 2LJ. Tel: (066475) 291.

Managing agency Leicestershire County Council.

Courses **AGRICULTURAL SECRETARIAL STUDIES**
2-year course leading to the BTEC National Diploma in Business
Studies for Agricultural Secretaries.
Subjects studied include: People in organisations, Finance,
The organisation and its environment, Secretarial skills,
Agricultural and horticultural technology, Agricultural and
horticultural business recording, Accounting, Industrial
experience.
Entry standard: 4 GCE 'O' levels or equivalent.

AGRICULTURE
3-year sandwich course leading to BTEC National Diploma.
Subjects studied include: Crop production, Animal production,
Mechanisation, Accounts and management, Carpentry and estate
maintenance, Rural crafts, Agricultural history and farming
systems, Computer studies.
Entry standard: 4 GCE 'O' levels to include maths and a science,
plus at least 12 months' practical farming experience.

BRI 7 CARMARTHENSHIRE COLLEGE OF TECHNOLOGY AND ART

Enquiries The Principal, Carmarthenshire College of Technology and Art, Alban
Road, Llanelli, Dyfed SA15 1NG. Tel. 0554 759165. Agriculture Dept:
Golden Grove, Carmarthen, SA32 8LR Tel: 05584 341/342.

Managing agency Dyfed County Council.

Courses **AGRICULTURAL SCIENCE**
2-year course leading to BTEC Diploma.
Subjects studied include: Biology, Chemistry, Physics,
Mathematics and Agricultural science.
Entry standard: 5 GCE 'O' levels or equivalent.

AGRICULTURAL ENGINEERING

2-year course leading to BTEC National Diploma.

Subjects studied include: Mathematics, Engineering science, Manufacturing technology, Engineering drawing, Electrical and electronic principles, Communication studies.

Entry standard: 5 GCE 'O' levels or equivalent.

AGRICULTURAL SECRETARIAL STUDIES

2-year course leading to BTEC National Diploma in Business Studies for Agricultural Secretaries.

Subjects studied include: People in organisations, The organisation and its environment, Finance, Distribution, Public administration - with options in subjects related to agriculture.

Entry standard: 5 GCE 'O' levels or equivalent.

BRI 8

CHESHIRE COLLEGE OF AGRICULTURE

Enquiries

The Principal, Cheshire College of Agriculture, Reaseheath, Nantwich, Cheshire CW5 6DF. Tel: (0270) 625131.

Managing agency

Cheshire Education Committee.

Courses

AGRICULTURE

3-year sandwich course leading to BTEC National Diploma.

Subjects studied include: Animal production, Crop production, Farm mechanisation, Management studies.

Entry standard: GCSE passes in 4 subjects including 2 maths/science and a pass in a National Certificate examination in Agriculture or equivalent.

AGRICULTURAL ENGINEERING

3-year sandwich course leading to BTEC National Diploma.

Subjects studied include: Mathematics, Science, Engineering drawing, Computer studies, Agricultural machinery.

Entry standard: 4 GCSE passes to include maths, science and English, and first Certificate or Diploma passes in Engineering.

DAIRY TECHNOLOGY

3-year sandwich course leading to BTEC National Diploma in Science - Food/Dairy Technology.

Subjects studied include: Applied sciences, Food and dairy technology, Business and management studies.

Entry standard: 4 GCSE passes to include 2 sciences and a certificate in Food Technology or equivalent.

BRI 9

DERBYSHIRE COLLEGE OF AGRICULTURE AND HORTICULTURE

Enquiries

The Principal, Derbyshire College of Agriculture and Horticulture, Broomfield, Morley, Derby DE7 6DN. Tel: (0332) 831345.

Managing agency

Derbyshire County Council.

Courses

AGRICULTURE

3-year sandwich course leading to BTEC National Diploma.

Subjects studied include: Animal and crop production, Mechanisation, Agricultural sciences, Business management.

Entry standard: 4 GCSE passes to include 2 science subjects, plus 1 year's farming experience.

- BRI 10** **DURHAM COLLEGE OF AGRICULTURE AND HORTICULTURE**
- Enquiries** The Principal, Durham College of Agriculture and Horticulture,
Houghall, Durham DH1 3SG. Tel: Durham 61351/4.
- Managing agency** Durham County Council.
- Courses** **AGRICULTURE**
3-year sandwich course leading to BTEC National Diploma.
Subjects studied include: Crop husbandry, Farm machinery,
Animal husbandry, Soil management, Farm management.
Entry standard: 4 GCE 'O' levels to include 2 science subjects,
plus 1 year's practical experience.
- 3-year sandwich course leading to BTEC National Diploma in
Agriculture - Land Use and Recreation.
Subjects studied include: Resources and principles of
management, Financial and recreational management,
Legislation, safety and welfare, Ecological science, Equipment
and craft skills, Communications.
Entry standard: 4 GCE 'O' levels to include 2 science subjects plus
1 year's practical experience.
- BRI 11** **GLOUCESTERSHIRE COLLEGE OF AGRICULTURE AND HORTICULTURE**
- Enquiries** The Principal, Gloucestershire College of Agriculture and
Horticulture, Hartpury House, Near Gloucester, GL19 3BE.
Tel: Hartpury 283/4.
- Managing agency** Gloucestershire County Council.
- Courses** **AGRICULTURE**
3-year sandwich course leading to National Diploma.
Entry standard: 4 GCE 'O' levels or equivalent and 1 year's
practical experience.
- BRI 12** **HADLOW COLLEGE OF AGRICULTURE AND HORTICULTURE**
- Enquiries** The Principal, Hadlow College of Agriculture and Horticulture,
Hadlow, Tonbridge, Kent TN11 0AL. Tel: (0732) Hadlow 850551.
- Managing agency** Kent County Council.
- Courses** **AGRICULTURE**
3-year sandwich course leading to National Diploma.
Subjects studied include: Livestock and crop production,
Operation and care of farm machinery, Management studies.
Entry standard: 4 GCSE passes or equivalent plus 1 year's full-time
experience.
- HORTICULTURE**
3-year sandwich course leading to National Diploma in Commercial
Horticulture.
Subjects studied include: Principles and practice of all
aspects of commercial horticultural production; options in
Glasshouse and Protected Crop Production, or Nursery Practice
or Fruit Growing.

Entry standard: 4 GCE 'O' levels or equivalent, to include 2 maths/science subjects, plus 1 year's full-time horticultural experience.

BRI 13 HARPER ADAMS AGRICULTURAL COLLEGE

Enquiries The Academic Registrar, Harper Adams Agricultural College, Newport, Shropshire, TF10 8NB. Tel: (0952) 811280.

Managing agency Board of Governors.

General details 1) 3 terms between September and June. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **POULTRY HUSBANDRY**
2-year sandwich course leading to National Diploma.
Subjects studied include: Genetics and breeding, Reproduction and incubation, Stock production, Egg production, Egg marketing, Meat production, Meat marketing, Principles of nutrition, Environment, Health and hygiene, Marketing, Finance, Business management, Communication.
Entry standard: 4 GCE 'O' levels.

SUNDRY
3-year sandwich courses leading to Higher National Diplomas in:

Agriculture
Subjects studied include: Crop production, Animal production, Soil environment, Marketing and economics, Communications and computing, Nutrition, Farm management.

Agricultural Marketing and Business Administration.
Subjects studied include: Agricultural marketing, Business studies, Crop and livestock production, Farm management and mechanisation.

Agricultural Engineering
Subjects studied include: Engineering drawing and design, Mathematics and computing, Mechanical and material science, Mechanisation systems, Animal and Crop production, Farm and business management.

Entry standard: 1 GCE 'A' level and 4 'O' levels with 2 science subjects.

AGRICULTURE
4-year sandwich course leading to BSc (Hons).
Subjects studied include: Crop production technology, Animal production technology, Management and marketing.
Entry standard: 3 'O' levels and 2 'A' levels, or equivalent.

AGRICULTURAL ENGINEERING
4-year sandwich course leading to B.Eng.(Hons.)
The course will provide students with an understanding of farming practices, the principles underlying a range of engineering disciplines, business organisation and management, product marketing and effective communications practice.
Entry standard: 3 'O' levels and 2 'A' levels, or equivalent.

CROP PROTECTION
1-year course leading to Postgraduate Diploma.

Subjects studied include: Agronomy of crops in temperate climates, Biology, Control of pests, Agrochemical use, Soil science, Crop protection chemicals, Use of computers.
Entry standard: Appropriate Bachelor degree or equivalent.

BRI 14 HERTFORDSHIRE COLLEGE OF AGRICULTURE AND HORTICULTURE

Enquiries The Principal, Hertfordshire College of Agriculture and Horticulture, Oaklands, St Albans AL4 0JA. Tel: 0727 50651.

Managing agency Hertfordshire County Council.

Courses **AGRICULTURE**
3-year sandwich course leading to BTEC National Diploma.
Subjects studied include: Animal production, Crop production, Applied science, Farm mechanisation, Farm management, General Studies.
Entry standard: 4 'O' levels, to include maths and science, plus 1 year's farming experience.

HORTICULTURE
3-year sandwich course leading to BTEC National Diploma in Commercial Horticulture (with option for General Commercial Horticulture or Glasshouse Production).
Subjects studied include: Husbandry, Applied science, Mechanisation, Management, General studies.
Entry standard: 4 'O' levels or equivalent to include maths and science, plus 1 year's experience of practical horticulture.

3-year sandwich course leading to BTEC National Diploma in Amenity Horticulture.
Subjects studied include: Horticultural husbandry, Planning, Management, Mechanisation, Horticultural science, General studies.
Entry standard: 4 'O' levels or equivalent to include maths, science and English language, plus 1 year's work experience.

BRI 15 HUMBERSIDE COLLEGE OF HIGHER EDUCATION

Enquiries The Secretary, School of Fisheries, Humberside College of Higher Education, Queen's Gardens, Hull HU1 3DH Tel: (0482) 224121. Telex: HUMCOL G 592717.

Managing agency Humberside County Council.

Courses **FISHERY STUDIES**
3-year course leading to BSc (Hons)
Subjects studied include: Quantitative methods, Aquatic ecology, Fishing operations, Engineering technology, Economics and finance, Food studies, Fish biology, Marketing, Fish preservation, Industrial studies.
Entry standard: 3 'O' levels and 2 'A' levels or equivalent.

1-year courses leading to Diploma in: **Fisheries Management**
Subjects studied include: Fish stocks, Fishing vessel design and power, Fishing methods and gears, Marine studies and legislation, Fish processing technology, Business studies.

Fishing Gear Technology
Subjects studied include: Fishing gear design, Management studies, Hydrodynamics, Flume tank project.

Master Fisherman/Fishing Skipper

Subjects studied include: Navigation and seamanship, Communications and first aid, Marine meteorology, Ship's business.

Entry standard: Appropriate degree or equivalent.

1-year course leading to MSc in Fisheries Policy and Planning or Fish Marketing.

Entry standard: Honours degree or equivalent

BRI 16 THE INTERNATIONAL CO-OPERATIVE TRAINING CENTRE

Enquiries The Principal, The International Co-operative Training Centre, Co-operative College, Standford Hall, Loughborough, Leicestershire LE12 5QR. Tel: 050982 2333. Telex: 341995 Sharet G Ref 311.

Managing agency Co-operative Union, Manchester.

Courses **CO-OPERATIVE STUDIES**
1-year courses leading to Postgraduate Diplomas in Co-operative Development and Management, Co-operative Education and Training, Co-operative Finance and Management Accounting.
Subjects studied include: Management, Communications, Co-operation, Development policy.
Entry standard: University degree or equivalent.

BRI 17 LACKHAM COLLEGE OF AGRICULTURE

Enquiries The Principal, Lackham College of Agriculture, Lacock, Chippenham, Wiltshire, SN15 2NY. Tel: (0249) 56111.

Managing agency Wiltshire County Council.

Courses **FARM MECHANISATION**
3-year sandwich course leading to BTEC National Diploma.
Subjects studied include: Crop husbandry, Animal husbandry, Farm machinery management, Business management, Soils science, Mechanisation, Crop storage, General studies.
Entry standard: 4 'O' levels to include English, maths and physics, plus 1 year's relevant industrial experience.

AGRICULTURAL ENGINEERING

3-year sandiwch course leading to BTEC National Diploma.
Subjects studied include: Agricultural machine technology, Crop production, Animal production, Manufacturing technology, Engineering drawing, Computers, Agricultural engineering science.
Entry standard: 4 'O' levels to include English, maths and physics, or equivalent, plus 1 year's relevant industrial experience.

BRI 18 LANCASHIRE COLLEGE OF AGRICULTURE AND HORTICULTURE

Enquiries The Principal, Lancashire College of Agriculture and Horticulture, Myerscough Hall, Bilsborrow, Preston PR3 ORY. Tel: (0995) 40611.

Managing agency Lancashire County Council.

Courses

AGRICULTURE

3-year sandwich course leading to National Diploma.

Subjects studied include: Crop and animal production, Farm mechanisation and management, Applied science.

Entry standard: 4 'O' levels to include maths, science and English plus 1 year's full-time practical experience.

3-year sandwich course leading to Higher National Diploma.

Subjects studied include: Agricultural botany and crop science, Agricultural Zoology and animal science, Animal nutrition and feeding, Animal and plant breeding, Soil science, Farm mechanisation, Animal production, Crop production, Grassland production, Farm and business management.

Entry standard: 4 'O' levels to include maths, science and English, and 1 'A' level in a science subject, plus 1 year's practical experience in agriculture.

HORTICULTURE

3-year sandwich course leading to BTEC National Diploma in Amenity Horticulture.

Subjects studied include: Arboriculture, Landscape practice, Horticultural mechanisation, Plant propagation, Garden centre, Glasshouse and nursery work, General turf care.

Entry standard: 4 'O' levels or equivalent to include maths, science and English, plus 1 year's practical experience.

RECREATIONAL LAND MANAGEMENT

3-year sandwich course leading to BTEC Higher National Diploma.

Subjects studied include: Scientific and management principles, Agriculture in the landscape, Tree and woodland management, Land use and reclamation, Amenities and leisure facilities, Landscape design, Mechanisation, Building and estate maintenance.

Entry standard: 4 'O' levels or equivalent to include maths, science and English and 1 'A' level in a science subject, plus 1 year's practical experience.

BRI 19

LEICESTER POLYTECHNIC

Enquiries

The Principal, Leicester Polytechnic, P O Box 143, Leicester LE1 9BH. Tel: 0533-551551.

Managing agency

Leicestershire County Council.

Courses

APPLIED BIOLOGY.

2-year BTEC HND course.

Entry standard: 4 GCE 'O' levels plus 1 'A' level, BTEC ONC, OND or equivalent.

SUNDRY

3-year BSc Degree courses in Science and the Environment, and Land Management.

Entry standard: Minimum 3 GCE 'O' levels and 2 'A' levels or equivalent.

BRI 20 LINCOLNSHIRE COLLEGE OF AGRICULTURE AND HORTICULTURE

Enquiries The Principal, Lincolnshire College of Agriculture and Horticulture, Caythorpe Court, Caythorpe, Near Grantham, Lincs. NG32 3EP. Tel: (0400) 72521.

Managing agency Lincolnshire County Council.

Courses **AGRICULTURE**
3-year sandwich course leading to BTEC National Diploma.
Course covers the principles, practices and skills of farming and, after a year out on a commercial farm, students learn farm management.
Entry standard: 4 'O' levels or equivalent and farming experience of 1-2 years.

AGRICULTURAL ENGINEERING
3-year sandwich course leading to BTEC National Diploma.
The course aims to give practical experience and theory in agricultural and construction engineering mainly field machinery, construction industry machinery, agricultural tractors and related engineering technology.
Entry standard: 4 'O' levels or equivalent or a BTEC first diploma.

BRI 21 LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

Enquiries The Registrar, Loughborough University of Technology, Loughborough, Leicestershire LE11 3TU. Tel: 0509 263171. Telex: 34319 Fax: 0509 231983

Managing agency Autonomous.

General details 1) 3 terms between Oct & Jul. 2) Residential accommodation is available 3) Students from abroad are accepted.

Courses **WATER ENGINEERING**
1-year course in Water and Waste Engineering for Developing Countries leading to MSc.
Course designed for engineers and scientists involved in the provision of water supplies, water pollution control and sanitation.
Entry standard: Appropriate degree or diploma plus 2 years' relevant experience.

RURAL DEVELOPMENT
10-week course leading to Diploma in Technology for Rural Development
Subjects studied include: Agriculture and water, Communications, power and industry, Building for development.
Entry standard: Appropriate degree or equivalent, or senior professional experience. Fluency in English.

BRI 22 MERRIST WOOD AGRICULTURAL COLLEGE

Enquiries The Principal, Merrist Wood Agricultural College, Worplesdon, Guildford, Surrey GU3 3PE. Tel: (0483) 232424.

Managing agency Surrey County Council.

Courses	HORTICULTURE 3-year sandwich courses leading to BTEC Diploma in: Arboriculture Subjects studied include: Arboricultural operations, Technical procedures, Organisation and supervision of arboricultural activities, Applied science, Machinery. Countryside Recreation Subjects studied include: Animal, crop and soil husbandry, Countryside furniture design, Recreational activities and their requirements, Public speaking and exhibition work, Communication. Landscape Construction Subjects studied include: Design and technical procedures, Management, Arboriculture, Communication techniques. Nursery Practices Subjects studied include: Arboriculture, Landscape, Applied science, Machinery, Management. Entry standard: 4 'O' levels or equivalent to include 2 sciences, plus 1 year's practical experience.
BRI 23	NORFOLK COLLEGE OF AGRICULTURE AND HORTICULTURE
Enquiries	The Principal, Norfolk College of Agriculture and Horticulture, Easton, Norwich NR9 5DX. Tel: Norwich 742105.
Managing agency	Norfolk County Council.
Courses	AGRICULTURAL SECRETARIAL STUDIES 2-year course leading to BTEC National Diploma in Business Studies for Agricultural Secretaries. Subjects studied include: People in organisations, Finance, The organisation and its environment, Secretarial skills, Agricultural and horticultural technology, Agricultural and horticultural business recording, Accounting. Entry standard: 4 GCE 'O' levels or equivalent. AGRICULTURE 3-year sandwich course leading to BTEC National Diploma. Subjects studied include: Livestock and crop husbandry and science, Mechanisation and buildings, Business management and computers. Entry standard: 4 GCE 'O' levels or equivalent, two science based, plus 1-2 years' practical experience.
BRI 24	NORTH EAST LONDON POLYTECHNIC
Enquiries	The Head of Department, Department of Land Surveying, North East London Polytechnic, Longbridge Road, Dagenham, Essex RM8 2AS. Tel: 01-590 7722.
Managing agency	London Boroughs of Barking and Dagenham, Newham and Waltham Forest
Courses	LAND SURVEYING 2-year sandwich course leading to Higher National Diploma in Surveying. Subjects studied include: Geodetic surveying, Survey mathematics, Measurement science, Environmental science, Cartography, Photogrammetry, Sea surveying, Computing, Land administration.

Entry standard: 1 'A' level in a science subject plus 5 'O' levels.

3-year course leading to BSc and BSc (Hons) in **Surveying and Mapping Sciences**.

Subjects studied include: Principles and procedures of surveying and mapping, Geodetic survey, Geodesy, Measurement science, Hydrography, Land Law and cadastre, Photogrammetry, Cartography, Mathematics, Physics, Natural environmental studies and Computer applications.

Entry standard 'A' level in maths and physics or geography or equivalent, plus experience.

1-year postgraduate course leading to Diploma in Cadastre.

Subjects studied include: Land law/registration, Cadastre, Computing and data base management, Land economy, Principles of management, Cadastral organisation.

Entry standard: Degree and/or senior experience.

BRI 25

NORTHAMPTONSHIRE COLLEGE OF AGRICULTURE

Enquiries

The Principal, Northamptonshire College of Agriculture, Moulton, Northampton NN3 1RR. Tel: (0604) 491131.

Managing agency

Northamptonshire County Council.

Courses

AGRICULTURE

3-year sandwich course leading to BTEC National Diploma.

Subjects studied include: Animal and crop husbandry, Farm machinery and mechanisation, Farm buildings, Accounts, Farm management.

Entry standard: 4 GCSE passes or equivalent to include maths or science, plus 1 year's practical experience.

BRI 26

NORTHUMBERLAND COLLEGE OF AGRICULTURE

Enquiries

The Principal, Northumberland College of Agriculture, Kirkley Hall, Ponteland, Newcastle-upon-Tyne NE20 0AQ. Tel: (0661) 24141.

Managing agency

Northumberland County Council.

Courses

AGRICULTURE

3-year sandwich course leading to BTEC National Diploma.

Subjects studied include: Animal production, Crop production, Mechanisation and buildings, Management and accounts, Applied science, General studies.

Entry standard: 4 GCSE subjects to include 2 science/maths, plus 1 year's practical experience.

LAND USE AND RECREATION

3-year sandwich course leading to BTEC National Diploma.

Subjects studied include: Resources and principles of management, Finance, Legislation, safety and welfare, Ecological science, Equipment and craft skills, Communications.

Entry standard: 4 'O' levels or equivalent to include maths and English, plus a year's practical experience in a relevant industry.

BRI 27 NOTTINGHAMSHIRE COLLEGE OF AGRICULTURE

Enquiries The Principal, Nottinghamshire College of Agriculture,
Brackenhurst, Southwell, Nottinghamshire NG25 0QF.
Tel: (0636) 812252.

Managing agency Nottinghamshire County Council.

Courses **FOOD TECHNOLOGY**
2-year BTEC Diploma course in Technology of Food.
Entry standard: GCE 'O' levels in mathematics, science and English
or TEC Certificates.

AGRICULTURE
3-year sandwich course leading to National Diploma in Agricultural
Merchandising.
Entry standard: 4 GCE 'O' levels plus 1 year's practical
experience.

**BRI 28 OVERSEAS DEVELOPMENT NATURAL RESOURCES INSTITUTE (Formerly
Tropical Development and Research Institute and Land
Resources Development Centre).**

Enquiries The Director, Overseas Development Natural Resources Institute,
Central Avenue, Chatham Maritime, Chatham, Kent.

Courses **SUNDRY**
Short, non-residential, specialist courses are held in the UK in
subjects such as Aflatoxin Analysis and Mycotoxins, Storage of
Durable Agricultural Products in the Tropics, Post-harvest Fruit,
Vegetable and Root Crop Technology, Pesticide Residue Analysis.
Entry standard: Appropriate degree or equivalent.

Overseas training courses can also be arranged in Pest Management
and Control, and mobile courses in the Storage of Grain and Other
Durable Agricultural Products in the Tropics.

BRI 29 PERSHORE COLLEGE OF HORTICULTURE

Enquiries The Principal, Pershore College of Horticulture, Avonbank, Pershore
WR10 3JP. Tel: (0386) 552443. Fax: (0386) 556528

Managing agency Hereford and Worcester County Council.

Courses **HORTICULTURE**
3-year sandwich course leading to BTEC National Diploma.
Students can specialise in: Commercial crop production, Hardy
nursery stock production, Garden centre sales and organisation,
Landscape technology.
Entry standard: 4 'O' levels or equivalent, to include maths,
science and English, plus 1 year's experience in horticultural
work.

3-year sandwich course leading to BTEC Higher National Diploma.
Students can specialise in: Horticultural production, marketing and
business management, Landscape, recreation and amenity management.
Entry standard: 2 'A' levels and 4 'O' levels and 1 year's work
experience.

1/2-year advanced supplementary course leading to M Hort.

The course deals in depth with the horticultural sciences and reviews the full width of horticultural practices from crop production to arboriculture and garden design.
Entry standard: 5 'O' levels or equivalent, to include English, maths and science, plus at least 2 years' horticultural practical experience.

HORTICULTURAL ENGINEERING

2-year sandwich course leading to BTEC National Diploma in Engineering and Mechanisation.

Entry standard: 4 'O' levels or equivalent, to include English and a science.

BRI 30 PLUMPTON AGRICULTURAL COLLEGE

Enquiries The Principal, Plumpton Agricultural College, Lewes BN7 3AE. Tel: (0273) 890454.

Managing agency East Sussex County Council.

Courses **AGRICULTURE**
3-year Sandwich course leading to National Diploma.
Entry standard: 4 GCE 'O' levels plus 1 year's practical experience.

BRI 31 THE PLUNKETT FOUNDATION FOR CO-OPERATIVE STUDIES

Enquiries The Director, The Plunkett Foundation for Co-operative Studies, 31 St Giles, Oxford OX1 3LF. Tel: (0865) 53960. Telex: 83147 PLUNKETT. Fax: (0865) 726753.

Managing agency Trustees of the Plunkett Foundation.

Courses **CO-OPERATIVE MANAGEMENT**
3-6 week specially designed in-country training courses and seminars for co-operative organizations in developing countries.

High-level seminars on Co-operative Development and Finance are also held for policy-makers, as well as workshops on Training Methodology and Techniques and Curricula Development.

Entry standard: No formal pre-course qualification needed; candidates are selected on the basis of their ability to benefit from the training.

BRI 32 RYCOTEWOOD COLLEGE

Enquiries The Principal, Rycotewood College, Priest End, Thame, Oxfordshire OX9 2AF. Tel: 084421 2501.

Managing agency Oxfordshire County Council.

Courses **AGRICULTURE ENGINEERING**
3-year sandwich course leading to BTEC National Diploma.
Subjects studied include: Engine technology, Engine electrical systems, Transmission systems, Hydraulic systems, Materials, processes and welding.
Entry standard: 4 'O' levels or equivalent, to include maths and science.

2-year course leading to BTEC Higher National Diploma.

Subjects studied include: Field engineering - design and construction of engineering works related to soil, water and farm construction; Machinery engineering - Design, production, marketing or servicing of farm machinery.

Entry standard: BTEC National Diploma in Agricultural Engineering or an 'A' level pass in maths or science with appropriate supporting 'O' levels.

BRI 33 SCHOOL OF HORTICULTURE, ROYAL BOTANIC GARDENS

Enquiries The Principal, School of Horticulture, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB. Tel: 01-940 1171.

Managing agency Trustees of the Royal Botanic Gardens.

Courses HORTICULTURE

3-year Kew Diploma course.

The course is concerned with botanic garden management.

Entry standard: Passes in 5 GCE subjects of which 2 should be at 'A' level and at least 1 should be in a relevant science.

BRI 34 SEALE-HAYNE COLLEGE

Enquiries The Principal, Seale-Hayne College, Newton Abbot, Devon TQ12 6NQ. Tel: 0626 52323.

Managing agency Board of Governors.

General details 1) 3 terms between September and July. 2) Students from abroad are accepted.

Courses AGRICULTURE

3-year sandwich course leading to Higher National Diploma.

Subjects studied include: Animal and crop production, Management and marketing, Engineering and mechanisation.

Entry standard: 2 'A' levels including science, 3 'O' levels including English, plus practical farm experience.

4-year sandwich course leading to BSc(Hons).

Subjects studied include: Animal and crop production, Marketing and enterprise management, Communication studies and languages.

Entry standard: 2 'A' levels including science, 3 'O' levels including English, plus practical farm experience.

RURAL STUDIES

3-year sandwich course leading to Higher National Diploma in Rural Resources and their Management.

Subjects studied include: Integrated land management, Physical resources, Plant resources, Animal resources, Business management, Public sector management, Skills development.

Entry standard: A National Diploma in an appropriate subject or 2 'A' levels (including 1 science) and 4 'O' levels including English and maths, plus 1 year's practical farm experience.

FOOD TECHNOLOGY

3-year sandwich course leading to National Diploma.

Subjects studied include: Chemical and biological sciences, Food processing, Communications studies.
Entry standard: 4 'O' levels to include English and 2 science subjects.

3 year sandwich course leading to Higher National Diploma.
Subjects studied include: Chemical and biological sciences, Food processing, Business organisation and operation.
Entry standard: Either a National Diploma in appropriate science or 1 'A' level in a science subject and 3 'O' levels to include English and maths.

FARM MANAGEMENT

1-year postgraduate course leading to Diploma.
Subjects studied include: Business policy, Financial management, Capital and asset management, Information technology, Human resource management, Personal management skills, Marketing, Production management.
Entry standard: National Diploma, Higher National Diploma or a degree in an appropriate subject and, ideally, some practical experience. There is competition for places on this course.

BRI 35 SHUTTLEWORTH COLLEGE

Enquiries The Principal, Shuttleworth Agricultural College, Old Warden Park, Bedfordshire, SG18 9DX. Tel: (0767-27) 441.

Managing agency Direct Grant College

General details 1) 3 terms: Sep/Dec, Jan/Apr, May/Jul. 2) Residential accommodation is available. 3) Students from abroad are welcomed.

Courses **AGRICULTURE**
3-year sandwich course leading to National Diploma:
Subjects studied include: Crop husbandry, Farm mechanisation, Livestock husbandry, Farm management.
Entry standard: 4 'O' levels to include English and 2 maths/science subjects, plus 1 year's practical experience.

3-year sandwich course leading to Higher National Diploma.
Subjects studied include: Background sciences, Mechanics and Engines, Crop husbandry, Livestock husbandry, Farm business management. Arable farming or Agri-business can be taken as options.
Entry standard: National Diploma or Certificate in appropriate subject, or 4 'O' levels and 2 'A' levels (1 in a science subject) plus 1 year's practical farming experience.

BRI 36 SILSOE COLLEGE

Enquiries The Head of Professional Development, Silsoe College, Cranfield Institute of Technology, Silsoe, Bedford, Beds MK45 4DT. Tel: (02525) 60428.. Telex: 265871 Monref G. Fax: (0525) 61527.

Managing agency Cranfield Institute of Technology.

General details 1) 3 terms for BSc courses and 4 terms for MSc courses between October and September. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

3-year course leading to B.Eng. in Agricultural Engineering.

4-year sandwich course leading to BSc in Agricultural Technology

Entry standard: minimum 2 'A' levels.

12-month-2-year courses for Masters Degrees in Agricultural Engineering, Land and Water Management, Marketing and Management, Applied Remote Sensing, Manufacturing for Agricultural and Industrial Development, Rural Engineering, Plantation Management.

Entry standard: Appropriate Honours degree.

9-month courses leading to Postgraduate Diplomas in Agricultural

Engineering, Land and Water Management, Marketing and Management.

Entry standard: Appropriate first degree or HND.

BRI 37**SOMERSET COLLEGE OF AGRICULTURE AND HORTICULTURE**

Enquiries

The Principal, Somerset College of Agriculture and Horticulture, Cannington, Bridgwater, Somerset, TA5 2LS. Tel: (0278) 652226.

Managing agency

Somerset County Council.

Courses

FOOD TECHNOLOGY

2-year course leading to BTEC Diploma.

Subjects studied include: Quality of food products, Food additives, Microbiological analysis of foods, Manufacture of canned/bottled foodstuffs, Development of new foods, Food preservation and processing, Dairy foods, Nutrition.

Entry standard: 3 'O' levels or equivalent which should include a science.

AGRICULTURE

3-year sandwich course leading to National Diploma.

Subjects studied include: Animal and crop husbandry, Farm machinery, Farm Management.

Entry standard: 4 GCE passes or equivalent, to include at least 2 science subjects, plus 1 year's practical experience in Agriculture.

HORTICULTURE

3-year sandwich course leading to National Diploma in Amenity Horticulture.

Subjects studied include: Horticultural practice, Science and management of plants, Maintenance of grounds, Machinery management, Arboriculture, Landscape construction.

Entry standard: 4 GCE passes or equivalent, to include at least 2 science subjects, plus 1 year's practical experience in horticulture.

BRI 38**SOUTH BANK POLYTECHNIC**

Enquiries

The Registrar, South Bank Polytechnic, Borough Road, London SE1 0AA. Tel: 01-928 8989.

Managing agency

Polytechnic Council.

General details

1) 3 terms between September and June. 2) Students from abroad are accepted.

Courses

FOOD SCIENCE/TECHNOLOGY.

2-year course leading to BTEC Higher National Diploma in Science (Technology of Food).

The course is designed with particular emphasis on the training of skilled and versatile food technicians.

Entry standard: BTEC Diploma or 5 GCE passes to include maths and English and a science subject at 'A' level.

4-year sandwich course leading to BSc (Hons) in Food Science.

Subjects studied include: Food processing, Food analysis, Food biochemistry, Food microbiology.

Entry standard: 5 GCE passes or equivalent, to include maths, chemistry, physics at 'O' level and 2 science 'A' levels.

2/3-year part-time course leading to MSc in Food Analysis and Composition.

Course will cover: chromatography, spectrophotometry, electrophoresis, polarography; specialised studies on advanced analytical procedures used in food analysis will follow.

Entry standard: Appropriate first degree.

BRI 39

SOUTH GLAMORGAN INSTITUTE OF HIGHER EDUCATION

Enquiries

Head of Food Technology, Department of Food Studies and Service Industries, Faculty of Science, South Glamorgan Institute of Higher Education, Colchester Avenue, Cardiff CF3 7XR. Tel: (0222) 551111.

Managing agency

South Glamorgan County Council.

Courses

FOOD TECHNOLOGY.

2-year course leading to BTEC National Diploma.

Subjects studied include: Food raw materials, Microbiology, Chemistry, Physics, Maths, Computers, Food process engineering, Food preservation, Food and factory hygiene, Nutrition, Food chemistry, Quality assurance, Food packaging. Final year options include: Breadmaking and confectionery technology, Cereal technology and Food processing.

Entry standard: GCSE passes or equivalent in English, maths, a science subject and one other.

2-year course leading to BTEC Higher National Diploma.

Subjects studied include: Food microbiology, Food unit operations, Food process engineering, Food materials and additives, Food chemistry and nutrition, Food analysis, Food hygiene, Legislation, Quality assurance, Food preservation and packaging, Food product manufacture. Final year options include: Marketing, Business organisation, Product development, Cereal technology, Meat technology, Sugar and chocolate technology, Confectionery technology, Biotechnology.

Entry standard: BTEC National Certificate or Diploma in Science or appropriate GCSE passes.

BRI 40

SPARSHOLT COLLEGE

Enquiries

The Principal, Sparsholt College, Sparsholt, Winchester, Hampshire SO21 2NF Tel. Sparsholt (096272) 441

Managing Agency

Hampshire County Council.

Courses

AGRICULTURE

4-year sandwich course leading to Higher National Diploma in Agricultural Production and Management.

Subjects studied include: The science of animal and crop production, Agricultural engineering science and farm mechanisation, Farm management/economics, Statistics/Information technology

Entry standard: 4 GCSE passes or equivalent, to include 2 science subjects and 1 'A' level.

FISH FARMING/FISHERY MANAGEMENT

3-year course leading to Higher National Diploma.

The course includes integrated industrial experience and covers such subjects as Fish science, Fish farming, Engineering, Sporting fishery management, Economics and business management, Estate maintenance.

Entry standard: 4 'O' levels, to include 2 science subjects, and 1 'A' level, plus 1 year's practical experience.

BRI 41**STAFFORDSHIRE COLLEGE OF AGRICULTURE**

Enquiries

The Principal, Staffordshire College of Agriculture, Rodbaston, Penkridge, Stafford, ST19 5PH. Tel: Penkridge (078571) 2209.

Managing agency

Staffordshire County Council.

Courses

AGRICULTURE

3-year sandwich course leading to National Diploma.

Subjects studied include: Animal production, Crop production, Management; assignment and project work in third year.

Entry standard: 4 'O' levels or equivalent, to include English and 2 science subjects, plus 1 year's practical experience.

BRI 42**UNIVERSITY COLLEGE OF NORTH WALES**

Enquiries

The Head of Department, School of Agricultural and Forest Sciences, Department of Forestry and Wood Science, University College of North Wales, Bangor, Gwynedd LL57 2UW. Tel: (0248) 351151. Telex: 61100 UCNW. Fax: (0248) 361429.

Managing agency

Autonomous.

General details

1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

3-year Bachelor Degree courses in Forestry, Agroforestry, Forestry with Soil Science, and Forestry with Applied Zoology.

Entry standard: 'O' levels in maths and English, plus 3 'A' levels.

FORESTRY

9-month Postgraduate Diploma course.

1-year for Masters Degree Course in Environmental Forestry.

Entry standard: Appropriate first degree.

Britain

BRI 43 UNIVERSITY COLLEGE OF SWANSEA

Enquiries The Admissions Secretary, Centre for Development Studies,
University College of Swansea, Swansea SA2 8PP, Wales. Tel: 0792
205678.

Managing agency Autonomous.

Courses **FOOD POLICY**
1-year course leading to MSc in Food Policy and Commodity Trade.
This course examines the design of policies for the
development of agricultural-food systems in Third World
countries and is designed for government officials acting in
commodity markets and multilateral trade negotiations, as well
as administrators and planners working in public
institutions. Option courses are available in Rural
Development and Agrarian Change, Industrialisation in the
Third World and Cost Benefit Analysis.
Entry standard: Good second class Honours degree or equivalent.

BRI 44 UNIVERSITY COLLEGE OF WALES

Enquiries The Registrar, University College of Wales, Old College, King
Street, Aberystwyth SY23 2AX. Tel: (0970) 3177.

Managing agency Autonomous.

General details 1) 3 terms between September and June. 2) Residential
accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
3-year BSc courses in:
Agriculture
Subjects covered include: Crop production, Crop science,
Animal science, Agricultural economics, Applied nutrition,
Agricultural botany, Farm business, Soil science.
Agricultural Technology
Subjects covered include: Agricultural systems, Agricultural
economics and marketing, Farm mechanisation, Agricultural
sciences.
Agricultural Botany
Subjects covered include: Agronomy, Crop physiology, Crop
protection, Genetics and statistics, Plant breeding, Plant
pathology, Plant physiology, Soil science.
Applied Plant Biology
Subjects covered include: Botany, Agricultural botany, Soil
science and Computer science.
Genetics
Subjects studied include: Statistics, Plant breeding,
Biometrical genetics.
Agricultural Biochemistry
Subjects covered include: Soil science, Ruminant nutrition,
Development and protection of crops.
Agricultural Economics
Subjects covered include: Agricultural systems, Farm business,
Agricultural marketing, Computing.
Agricultural and Food Marketing
Subjects covered include: Marketing management, research and
analysis, Quantitative methods in agricultural economics,
Animal and crop production.

Entry standard: Usual university entrance.

1-year postgraduate Diplomas in Agricultural Science, Agricultural Economics, Agriculture.

Entry standard: Appropriate first degree.

1-year MSc degrees in Agricultural and Amenity Grassland; Soil Science; Agronomy.

Entry standard: BSc in a plant science and/or soil science.

BRI 45 UNIVERSITY OF BATH

Enquiries The Registrar, University of Bath, School of Biological Science, Claverton Down, Bath BA2 7AY. Tel: (0225) 61244. Telex: 449097.

Managing agency Autonomous.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jul. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
4-year sandwich courses leading to BSc in Horticulture, and Applied Biology (Crop Protection).
Entry standard: 3 GCE 'A' levels to include biology and chemistry or equivalent.

1-year MSc Degree course in Crop Production.

Entry standard: Honours degree in Agriculture or Horticulture.

BRI 46 UNIVERSITY OF BIRMINGHAM

Enquiries The Head, School of Biological Sciences, Department of Plant Biology, University of Birmingham, P O Box 363, Birmingham B15 2TT.

Managing agency Largely autonomous.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jul. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **CONSERVATION OF PLANT GENETIC RESOURCES**
1-year course in Conservation and Utilisation of Plant Genetic Resources leading to MSc.

This course seeks to provide training for scientists, particularly from developing countries, and the syllabus includes: Introduction to plant genetic resources, Diversity of crop plants, Germplasm exploration, Genetical structure of populations, Conservation ex situ and in situ, Forest and forage genetic resources, Statistics, Plant breeding, Plant pathology, Crop ecology, Data management, Use of microcomputers.

Entry standard: Good Honours degree in biological science, genetics, plant breeding, botany, agriculture or horticulture.

Note: Courses are now being offered, lasting 6 weeks to 3 months, covering all aspects of plant genetic resources, including training in the area of in situ conservation of plant genetic resources. Candidates should have experience in genetic resources.

Britain

BRI 47 UNIVERSITY OF BRADFORD

Enquiries The Director, Project Planning Centre for Developing Countries,
University of Bradford, Bradford, West Yorks BD7 1DP.
Tel: (0274) 733466. Telex: 51309 UNIBFD G.

Managing agency Largely autonomous.

General details 1) 3 terms between October and July. 2) Residential
accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
3-month post-experience courses are available in:
Agricultural Project Planning
The course covers project identification, preparation,
appraisal (both financial and economic); projection
organisation and management, implementation, monitoring and
evaluation; the use of computers.
Agricultural and Rural Project Management
This course is directed towards senior and middle-level
members of project management teams and examines the project
management role in a wide range of agricultural and rural
development projects.
Planning and Appraisal of Agro-Industrial Projects
The course covers those development projects which have both
agricultural and industrial components, eg. the supply of
crops, livestock fibres, timber etc. for industrial
processing.

Entry standard: Degree in a relevant subject and/or several years'
professional experience in an associated field.

DEVELOPMENT AND PROJECT PLANNING

1-year course leading to MSc in National Development and Project
Planning.

Subjects studied include: Project planning and analysis,
Development theory and planning, Implementation and management
of projects, National planning in practice; with optional
subjects in project planning covering industry, agriculture,
transport, water resources, education and tourism.

Entry standard: Good Honours degree.

BRI 48 UNIVERSITY OF BRISTOL

Enquiries (A) The Director, Long Ashton Research Station, (Institute of
Arable Crops Research), University of Bristol, Long Ashton,
Bristol BS18 9AF. Tel: (0272) 392181. Fax: (0272) 394299.

(B) The Course Organiser, Department of Animal Husbandry,
University of Bristol, Langford, Bristol BS18 7DU.

Managing agency Largely autonomous.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jun. 2) Residential
accommodation is available. 3) Students from abroad are accepted.

Courses (A) **CROP PROTECTION**
1-year postgraduate course leading to MSc.
Course content: Biology and management of temperate and
tropical weeds, Pest and disease forecasting, Pesticide
resistance, Virus diagnosis and epidemiology, Biological and

integrated control of plant pathogens, nematodes, insects and weeds, Pesticide mode of action and application, Environmental impact assessment, Plant pathology and biotechnology.
Plant-soil-climate relationships of major world crops,
Experimental design and analysis.

Entry standard: Good Honours degree in the biological sciences or equivalent.

(B) MEAT SCIENCE

1-year postgraduate course leading to MSc.

Programme includes: Animal production, Biochemistry, Physiology and carcass composition, Meat processing and handling, Microbiology, Public health and hygiene, Legislation, Meat quality.

Entry standard: Honours degree in the biological sciences or a degree in a veterinary science or equivalent.

BRI 49

UNIVERSITY OF CAMBRIDGE

Enquiries

(A) The Head of Department, Department of Land Economy, Cambridge University, 19 Silver Street, Cambridge CB3 9EP.
Tel: (0223) 337147.

(B) The Head of Department, Department of Clinical Veterinary Medicine, Madingley Road, Cambridge. CB3 0ES
Tel: (0223) 334748

Managing agency largely autonomous.

General Details 1) 3 terms between October and June. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

(A) LAND ECONOMY

3-year bachelor degree course.

Course covers: Economics, Business and administrative law, Accounting and data valuation.

Entry standard: University entrance.

Postgraduate courses in Land Economy:

M.Phil by Thesis (12 months); MSc/M.Litt (6 terms); PhD by Thesis (9 terms).

These courses provide students with the opportunity to develop their research skills and write a thesis encapsulating known knowledge and to make a contribution to knowledge to the appropriate level.

M.Phil by Coursework (10 months)

-provides a range of advanced coursework in specialised areas of urban economics, rural economics, regional economics, land development, and the law relating to land, the environment and other natural resources.

Entry standard: Good Honours degree in a relevant subject.

(B) VETERINARY SCIENCE

6-year course leading to Vet MB.

The first 3 years consist of either 3 years Medical Sciences Tripos leading to a BA degree or the Natural Sciences Tripos with a Part II, leading to an Honours BA. The final 3 years are spent in the Department of Clinical Veterinary Medicine where clinical instruction is provided.

Entry standard: 3 'A' levels at A grade.

3-year course leading to PhD
2-year course leading to MSc.
Entry standard: Appropriate first degree.

BRI 50 UNIVERSITY OF EAST ANGLIA

Enquiries The Director, Overseas Development Group, University of East Anglia, Norwich NR4 7TJ. Tel: (0603) 57880. Telex: 995801 GLOTLX-G.

Managing agency Largely autonomous.

General details 1) 3 terms between October and June.
 2) Residential accommodation is available.
 3) Students from abroad are accepted.

Courses **DEVELOPMENT STUDIES**
 3-year course leading to BA (Hons).
 Course covers: Economics, Sociology, Social anthropology, The natural sciences.
 Entry standard: Details available from the School of Development Studies.

SUNDRY

1-year courses leading to Masters degrees in:
Development Economics

 The programme provides an understanding of development policies and plans and looks in detail at the problems of implementing these policies in developing areas.

Rural Development

 The programme is intended to provide an understanding of agricultural systems and rural society, together with training in the range of analytical methods and techniques which are relevant for rural areas of the Third World.

Regional Planning for Developing Countries

 The programme provides professional-level training in the theories and techniques of regional analysis and regional planning.

Development Studies

 The programme introduces theories, themes and topics in the study of development, ranging from the global to the regional.

Agricultural Economics

 The programme gives a training in theories and techniques relevant to agricultural planning and policy making in developing countries.

Agricultural Development

 The programme is designed to provide training which is relevant to developing country problems.

Entry standard: First or Upper Second Class Honours degree or equivalent in appropriate subject.

BRI 51 UNIVERSITY OF HULL

Enquiries Department of Applied Biology, University of Hull, Cottingham Road, Hull HU6 7RX North Humberside. Tel. (0482) 46311. Telex 592530. Fax: (0482) 465936.

Managing agency Largely autonomous.

- General details 1) 3 terms between October and July. 2) Residential accommodation is available. 3) Students from abroad are accepted.
- Courses **SUNDRY**
3-year courses leading to BSc(Hons) in: Plant Pathology; Estuarine, Coastal & Wetland Biology; Molecular Biology; Biotechnology.
Entry standard: 3 'A' levels to include 2 science subjects.
- Higher Degree courses (1 year for MSc and 3 years for PhD) in Biochemistry, and Zoology (research in a chosen field such as Fish Physiology, Fish Parasitology, Crustacean Physiology, Estuarine Management and Ecology, Insect Physiology, and Insect Ecology).
Entry standard: Appropriate Honours degree.
- BRI 52 UNIVERSITY OF LEEDS**
- Enquiries The Registrar, Department of Pure and Applied Biology, University of Leeds, Leeds LS2 9JT. Tel: (0532) 431751. Telex: 556473. Fax: (0532) 420090.
- Managing agency Largely autonomous.
- General details 1) 3 terms between October and July. 2) Residential accommodation is available. 3) Students from abroad are accepted.
- Courses **AGRICULTURAL ZOOLOGY**
3-year course leading to BSc (Hons)
Subjects studied include: Animal parasitology, Medical and veterinary entomology, Plant nematology, Crop entomology.
Entry standard: 3 'A' levels to include biology or zoology and chemistry.
- AGRICULTURAL SCIENCE**
3-year course leading to BSc in Agricultural Science (Crops).
Subjects studied include: Agricultural industry, Biochemistry, Ecology, Genetics, Plant biology, Crop science.
Entry standard: 3 'A' levels to include chemistry and a biological subject.
- APPLIED BIOLOGY**
3-year course leading to BSc.
Course covers: Biotechnology, Environmental protection, Parasitology and immunology, Pest management, Plant pathology and soil science.
Entry standard: 3 'A' levels to include biology.
- SUNDRY**
3-year course leading to PhD. Research in biochemistry of insecticides, insect control, nematology, parasitology, plant nutrition, plant-tissue culture, plant water relations, soil physics, soil/plant relationships.
Entry standard: First-class or upper second Honours BSc degree.
- BRI 53 UNIVERSITY OF LIVERPOOL**
- Enquiries (A) The Sub-dean, Faculty of Veterinary Science, University of Liverpool, P O Box 147, Liverpool L69 3BX. Tel: 051-709 6022. Telex 627095 UNILPLG.

- (B) The Head of Department, Department of Marine Biology,
University of Liverpool, Port Erin, Isle of Man.

Managing agency Largely autonomous.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jul. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

(A) VETERINARY SCIENCE

5-year course leading to BVSc.

The course encompasses a wide range of biological sciences which form the foundations for the study of veterinary medicine and surgery.

Entry standard: 3 GCE 'A' levels or equivalent.

2-year part-time postgraduate course leading to Diploma in Bovine Reproduction.

The course will be modular in structure, each module requiring residence during university vacations. The total period of study will be 8 weeks spaced over 2 years and will include lectures, demonstrations, films, tapes, practical work, discussions, field visits and directed reading.

Entry standard: An approved veterinary professional qualification and two years' experience of work with cattle.

2-year part-time postgraduate course leading to Diploma in Equine Reproduction.

The course is similar in structure to that for the Diploma in Bovine Reproduction (see above) but will consist of 10 weeks study.

Entry standard: An approved veterinary professional qualification and two years' experience of work with horses.

1-year postgraduate courses leading to MVSc and M.Animal Science in Applied Parasitology.

Both courses consist of an intensive period of instruction for 8 months, the final 4 months being devoted to research.

Entry standard: Appropriate first degree.

3-year course by research thesis in any subject of the veterinary/animal science curriculum leading to PhD.

Entry standard: Degree with Honours or equivalent.

(B) MARINE BIOLOGY

3-year course leading to BSc (Hons) in Marine Biology.

The purpose of the course is to give a good grounding in modern fisheries, aquaculture, pollution and general marine ecology, and includes tuition in computing and statistics. It also involves a small research project.

Entry standard: 3 'A' levels to include biology, botany or zoology.

1-2 year courses leading to MSc in Fisheries or Aquaculture.

The course includes formal training in statistics, computing, the approach to research, the processing and presentation of data; the exact research topic is chosen by the student.

Entry standard: Appropriate first degree.

BRI 54

UNIVERSITY OF LONDON

Enquiries

(A) The Registrar, King's College, KQC, Department of Food and Nutritional Sciences, Campden Hill Road, Kensington, London W8 7AH. Tel: 011-937 5411.

(B) The Registrar, The Royal Veterinary College, Royal College Street, London NW1 OTU. Tel: 01-387 2898.

(C) The Registrar, Wye College, Wye, Ashford, Kent TN25 5AH. Tel: 0233-812401. Telex: 96118 ANZEEC G.

Managing agency Largely autonomous.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jul. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

(A) FOOD AND NUTRITIONAL SCIENCES

9-month course leading to Diploma in Food Resources related to Community Development

Subjects studied include: World food resources, Human nutrition, Food science, Agricultural production and agricultural ecology, Health and sanitation in developing countries, Applications of social anthropology, Community development and the extension services, Communication and adult learning.

Entry standard: Appropriate degree or equivalent.

1-year course leading to MSc in Food Technology in Developing Countries

The course is intended primarily for overseas students and is designed to develop expertise in the means of improving food resources and food security of the population, with due consideration of hygiene, nutrition, health and other aspects of social well-being.

Entry standard: University degree in natural or applied sciences.

1-year course leading to MSc in Nutrition.

The course consists of lectures and seminars on the principles of nutrition and their practical application in the field of public health, together with laboratory work. Each student undertakes a supervised research project.

Entry standard: University degree in biological or physical sciences or a medial degree.

(B) VETERINARY SCIENCE

5-year course leading to BVetMed.

Subjects studied include: Anatomy and physiology, Biochemistry; Embryology; Histology and pharmacology; Animal management and husbandry; Surgery and obstetrics.

Entry standard: 'A' levels in biology, chemistry and physics/mathematics or equivalent qualifications.

1-year postgraduate course leading to MSc in Animal Health.

Subjects studied include: Animal production; Microbiology; Parasitology and immunology; Disease control; Organisation and administration.

1-year postgraduate course leading to MSc in Laboratory Animal Science.

The course provides training at an advanced level in all aspects of the care, maintenance and use of laboratory animals for biological, biomedical and allied studies.

Entry standard: First degree in veterinary medicine/science.

Courses leading to M.Phil (2 years) and PhD (3 years) are offered for postgraduate research training in aspects of veterinary medicine.

(C) SUNDRY

3-year courses leading to BSc in:

Agriculture

Subjects studied include: Basic sciences, Economics and the elements of agriculture; Animal production; Crop production; Economics and management.

Agricultural Economics

Subjects studied include: Livestock production; Statistics; Agricultural and human development; Marketing and management

Agricultural Business Management

Subjects studied include: Production of crops and livestock; Agricultural economics; Marketing; Land and estate management.

Entry standard: 3 'A' levels.

9-month course leading to Diploma in Agricultural Development

Course includes: Agrarian development overseas; Technical aspects of tropical agriculture; and either Farm business management and marketing or World crops.

Entry standard: Appropriate degree.

9-month course leading to Diploma in Agricultural Economics

Course content: Macroeconomics, Economics of the agricultural industry, Statistics, Technical aspects of tropical agriculture, Agrarian planning, development and extension

Entry standard: Appropriate degree.

1-year course leading to MSc in Agricultural Economics, with specialisations in Agrarian Development Overseas; Agricultural Marketing, Farm Business Management; Agricultural Policy.

Entry standard: Appropriate degree.

HORTICULTURE

3-year courses leading to BSc in:

Horticulture

Subjects studied include: Economics; Mechanisation; Propagation; Pomology; Landscape and amenity horticulture; Intensive crop production. Specialisation in Production Horticulture or Amenity Horticulture.

Applied Plant Sciences

In three streams: Plant sciences; Horticulture sciences; Soils and plant nutrition.

Entry standard: 3 'A' levels.

1-year course leading to MSc in Applied Plant Sciences

-related to crop growth and yield, pests and disease, experimentation and methodology for selected world crops.

Entry standard: Appropriate Honours degree.

1-year course leading to MSc in Tropical and Subtropical Horticulture and Crop Science.

Subjects studied include: The tropical and subtropical environment, Plant improvement, Planning, development and extension, and either Crop production or Amenity Horticulture.
Entry standard: First degree in Horticulture or Agriculture.

RURAL ENVIRONMENT STUDIES

3-year course leading to BSc.

Subjects studied include: Population changes, Urbanisation of the countryside, Recreational impacts, Ecological and resource constraints, Pollution.

Entry standard: 3 'A' levels.

12-month course leading to MSc in Rural Resources and Environment Policy.

Subjects studied include: The physical and biological environment, The social and economic environment, Land-use planning and environmental management, Critical issues in rural environmental policy (plus one optional subject: Agricultural trade policy or Agrarian planning, development and extension or Rural land management and agricultural policy).

Entry standard: Appropriate Honours degree.

ANIMAL SCIENCES

3-year course leading to BSc.

Subjects studied include: Biochemistry, Physiology and nutrition, Cell biology, Microbiology, Genetics.

Entry standard: 3 'A' levels.

BRI 55

UNIVERSITY OF MANCHESTER

Enquiries

The Head of Department, Department of Agricultural Economics, University of Manchester, Manchester M13 9PL. Tel: (061)-273 7121/-273 6888.

Managing agency Largely autonomous.

General details 1) 3 terms between September and June. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

AGRICULTURAL ECONOMICS.

9-month course leading to Diploma for Advanced Studies in Agricultural Economics.

Subjects include: Economics of national and international agricultural policies, Population, nutrition and rural employment, Agriculture in development, Microeconomic theory.

Entry standard: Degree in Agricultural Economics or related subject.

1-year postgraduate course leading to MA (Econ) in Agricultural Economics:

By coursework and dissertation: This course is directed mainly towards international, national and industry - rather than farm level - topics.

By thesis: Students can choose from a wide range of topics covering agricultural economics. A candidate may be transferred to the PhD without loss of seniority, if within the first year material of quality and quantity sufficient to justify the transfer has been produced.

Entry standard: Appropriate Honours degree or equivalent.

RURAL DEVELOPMENT

1-year postgraduate course leading to MA (Econ).

This course is orientated specifically to economic and management issues in Third World rural areas.

Entry standard: Appropriate Honours degree or equivalent.

BRI 56

UNIVERSITY OF NEWCASTLE-UPON-TYNE

Enquiries

The Registrar, University of Newcastle-upon-Tyne, 6 Kensington Terrace, Newcastle-upon-Tyne NE1 7RU. Tel: (0632) 328511, (091) 2328511. Telex: 53654 UNINEW G.

Managing agency

Largely autonomous.

General details

1) 3 terms between October and July. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

3-year courses leading to BSc Hons in:

Agriculture

Final year options in Animal production, Crop production, Agricultural economics, Estate management, Agricultural commodity marketing, Rural planning.

Agricultural Biochemistry and Nutrition

Subjects covered include: Crop and animal science, Statistics, Agricultural microbiology, Animal nutrition, Physiology.

Agricultural Biology

- Options in Agricultural Zoology, Crop Protection or Plant Science.

Agricultural Economics

Subjects offered include: Agricultural marketing, Farm and business management, Quantitative techniques, Estate management, Rural planning, Agricultural commodity marketing.

Agricultural and Environmental Science

Subjects studied include: Land resources, Quantitative methods, Crop and plant science, Nutritional science, Soil science and land use, Terrestrial ecology.

Agriculture and Food Marketing

Subjects studied include: Agriculture, Behavioural science, Economics, Farm and business management, Food technology and nutritional science, Quantitative techniques, Agricultural commodity marketing, Agricultural marketing in less developed countries, Corporate business management.

Agricultural Mechanisation Management

Subjects offered include: Agricultural commodity marketing, Applied electronics, Corporate business management, Estate management, Farm management, Fluid flow engineering, Heat and mass transfer, Tropical soils and land resources, Applied soil physics.

Soil and Land Resource Science

Subjects offered include: Soil and environmental physics, Soil chemistry and plant nutrition, Soil survey and land development, British soils and land resources, Tropical soils and land resources, Soil management, Agriculture, Management of biological systems.

Entry standard: University matriculation.

3-year course leading to BEng (Hons) in Agricultural Engineering.

Subjects studied include: Control and dynamics, Fluid flow engineering, Heat and mass transfer, Quantitative management techniques, Soil mechanics, Applied electronics, Applied soil physics, Manufacturing systems.

Entry standard: University matriculation.

4-year sandwich course leading to BSc (Hons) in Agri-Business Management

Subjects studied include: Agricultural economics and marketing, Food technology and nutritional science, Farm and business management, Quantitative techniques, Industrial relations, Food mechanisation systems.

Entry standard: University matriculation.

1-2 year courses leading to MSc in:

Agricultural Engineering

The course is principally concerned with appropriate aspects of agricultural engineering, farm mechanisation and agriculture.

Applied Entomology

The course covers appropriate aspects of entomology, ecology and population dynamics, statistics and techniques in field practice, the principles of economic control and crop protection.

Animal Nutrition

Subjects will include: Animal nutrition, Animal biochemistry and physiology, Techniques in animal experimentation and those in biochemistry of particular importance in nutritional studies, and statistics.

Soil Science

The course of study must include three of the following subjects: Soil physics, Soil chemistry and plant nutrition, British soils and land resources, Tropical soils and land resources, Soil management.

Entry standard: Appropriate first degree.

Full-time and part-time courses by research are also available leading to MPhil and PhD.

BRI 57

UNIVERSITY OF NOTTINGHAM

Enquiries

The Secretary, School of Agriculture, University of Nottingham, Sutton Bonington, Loughborough, Leicestershire LE12 5RD. Tel: (0602) 484848. Telex: 37346 UNINOT G. Fax: (05097) 3917

Managing agency Largely autonomous.

General details 1) 3 terms between October and July. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

3-year course leading to BSc (Hons) with specialisation in: Agriculture

Students taking this course take Agronomy, Animal production, and Management and economics in their final terms.

Animal Science

This course consists of an integrated series of lectures, practicals and seminars emphasising biochemistry, physiology, morphology, nutrition and genetics and the way in which they are applied to animal production.

Horticulture

The course provides fundamental science and management principles followed by later specialisation.

Agricultural Botany

Subjects for the final terms include Physiology and breeding of crop plants, Plant cell and molecular biology, Plant pathology.

Environmental Biology

Students study both plant and animal science before choosing specialised units.

Biotechnology in Agriculture

After introductory courses in biological, physical and agricultural sciences, students may specialise in plant, animal, or microbial biotechnology.

Agricultural Biochemistry

This course covers bioenergetics, metabolism and its regulation as well as the biochemistry of all the major cellular macromolecules.

Nutrition

There are courses in human and animal nutrition. After an introductory course students specialising in animal nutrition choose Biochemistry and Physiology or Animal Production, and those specialising in human nutrition read Biochemistry and Food Chemistry.

Food Microbiology

Students study microorganisms of particular importance in food, food production and biotechnology in food and agriculture.

Entry standard: 5 GCE/GCSE passes to include at least 2 'A' levels in approved science subjects.

AGRONOMY

18-month course leading to MSc.

Subjects covered include: Economics of crop production, Crop environment, Temperate field crops, Non-temperate world crops, Horticultural crops.

Entry standard: First degree in an agricultural or biological subject.

MEAT SCIENCE

12-month course leading to MSc.

Subjects covered include: Production of meat animals, Physiology of meat animals, Commodity science of meat, Animal health and meat inspection.

Entry standard: Appropriate first degree or equivalent.

BRI 58

UNIVERSITY OF OXFORD

Enquiries

(A) The Director, Agricultural Economics Unit, Queen Elizabeth House, 21 St Giles, Oxford, OX1 3LA Tel: (0865) 273600.

(B) The Director, Oxford Forestry Institute, South Parks Road, Oxford OX1 3RB Tel (0865) 511431.

(C) The Director, Department of Plant Sciences, Agricultural Science Building, Parks Road, Oxford OX1 3PF Tel.(0865) 270880.

Managing agency Largely autonomous.

General details 1) 3 terms between October and June. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

(A) AGRICULTURAL ECONOMICS

1-year course leading to MSc.

Subjects studied include: Production economics, Marketing, The peasant economy, Rural development, Agricultural economic policy and relevant social and institutional matters; International commodity trade issues; Agricultural employment; and quantitative techniques applicable to agricultural economics.

Entry standard: Good Honours degree in Agricultural Economics or related subject.

(B) FORESTRY

1-year course leading to MSc in Forestry and its Relation to Land Use.

The course is designed primarily for young graduates in biological sciences who wish to specialise in forestry or in closely related areas of land use. There are opportunities for specialisation in either tropical or temperate aspects of forestry and all candidates are required to specialise in one particular area (ie. genetics, quantitative methods or conservation).

Entry standard: Appropriate first degree from a British university.

(C) PURE AND APPLIED BIOLOGY

3-year course leading to BA with options in Biological Resource, Use and Conservation, Biological Production, Soil Science, Pests and Diseases, Economic Policy and Resource Management.

Entry standard: University matriculation.

BRI 59

UNIVERSITY OF READING

Enquiries

The Sub-Dean, Faculty of Agriculture and Food, No.2 Earley Gate, The University, Whiteknights Road, Reading, RG6 2AU. Tel: (0734) 875123. Telex: 847813.

Managing agency

Largely autonomous.

General details

1) 3 terms between October and June. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

3-year Bachelor degree courses in

Agricultural Economics

The course deals with the whole range of economic relationships associated with agriculture and food.

Agriculture

The course aims to give an understanding of the scientific and economic principles which underlie agriculture and provide a training in the technology and management of farm production.

Physiology, Biochemistry and Nutrition of Farm Animals

In this course particular emphasis is given to the studies of reproduction, lactation and nutrition.

Biotechnology

Course includes the study of Microbiology, Industrial management, Biotechnological sciences.

Food Technology

Course includes the study of basic sciences, Industrial food processing, Nutrition, Microbiology, Industrial management.

Food Science, Food Economics and Marketing

Subjects studied include: Food chemistry, Quality appraisal, Preservation, Processing, Storage and distribution; Business management, statistics and computer techniques.

Landscape Management

Course covers Landscape history, Landscape management, Amenity horticulture, Law and business management, Recreational land management.

Soil and Crop Science

The course aims to present a 'whole' view of soil science so that graduates can apply their knowledge and expertise widely in agriculture, forestry, land reclamation and in advising on land use.

Entry standard: 5 GCE passes including 2 at 'A' level.

9-month postgraduate courses leading to Diploma in:

Agricultural Economics

The course covers: Principles of agricultural economics, Statistics and research methods, Development, Marketing and policy.

Animal Production

Subjects studied include: Animal physiology and nutrition; Principles of animal health, environmental control; Animal growth and meat production; Grassland economy and agronomy; Tropical grassland; Beef production; Dairy production; Sheep, pig and poultry production.

Tropical Agricultural Development

Course includes a study of The tropical environment, Farming systems, Agricultural extension, The economics of agricultural development, and aspects of food and nutrition.

Note: Agricultural Extension and Rural Development courses are also available at the Agricultural Extension and Rural Development Centre. Enquiries to the Director.

Entry standard: Appropriate first degree.

1-year MSc courses are available in:

Agricultural Economics, Agricultural Management, Animal Production, Crop Physiology, Food and Agricultural Biotechnology, Food Process Engineering, Food Science (with options), Food Technology, Grassland Science, Technology of Crop Protection, Tropical Agricultural Development and Soil Science.

Entry standard: Appropriate Honours degree.

BRI 60

UNIVERSITY OF SURREY

Enquiries

The Registrar, University of Surrey, Guildford, Surrey GU2 5XH.
Tel: (0483) 571281. Telex: 859331.

Managing agency

Largely autonomous.

Courses

DEVELOPMENT STUDIES

1-year course leading to MSc in Development Studies with Special Reference to Co-operatives.

Subjects studied include: Introductory economics, Development economics, Sociology of development, Industrial sociology, Theory and practice of co-operation in the process of socio-economic development.

Entry standard: Appropriate first degree.

NUTRITION

3-4 year course leading to BSc.

Course covers Basic sciences, Dietetics and food science, Clinical and social nutrition. Students are required to spend 1 year training away from the university.

Entry standard: 3 approved 'A' level passes equivalent.

MICROBIOLOGY

3-4 year course leading to BSc.

Course covers the broad scope of microbiology including Plant, Soil and Microbiology. In the final year students specialise in medical microbiology or biotechnology. There is one year's optional industrial training.

Entry standard: 3 approved 'A' level passes or equivalent.

VETERINARY MICROBIOLOGY

1-year course leading to MSc.

The course affords a grounding in UK approaches, practices and standards of exactness and rigour in Veterinary Microbiology, showing how these may be translated to good effect on return to local working conditions.

Entry standard: University veterinary first degree.

BRI 61

UNIVERSITY OF SUSSEX

Enquiries

The Director, Institute of Development Studies, University of Sussex, Falmer, Brighton BN1 9RE, Sussex. Tel: (0273) 606261. Telex: 877997. IDSBTNG.

Managing agency

Largely autonomous.

Courses

DEVELOPMENT STUDIES

2-year course leading to M.Phil.

The purpose of the course is to provide an integrated understanding of the social, economic and political aspects of development, together with training in the techniques of practical policy analysis.

Entry standard: Appropriate Honours first degree.

Note: 3-month courses are conducted in Rural Research and Rural Policy designed as in-service training for practising planners, researchers and research managers in the agriculture, health, education and energy sectors. The course provides a practical training in multi-disciplinary and multi-sectoral rural research.

BRI 62

USK COLLEGE OF AGRICULTURE

Enquiries

The Principal, Usk College of Agriculture, Usk, Gwent NP5 1XJ.

Managing agency

Gwent County Council.

Courses

AGRICULTURE

3-year Sandwich course leading to National Diploma.

Entry standard: 4 GCE 'O' levels, to include 2 science subjects.

BRI 63 WALFORD COLLEGE OF AGRICULTURE

Enquiries The Principal, Walford College of Agriculture, Walford, Baschurch, Shrewsbury SY4 2HL. Tel: (0939) 260461

Managing agency Shropshire County Council.

Courses **AGRICULTURE**
3-year sandwich course leading to National Diploma.
Subjects studied include: Accounts, Buildings, Farm management, Machinery, Applied sciences and General studies.
Entry standard: 4 GCE 'O' levels to include English and 2 science subjects, plus 1 year's practical experience.

BRI 64 WARWICKSHIRE COLLEGE OF AGRICULTURE

Enquiries The Principal, Warwickshire College of Agriculture, Moreton Morrell, Warwick CV35 9BL.

Managing agency Warwickshire County Council.

Courses **AGRICULTURE**
3-year sandwich course leading to National Diploma.
Entry standard: 4 GCE 'O' levels, to include 2 science subjects, National Certificate in Agriculture or equivalent.

BRI 65 WELSH COLLEGE OF HORTICULTURE

Enquiries The Principal, Welsh College of Horticulture, Northop, Mold, Clwyd CH7 6AA. Tel: (035286) 861.

Managing agency Clwyd County Council.

Courses **AGRICULTURAL ENGINEERING**
2-year course leading to BTEC Higher National Diploma.
Subjects studied include: Agricultural equipment, Soil and water engineering, Plant and animal production, Electrical/electronic principles, Materials technology, Thermodynamics and fluid mechanics, Instrumentation and control, Computer aided engineering/design, Management and communications.
Entry standard: 3 'O' levels and 2 'A' levels or a National Diploma or Certificate in Engineering or Technology.

HORTICULTURE
3-year sandwich course leading to National Diploma in Horticulture (Garden Centre Studies)
Subjects studied include: Micropropagation, Design and layout, Garden machinery, Pesticides legislation, Business studies, Marketing, Communications.
Entry standard 4 'O' levels or equivalent, plus 1 year's practical experience.

3-year sandwich course leading to National Diploma in Horticulture (Landscape Technology)
Subjects studied include: Design techniques, Contract procedure, Management, Land surveying, Machinery, Science.
Entry standard: 4 GCSE passes, or equivalent, to include English, maths and science, plus 1 year's practical experience.

3-year sandwich course leading to National Diploma in Floristry and Flower Production.

Subjects studied include: Soil and plant nutrition sciences, Botany, Plant pathology, Accounts and management.

Entry standard: 4 GCE passes or equivalent to include maths, science and English, plus 1 year's practical experience.

3-year sandwich course leading to Higher National Diploma in Horticultural Marketing.

Subjects studied include: Quantitative methods, Business law, Marketing, Crop production, Harvesting, Production planning.

Entry standard: National Certificate or Diploma in Business Studies or 4 'O' levels (to include English and maths) and 1 'A' level.

BRI 66

WOLVERHAMPTON POLYTECHNIC

Enquiries

The Principal, Wolverhampton Polytechnic, Agricultural Education and Training Unit, Castle View, Dudley DY1 3HR. Tel: (0384) 59741.

Managing agency Polytechnic Council.

General details 1) 3 terms: Sep/Dec, Jan/Mar, Apr/Jun. 2) Residential accommodation is available.

Courses

AGRICULTURAL EDUCATION.

1-year course leading to Diploma in Agricultural Training and Education.

Subjects covered include: Training and teaching methods and the learning process; Curriculum studies; Management and administration of educational institutions and extension programmes - with specialist options in Distance learning; Curriculum development; The development of extension programmes; Women in rural development.

Entry standard: 2 years' relevant work experience in training, education or extension work, and possession of a technical qualification in agriculture or a related subject.

3-month courses leading to Overseas Technical Teachers' Award (OTTA) are available for teachers and trainers of natural resource subjects.

Syllabus covers: Teaching and training methods, Skills teaching, Education technology, Psychology and education, Assessment methods.

Note: ATEC International (Agricultural Training and Education Consortium) offer tailor-made courses to suit individual clients lasting 1 week to 3 years.

Training services include: Agricultural and Horticultural Business Management; Agronomy; Horticulture; Livestock Production; Agricultural Engineering and Mechanisation; Agricultural Education and Training. Further details on application.

BRI 67

WRITTLE AGRICULTURAL COLLEGE

Enquiries

The Principal, Writtle Agricultural College, Chelmsford, Essex CM1 3RR. Tel: (0245) 420705.

Managing agency Essex County Council.

RURAL RESOURCE DEVELOPMENT

3-year course leading to BSc (Hons).

The course aims to equip students with the knowledge and skills to perform key roles in the development and management of rural resources. Additional specialist topics include: Farm business diversification, Countryside leisure development, Commercial development, Wildlife and landscape conservation.

Entry standard: 2 'A' levels and 3 GCSEs.

HORTICULTURE

4-year sandwich course leading to BSc in Horticulture (Amenity or Commercial)

Course covers practical skills and applied management.

Entry standard: 2 'A' levels and 3 GCSEs

3-year sandwich courses leading to National Diploma in:

Amenity Horticulture

Subjects studied include: Soil science and plant nutrition, Arboriculture, Surveying, Personnel management, Botany, Horticulture for display, Communications, Mechanisation, Conservation, Estate maintenance.

Commercial Horticulture

Subjects studied include: Fruit/Glasshouse/Vegetable crop production, Nursery practice, Soil science and plant nutrition, Mechanisation, Horticultural business studies, Botany, Communications, Beekeeping.

Entry standard: 4 'O' levels to include 2 science subjects.

3-year sandwich courses leading to Higher National Diploma in:

Amenity Horticulture

The course includes: Outdoor practicals in landscaping, nursery stock, garden design and maintenance, arboriculture and horticultural display and practical studies in the plant science laboratories.

Commercial Horticulture

The course includes: Crop studies, Engineering studies, Management studies.

Entry standard: BTEC Diploma in an appropriate subject or 1 'A' level and 4 'O' levels in approved subjects.

AGRICULTURE

3-year sandwich course leading to National Diploma.

Subjects studied include: Animal production, Crop production, Mechanisation, Farm management, General studies.

Entry standard: 4 'O' levels to include two science subjects, plus 1 year's full-time employment on a farm.

3-year sandwich course leading to Higher National Diploma.

Subjects studied include: Crop production, Management and related studies, Mechanisation, Animal production and either Arable mechanisation or Field vegetables and fruit production or Livestock production.

Entry standard: 4 'O' levels and 2 'A' levels or equivalent in appropriate subjects or a BTEC Diploma plus 1 year's practical experience.

AGRICULTURAL ENGINEERING

3-year sandwich course leading to Higher National Diploma.

Subjects studied include: Mathematics, physics, Design of farm machinery, Farm building design, Mechanics, Mechanization, Materials science, Soil and water engineering, Farm and business management, Land resource planning, Surveying, Computing, Processing and storage, Machine dynamics.
 Entry standard: 4 'O' levels to include maths and physics and two 'A' levels in science subjects, or a BTEC Diploma or Certificate in an appropriate subject.

NORTHERN IRELAND

BRI 68 GREENMOUNT COLLEGE OF AGRICULTURE AND HORTICULTURE

Enquiries The Principal, Greenmount College of Agriculture and Horticulture,
 22 Greenmount Road, Antrim BT41 4PU. Tel: (08494) 62114.

Managing agency Department of Agriculture, Northern Ireland.

Courses **AGRICULTURE**
 3-year sandwich course leading to National Diploma.
 Subjects studied include: Agricultural biology-chemistry-engineering, Animal husbandry, Crop husbandry, Economics, Farm management, Animal production.
 Entry standard: 4 'O' levels or equivalent to include maths and a science subject, plus practical farming experience.

BRI 69 LOUGHRY COLLEGE OF AGRICULTURE AND FOOD TECHNOLOGY

Enquiries The Principal, Loughry College of Agriculture and Food Technology,
 Cookstown, Co Tyrone BT80 9AA. Tel: (06487) 62491/8

Managing agency Department of Agriculture, Northern Ireland.

Courses **AGRICULTURAL COMMUNICATION**
 1-year course leading to Diploma.
 Subjects included in the course: Psychological and sociological basis of communication, Agricultural education/formal and extension, Methods of evaluation, Personnel management, Rural development - and practical exercises including advisory, teaching, sales/management experience and visits.
 Entry standard: A degree or Higher National Diploma in an appropriate subject.

FOOD TECHNOLOGY
 3-year sandwich course leading to BTEC National Diploma.
 Subjects studied include: Food processing, manufacture and quality control; Business management; Marketing; Economics; Communication studies.
 Entry standard: 4 'O' levels to include English and a science subject.

3-year sandwich course leading to BTEC Higher National Diploma.
 The course covers: Food processing, manufacture and quality control and management.
 Entry standard: 5 'O' levels to include maths and English and 1 'A' level in a science subject.

Enquiries The Dean, Faculty of Agriculture and Food Science, The Queen's University of Belfast, Newforge Lane, Belfast BT9 5PX.
Tel: (0232) 661166.

Managing agency Autonomous.

General details 1) 3 terms between October and June. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
3-year course leading to B.Agr. with Honours.
The main areas of study include: Bacteriology, Biometrics, Botany, Chemistry, Economics, Genetics - and their application to agricultural practice.
Entry standard: 5 'O' levels to include English and maths and 2 'A' levels.

SUNDRY

3 or 4-year courses leading to BSc. Honours degrees in:

Agricultural Botany

Subjects studied include Plant physiology, Crop physiology, Applied plant genetics and plant breeding, Ecology of arable and grassland communities, Crop plant varieties and seeds, Weed science and conservation.

Agricultural Economics and Management

Subjects studied include Farm business management, Agricultural and food marketing, Natural resources, Economics and agricultural development, Quantitative analysis in agricultural economics and management.

Agricultural and Food Microbiology

Subjects offered include Soil microbiology, Water microbiology, Crop conservation, Fruit and vegetable processing, Meat, poultry and fish microbiology, Milk and dairy product microbiology and biotechnology.

Agricultural Zoology

Subjects include Plant nematology and entomology; Animal parasitology; Soil zoology; The ecology of pest populations and economic aspects of crop pest control.

Entry standard: 5 'O' levels and 2 'A' levels.

3-year courses leading to BSc Honours degrees in:

Food Science

Subjects include Chemistry, Microbiology, Statistics/Information technology, Economics - and the application of these sciences to the efficient production of safe and wholesome food products.

Food Technology

Subjects include Engineering, Chemistry, Statistics/Information technology and Economics.

Mycology and Plant Pathology

Subjects studied include Botany, Zoology, Chemistry, Biochemistry, Genetics, Microbiology, The diseases of cereal, potato and horticultural crops, and The principles of agriculture.

Crop Protection Science

Subjects include Agricultural biometrics, Agricultural botany, Agricultural zoology, Mycology and plant pathology with options in Agricultural bacteriology, Agricultural genetics, Soils and plant nutrition.

Entry standard: Appropriate 'A' levels.

AGRICULTURAL SCIENCE

1-year postgraduate course leading to Diploma.

Specialisation in Animal nutrition, Soils and plant nutrition,
Grassland science and management, Food preservation.

Entry standard: Appropriate Honours degree.

SCOTLAND

BRI 71

EDINBURGH SCHOOL OF AGRICULTURE *

Enquiries

The Principal, Edinburgh School of Agriculture, West Mains Road,
Edinburgh EH9 3JG. Tel: 031-667 1041. Telex: 727617.

Managing agency Autonomous.

General details 1) Courses start in September. 2) Residential accommodation is available.

Courses

AGRICULTURE

3-year sandwich course leading to Higher National Diploma.

Main subjects studied are Animals, Crops, Farm management and
Farm mechanisation.

Entry standard: 4 'O' levels to include maths, chemistry and
English and 1 'A' level which should be in maths or a science
subject (or equivalent qualifications), plus practical agricultural
experience.

SUNDRY

4-year course leading to BSc Hons in Agriculture - with options
in:

General Agriculture

- course enables the student to study the biological and
economic foundations of modern agriculture with the main
emphasis on farm organisation and management combined with the
biological basis of soil management, crop and animal
production.

Agricultural Economics

- the foundation to this course is pure economics; in the
third and fourth years the emphasis is on the problems of the
agricultural sector of both advanced and less developed
economies.

Agricultural Science

- course is designed to fit the requirements of a graduate
intent on a career in agricultural research, teaching or
specialist advisory work, but not exclusively.

Entry standard: 3 'A' levels or equivalent.

MICROBIOLOGY

4-year course leading to BSc Hons in Biological Science.

Opportunities for specialisation in agricultural aspects of
microbiology.

Entry standard: 3 'A' levels or equivalent.

ANIMAL BREEDING

1-year postgraduate course leading to Diploma.

Students may then undertake a further 3 months supervised
project work to prepare for an MSc dissertation.

Entry standard: Good Honours degree in appropriate subject.

SEED TECHNOLOGY

1-year postgraduate course leading to Diploma.

Course is intended as a preparation for technical and managerial posts in the UK seed industry, or in seed programmes within developing countries.

Students may work for an MSc dissertation (as above).

Entry standard: Good Honours degree or equivalent.

TROPICAL ANIMAL PRODUCTION AND HEALTH

1-year postgraduate course leading to Diploma.

Course provides joint training for veterinary and animal production specialists with the aim of achieving optimum livestock production in tropical and subtropical environments. Students may work for an MSc (see above).

Entry standard: Good Honours degree or equivalent.

RURAL SCIENCE

1-year postgraduate course leading to Diploma.

The course is particularly suited to graduates in biological sciences who wish to develop their studies and career prospects in an agricultural context.

Entry standard: Appropriate Honours degree, or equivalent.

Note: 10-week 'Tropag' courses are offered in: Agricultural Extension Technology in the Tropics; Tropical Farm Livestock; Production, Nutrition and Health; Extension for Rural Development; Seed Treatment; Tropical Forest Management; Tropical Agroforestry.

Tropag courses provide comprehensive training for graduate and postgraduate scientists, agricultural technologists and advisers, extension workers and administrators in government, commercial organisations and international agencies.

*(See also entry under UNIVERSITY OF EDINBURGH)

BRI 72

ELMWOOD AGRICULTURAL AND TECHNICAL COLLEGE

Enquiries

The Principal, Elmwood Agricultural and Technical College, Carslogie Road, Cupar, Fife KY15 4SB. Tel: (0334) 51781.

Managing agency

Fife Regional Council.

General Details

1) Courses start in September. 2) Students from abroad are accepted.

Courses

AGRICULTURAL SECRETARIAL STUDIES

2-year Diploma course.

Entry standard: Secondary education.

BRI 73

INVERNESS COLLEGE OF FURTHER AND HIGHER EDUCATION

Enquiries

The Principal, Scottish School of Forestry, Inverness College of Further and Higher Education, 3 Longman Road, Inverness IV1 1SA. Tel: (0463) 236681 and 790431.

Managing agency

Highland Regional Council.

Courses

FORESTRY

5-year course leading to Diploma.

The course consists of four levels, each leading to a Scottish National Certificate: Introductory Forestry Skills : Craftsman/Skilled Forest Worker Skills: Forest Supervisor Level : Forest Manager Level. The Diploma is awarded to those obtaining all four certificates.

Entry standard: For school leavers - some Higher (Scotland) or Advanced level (England and Wales) passes. For mature students - 4 'O' level grades to include English, maths and a science subject, plus work experience.

BRI 74 OATRIDGE AGRICULTURAL COLLEGE

Enquiries The Principal, Oatridge Agricultural College, Ecclesmachan, Broxburn, West Lothian EH52 6NH. Tel: (0506) 854387.

Managing agency Lothian Regional Council.

Courses **AGRICULTURE**
3-year sandwich course leading to College Diploma.
Subjects covered include: Animal production, Mechanised crop production, Farm management and planning, Farm budgeting.
Entry standard: Applicants will be expected to have a proven academic record and at least 1 year's practical experience on a commercial farm.

BRI 75 THE ROWETT RESEARCH INSTITUTE

Enquiries The Director, The Rowett Research Institute, Greenburn Road, Bucksburn, Aberdeen AB2 9SB. Tel: (0224) 712751.
Telex 739988 ROWETT G. Fax: (0224) 712751 Ext. 325

Managing agency Department of Agriculture and Fisheries, Scotland.

Courses **NUTRITION**
1-year courses leading to MSc in:
Human Nutrition
Course content - General aspects of nutrition, Research tools and techniques, Current problems and research in human nutrition.
Animal Nutrition
Topics covered include - Digestive physiology, Biochemistry of essential nutrients, Disorders and disease, Nutrient requirements and nutrition problems of livestock production, Economics in relation to nutrition.

Entry standard: Appropriate Honours degree.

Postgraduate training (usually 3 years) in Nutritional Research for PhD degrees awarded by the University of Aberdeen or National Council for Academic Awards.

Entry standard: Appropriate Honours degree.

BRI 76 UNIVERSITY OF ABERDEEN

Enquiries The Registrar, University of Aberdeen, Regent Walk, Aberdeen AB9 1FX.

Managing agency Largely autonomous.

Britain

General details	1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.
Courses	AGRICULTURE 3-4 year courses leading to BSc (Agr) with options in General Agriculture, Agricultural Economics, Animal Science, Crop Science. Entry standard: 3 'A' levels or equivalent. FORESTRY 3-4 year course leading to BSc. Subjects include: Forest biology, Wood science and management, Soil science, Silviculture, Forest engineering, Forest protection. Entry standard: 3 'A' levels or equivalent. LAND ECONOMY 3-4 year course leading to Bachelor of Land Economy (BLE) Course covers: Resource management, Law, Quantitative studies, Valuation, Urban and regional economics. Entry standard: 3 'A' levels or equivalent. SUNDRY 9-month courses leading to Diplomas in Agricultural Economics and Animal Nutrition. Entry standard: Appropriate first degree. 1-year courses leading to MSc in: Agricultural Economics -course aims to provide a training suitable for those wishing to take up jobs as professional agricultural economists. Crop Science -course offers a training in the methods of experimentation in the more applied aspects of plant science. Animal Nutrition -course aims to provide candidates with the necessary scientific knowledge and technical training for specialised work in the nutrition of domestic animals. Animal Production -course provides advanced training in the science and practice of animal production for those intending to specialise in teaching, research or advisory work in this field. Pig Production -course is designed to provide advanced training in the science and technology of pig production, and the planning and operation of the pig business. Entry standard: Honours degree in agriculture or related science.
BRI 77	UNIVERSITY OF EDINBURGH
Enquiries	The Secretary, University of Edinburgh, Old College, South Bridge, Edinburgh EH8 9YL. Tel: 031-6671011. Telex: 727442 UNIVED G.
Managing agency	Largely autonomous.
General details	1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.
Courses	ANIMAL HEALTH 1-year course leading to MSc in Animal Health, Public Health (Animal Studies)

Entry standard: Appropriate first degree.

VETERINARY SCIENCE

1-year course leading to MSc in Tropical Veterinary Science.

Entry standard: Appropriate first degree.

8-week Tropag course in Draught Animal Technology.

Note: See also courses listed under Edinburgh School of Agriculture.

BRI 78

UNIVERSITY OF GLASGOW

Enquiries

The Registrar, University of Glasgow, Glasgow G12 8QQ.
Tel: 041-339 8855.

Managing agency Largely autonomous.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

AGRICULTURAL BOTANY

3-4 year course leading to BSc (Hons).

Subjects studied include: Physiological crop ecology, Plant pathology and crop protection; with options - Plant biochemistry and biophysics, Plant ecology, Developmental plant physiology, Applied plant molecular biology.

Entry standard: 2 'A' levels or equivalent.

AGRICULTURAL CHEMISTRY

4-year course leading to BSc (Hons).

Emphasis is given to analysis, food and environmental chemistry.

Entry standard: 2 'A' levels or equivalent.

Courses leading to MSc by research (2 years) and PhD (3 years) are also offered in Agricultural Chemistry.

Entry standard: Appropriate Honours degree.

DEVELOPMENT STUDIES

9-month course leading to Diploma in Development Policy.

Subjects covered include: Development problems and policies, Economic Information and Quantitative techniques; with options - Agriculture and economic development, Industrialisation and technological change, Macroeconomic issues in developing countries, Problems of trade and aid, Project appraisal and development planning, Socialist planning.

Entry standard: Appropriate first degree.

1-year course leading to M.Phil in Economic Development.

The course covers Development theory, with optional subjects: Economics of food and agriculture in developing countries, Economics of health in developing countries, Human resources and development, Industrialisation and technological change, International economics/ law and development, Quantitative methods, Socialist planning.

Entry standard: Appropriate Honours degree or equivalent.

AGRICULTURAL POLICY ANALYSIS

1-year course leading to M.Phil.

Course covers Agricultural policy analysis with options in Project appraisal and development planning, Quantitative methods for planning, International economics.
Entry standard: Appropriate Honours degree or equivalent.

APPLIED ENTOMOLOGY

1-year courses leading to Diploma and/or MSc.

These courses provide a broad coverage of insect morphology, systematics, physiology and behaviour, of field and laboratory techniques (including experimental design and the statistical analysis of data) and of the insect pests of crops and animals, including man, throughout the world. The various methods of controlling these pests are also considered in detail.

Entry standard: Degree or equivalent qualification in Zoology, Agricultural Zoology or related subject.

AQUATIC BIOSCIENCE

4-year course leading to BSc.

The objective of the course is to teach fundamental aspects of the biology of aquatic organisms, particularly in relation to the conservation of aquatic environments and to developments in aquaculture.

Entry standard: GCE 'A' levels at appropriate grades.

EXPERIMENTAL PARASITOLOGY

1-year courses leading to Masters degree (M.App.Sci). or Diploma.

Subjects studied include: Introduction of parasites and parasitic disease, Physiology and immunology of parasites, Molecular and biochemical parasitology, Design and analysis of investigation, Principles and methodology of control, Current research investigation on major diseases. M.App. Sci students also carry out a research project.

Entry standard: A degree in biological science or a related field.

Note: See also entries listed under The West of Scotland Agricultural College

BRI 79

UNIVERSITY OF STIRLING

Enquiries

The Head of Institute, Institute of Aquaculture, University of Stirling, Stirling FK9 4LA. Tel: (0786)73171.
Telex: 777759 STUNIV G. Fax: 44 786 63000.

Managing agency Largely autonomous.

General details 1) 2 terms: Sep/Dec, Feb/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

AQUACULTURE

1-year postgraduate course leading to MSc or Diploma in Aquaculture and Fishery Management.

Subjects studied include: Biology of commercial species of fish, Aquatic environment, Husbandry practices, Nutrition, Diseases and parasites, Hatchery design and operation, Engineering aspects of water supply, Economic principles, Fisheries Management.

Entry standard: Appropriate first degree.

1-year postgraduate course leading to MSc or Diploma in Aquatic Veterinary Studies.

The course consists of intensive lecture and practical work with diagnostic field visits and visits to laboratories, aquaculture establishments and field stations working in this area, followed by a three-month dissertation project.
Entry standard: Appropriate veterinary degree.

BRI 80 UNIVERSITY OF STRATHCLYDE

Enquiries The Registrar, University of Strathclyde, 16 Richmond Street, Glasgow G1 1XQ. Tel: 041-5524400. Telex: 77472.

Managing agency Largely autonomous.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
3-4 year BSc courses in Horticulture, and Food Science.
Entry standard: GCE 'A' level standard.

9-month Postgraduate Diploma course in Food Composition Processing.
Entry standard: Appropriate first degree.

1-2 year MSc courses in Food Science and Microbiology, and Development Economics (Agricultural and Economic Development as an option).
Entry standard: Appropriate Honours degree.

BRI 81 THE WEST OF SCOTLAND COLLEGE

Enquiries The Registrar, The West of Scotland College, Auchincruive, Ayr KA6 5HW. Tel: (0292) 520331. Telex: 777400.

Managing agency Board of Governors.

Courses **AGRICULTURE**
3-year sandwich course leading to Higher National Diploma
Subjects studied include: Animal production, Crop production, Farm management, Farm mechanisation.
Entry standard: Scottish Certificate of Education with at least 5 passes.

FOOD TECHNOLOGY
3-year sandwich course leading to Diploma.
Students will be prepared for supervisory and middle-management posts in the dairy industry and allied sectors of the food industry.
Entry standard: 4 'O' levels or equivalent.

3-year sandwich course leading to Higher National Diploma.
Course offers elective studies in Analytical Laboratory Technology or Dairy Technology or Food Process Engineering with Management.
Entry standard: Appropriate 'A' level passes.

HORTICULTURE
4-year course leading to BSc.
This course is run in conjunction with the University of Strathclyde where students will spend the first two years, the final two years being spent at Auchincruive.

Entry standard: 'A' level passes to include chemistry and either maths or physics.

POULTRY SCIENCE

3-6 term postgraduate courses leading to Diploma and MSc in Poultry Science with specialisms in:

Poultry Production

- courses are based on instruction to produce high quality stock and commodities from layers, broilers and turkeys.

Entry standard: For Diploma - BSc degree or equivalent. For MSc - Honours degree in science or equivalent.

Poultry Health and Preventive Medicine

- courses enable the student to apply his existing knowledge of veterinary disciplines to the control of the important diseases of poultry.

Entry standard: An appropriate veterinary degree.

RUMINANT SCIENCE

3-6 term postgraduate courses leading to Diploma and MSc.

The course provides background knowledge and understanding of current developments in ruminant science, and aims to develop skills in the use of scientific literature, design and execution of experiments, interpretation of data and preparation and presentation of verbal and written reports.

Entry standard: Appropriate first degree.

SOIL AND WATER MANAGEMENT

9-12 month postgraduate course leading to Diploma and MSc.

Studies during the first term will be undertaken at the University of Strathclyde and during the second term at the Agricultural College. Thereafter students will undertake their project at the campus most appropriate to their study area.

Entry standard: Appropriate Honours degree or equivalent.

Brunei Darussalam

Negara Brunei Darussalam ("Abode of Peace") is situated on the Northern Coast of the Island of Borneo. Brunei lies within the humid equatorial tropics with an average temperature of 28 degrees C. It has a total area of about 5,765 sq kms.

Of the total land area of 567,758 hectares, about 25% or 141,645 hectares are suitable for economic tropical agricultural development. The flood plains are suited for rice and short-term crops, and the hillsides for a wide range of tree crops especially local fruits.

The Agriculture Department under the Ministry of Development is one of the important departments which undertakes agricultural development. The policy of the Department is to provide services in the agricultural sector to make Negara Brunei Darussalam self-sufficient in foodstuffs through various enterprises, in stages. The Department aims to reduce food imports by planning to grow more food locally.

At present, about 90% of essential foodstuffs are being imported from overseas. Less than 1% of the total population of 227,000 is engaged in agriculture. Thus, the Department plans to develop more projects especially in rice, fruit crops, livestock and vegetables. Additional emphasis placed on infrastructure, agricultural research, extension and communication methods and staff training to accelerate agricultural development.

Negara Brunei Darussalam's first Agricultural Training Centre was initiated in 1975. The Centre is located at Sinaut which is about 33 kilometres from the capital, Bandar Seri Begawan. The site covers an area of about 70 hectares. At present, it is managed by the Department of Agriculture through an Advisory Board which is currently chaired by the Permanent Secretary (Technical) of the Ministry of Development.

The Centre provides three main programmes which include: (i) Brunei National Diploma in Agriculture, (ii) Brunei National Diploma in Agriculture Engineering and (iii) Staff Diploma in Agriculture. BNDA programme is a 3-year course in General Agriculture. The course aims to produce locally trained personnel for Brunei, especially for the Agriculture Department. The course is open to Brunei citizens or permanent residents above 17 years who have 4 credits at GCE 'O' level including Mathematics, Science, English and another subject or equivalent. The 3-year course is designed to cover basic theory and practical work on agriculture and animal husbandary. The course content include subjects in plant protection, chemical safety, small-scale machinery operations and maintenance, farm management and agricultural marketing.

In 1984, the Centre started another programme, the Brunei National Diploma in Agricultural Engineering (BNDAE). This 3.5-year BNDAE course is jointly run by the Sinaut Agriculture Training Centre and Jefri Bolkiah College of Engineering at Kuala Belait. The course is open to Brunei citizens or permanent residents above 17 years, who has passed Form 5 Secondary English with passes in Mathematics, Science and English Language or equivalent. The course content includes theory and practical work in Engine and Machinery Technology, Water and Land Resource Management, Drainage and

Irrigation, Processing Agricultural Products and Building Farm Structures. The main aim of this programme is to produce trained-personnel in agricultural engineering for the nation.

The Centre also provides in-service training for Departmental Staff and Farmers Training. Short courses of 1-week duration or more are provided to cater for the group or individual needs of the participants. The course-modules cover specific areas or topics in crop and livestock production, farm management, agricultural engineering, extension education and communication techniques.

BRU 1 SINAUT AGRICULTURE TRAINING CENTRE

Enquiries The Principal, Sinaut Agriculture Training Centre, Km 33, Jalan Tutong, Tutong 5185, Brunei Darussalem. Tel: 04-21672.

Managing agency Department of Agriculture, Brunei Darussalem.

Courses **SUNDRY**
3-year course leading to Brunei National Diploma in **Agriculture**.
3.5-year course leading to Brunei National Diploma in **Agricultural Engineering**.
Entry standard: Brunei citizens or permanent residents with 4 'O' levels or equivalent to include English, science and maths.

Canada

Although Canada is largely an urban and industrial country, agriculture remains an extremely important part of the economy and produces about 30% of the output of all of the primary sectors. High productivity in the agrifood system has meant that Canadians, overall, pay less than 17% of their disposable income on food, the third lowest percentage in the world. At the same time Canada has the distinction of being the world's second largest exporter of grain.

Owing to extensive farm mechanization, the number of farm workers has been declining, while total production of food has been increasing. It is estimated that one farmer currently produces sufficient food to feed 60 people as a result of his farming efforts, or nearly twelve times as many as a farmer of the early 1900s could support. The research programmes of Agriculture Canada and various universities have assisted in increasing productivity through such activities as improving livestock and crop varieties to meet domestic and export needs, controlling both animal and plant diseases and developing new production techniques. About 67.8 million hectares in 10 provinces are cultivated of which 46.0 million hectares are improved lands. In 1987, farm cash receipts exceeded \$20.9 billion and agricultural exports exceeded \$8.8 billion. Most farms in Canada are owner operated but rental of land does provide farmers opportunities to expand acreage without the high costs of purchase.

Farming in Canada is diversified though with some regional specialization. Prairie agriculture is dominated by grain and oilseed production along with a significant livestock sector. Dairy is prominent in Nova Scotia, Quebec and British Columbia while potatoes contribute significantly to the farm sector in Prince Edward Island and New Brunswick. The Ontario farm sector is highly diversified with cash crops, livestock and dairy important components.

Because of the growing complexity of their operations, farmers require specialized training. In particular, the high interest rates of the early 1980s combined with world grain surpluses and subsequent reduced returns to producers have served to emphasize the need for careful farm financial management. Training in improved financial management skills is provided primarily through the provincial departments of agriculture and the full range of educational institutions.

An increasing number of secondary schools provide courses in agriculture and other technical subjects, as well as in academic fields. In addition, community colleges have developed to meet the need for various types of programmes and an increase in the number of students seeking post-secondary education in other than traditional university courses. Most provinces provide agricultural training either in colleges of agricultural technology, or in general technical institutes. Universities across Canada provide first degree and postgraduate training in agriculture.

In general, universities produce professionals, while community colleges produce technical manpower and para-professionals. Many opportunities are also provided for further academic and vocational experience beyond regular and full-time classes in secondary schools, community colleges or universities.

ALBERTA

CAN 1 FAIRVIEW COLLEGE

Enquiries The Associate Dean of Agriculture, Fairview College, Box 3000, Fairview, Alberta TOH 1LO. Tel: (403)-835-6628.

Managing agency Department of Advanced Education, Alberta Government.

General details 1) 2 terms: Sep/Dec, Jan/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURAL TECHNOLOGY**
2-year course leading to Diploma.
Agribusiness
Studies include Crop and livestock production, Agricultural machinery, Farm and business management.
Crop Production
Subjects studies include Soils, Fertilizer and chemical use, Crop growth, Handling and storage, Grain marketing.
Livestock Production
Emphasis is placed on extensive, hands-on, practical training. Students work with the College's livestock to learn all aspects of herd management from birth to market.

Entry standard: High School Diploma with passes in maths, English, chemistry and biology or equivalents.

ANIMAL HEALTH TECHNOLOGY
2-year course leading to Diploma.
Students receive a thorough background in all aspects of animal health services, animal management and diagnostic laboratory procedures. Extensive laboratory training and practical work experience with veterinary clinics and diagnostic laboratories are an important part of the programme.

Entry standard: High School Diploma or equivalent with passes in chemistry, English and maths.

TURFGRASS MANAGEMENT TECHNOLOGY
2-year course leading to Diploma.
Subjects studied include Turfgrass establishment and maintenance, Horticulture and landscape design, Diseases of turfgrass and ornamentals, Insect and weed identification and control, Soils, soil fertility and fertilizer use, Grounds machinery operation and maintenance, Business and personnel management.

Entry standard: High School Diploma with passes in maths, English, chemistry, biology or equivalents.

CAN 2 FOREST TECHNOLOGY SCHOOL

Enquiries The Principal, Forest Technology School, 1176 Switzer Drive, Hinton, Alberta TOE 1BO.

Managing agency Department of Energy and Natural Resources, Alberta Government.

- Courses** **FORESTY TECHNOLOGY**
 2-year course offered by the Northern Alberta Institute of Technology of Edmonton, Alberta, aimed at producing well-qualified forest technicians.
 Entry standard: High School Diploma with passes in English, mathematics, physics, biology and chemistry.
- CAN 3** **LAKELAND COLLEGE**
- Enquiries** The Registrar, Lakeland College, Vermilion Campus, Vermilion, Alberta TOB 4M0. Tel: (403) 853-2971.
- Managing agency** Board of Governors.
- Courses** **SUNDRY**
 2-year Diploma courses in the following subjects: Livestock, Crops and Machinery, Animal Health, Herd Health, Livestock Production, Agricultural Systems, Agricultural Machinery, Agribusiness.
 Entry standard: Higher School Diploma with passes in chemistry, physics, biology and mathematics, or adult student status.
- CAN 4** **LETHBRIDGE COMMUNITY COLLEGE**
- Enquiries** The Vice-President, Academic, Lethbridge Community College, 3000 College Drive South, Lethbridge, Alberta AB T1K 1L6.
 Tel: (403) 320-3203
- Managing agency** Department of Advanced Education, Alberta.
- Courses** **AGRICULTURAL TECHNOLOGY**
 2-year course leading to Diploma. Options are available in: General Agriculture, Animal Production, Crop Production, Irrigation Production, Farm Financial Management.
 Entry standard: Higher School Diploma or equivalent. Persons over 19 years may apply as 'mature students'.
- IRRIGATION TECHNOLOGY**
 2-year course leading to Diploma.
 In this course soil-plant-water relationships and water resource management form the basis of the programme with particular emphasis on on-farm irrigation and drainage methods.
 Entry standard: High School Diploma or equivalent, to include maths, English and physics. Mature students may also be admitted.
- CAN 5** **OLDS COLLEGE**
- Enquiries** The Registrar, Olds College, Olds, Alberta TOM 1P0.
 Tel: (403) 556-8281.
- Managing agency** Department of Advanced Education, Alberta Government.
- Courses** **SUNDRY**
 2-year courses leading to Diploma in:
Agriculture Business - Majors in Finance or General
Agricultural Engineering - Options include Power and machinery, Farm structures, Systems engineering, Irrigation and drainage.

Agricultural Production - Majors in Crop production, Farm and ranch production, Livestock production, Production management, Swine/Beef production and management.

Agronomy - Majors in Agricultural fertilizers and chemicals, Field crop management, Irrigation, Land resources and classification.

Animal Health Technology - First 6 months of course is held at Southern Alberta Institute of Technology in Calgary where emphasis is placed on medical laboratory technology.

Equine Science - Subjects studied include Nutrition and feeding, Genetics, Breeding, Health care and management, Basic horsemanship.

Horticulture - (i) Ornamental: Majors in Landscape and Turf management.

(ii) Production: Majors in Greenhouse, Vegetable, General.

Entry standard: High School Diploma or equivalent.

CAN 6 UNIVERSITY OF ALBERTA

Enquiries The Dean, Faculty of Agriculture and Forestry, University of Alberta, Edmonton, Alberta T6G 2PS. Tel: (403) 432-4931.

Managing agency Autonomous.

General details 1) 4 Sessions: Sep/Dec, Jan/Apr, May/June, Jul/Aug. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
4-year course leading to BSc.
Entry standard: Alberta Grade XII or equivalent.

AGRICULTURAL BUSINESS MANAGEMENT
4-year course leading to BSc.
Entry standard: Alberta Grade XII or equivalent.

AGRICULTURAL ENGINEERING
4-year course leading to BSc.
Entry standard: Alberta Grade XII or equivalent.

1-2 year course leading to Masters degree.
Entry standard: Appropriate first degree.

ANIMAL SCIENCE
1-2 year course leading to Masters degree.
Entry standard: Appropriate first degree

2-3 year course leading to PhD.
Entry standard: Appropriate Masters degree.

ENTOMOLOGY
1-2 year course leading to Masters degree.
Entry standard: Appropriate first degree.

2-3 year course leading to PhD.
Entry standard: Appropriate Masters degree.

FOOD SCIENCE
4-year course leading to BSc.
Entry standard: Alberta Grade XII or equivalent.

1-2 year course leading to Masters degree
Entry standard: Appropriate first degree.

2-3 year course leading to PhD.
Entry standard: Appropapite Masters degree.

FORESTRY

4-year course leading to BSc.
Entry standard: Alberta Grade XII or equivalent.

1-2 year course leading to Masters degree.
Entry standard: Appropriate first degree.

2-3 year course leading to PhD
Entry standard: Appropriate Masters degree.

PLANT SCIENCE

1-2 year course leading to Masters degree.
Entry standard: Appropriate first degree

2-3 year course leading to PhD
Entry standard: Appropriate Masters degree.

RURAL ECONOMY

1-2 year course leading to Masters degree.
Entry standard: Appropriate first degree.

2-3 year course leading to PhD
Entry standard: Appropriate Masters degree.

SOIL SCIENCE

1-2 year course leading to Masters degree.
Entry standard: Appropriate first degree.

2-3 year course leading to PhD.
Entry standard: Appropriate Masters degree.

CAN 7 UNIVERSITY OF CALGARY

Enquiries The Registrar, University of Calgary, 2500 University Drive, NW
Calgary, Alberta, T2N 1N4. Tel (403) 220-6601

Managing agency Autonomous.

General details 1) 4 Sessions: Sep/Dec, Jan/Apr, May/Jun, Jul/Aug. 2)
Residential accommodation is available. 3) Students from abroad
are accepted.

Courses ENVIRONMENTAL SCIENCE
3-year course leading to Master of Environmental Design
(Environmental Science).
The course embraces a spectrum of interests, among them impact
assessment, landscape rehabilitation, ecological analysis and
modelling and research.
Entry standard: Appropriate first degree.

BRITISH COLUMBIA

CAN 8 MALASPINA COLLEGE

Enquiries The President, Malaspina College, 900 5th Street, Nanaimo, British
Columbia V9R 5S5. Tel: 604-7533245. Telex: 0446525.

Managing agency Board of Governors.

Courses **AQUACULTURE**
1-year postgraduate course leading to Diploma.
Course deals with subjects specifically associated with aquaculture and fisheries field techniques.
Entry standard: Appropriate degree.

HORTICULTURE
2-year course in Greenhouse Horticultural Technology leading to Associate in Technology Diploma.
Course concentrates on floriculture, vegetable, and forest tree seedling production.
Entry standard: Grade 12 education or equivalent.

CAN 9 SIMON FRASER UNIVERSITY

Enquiries The Registrar, Simon Fraser University, Burnaby, British Columbia, V5A 1S6. Tel: (604)291-3224. Telex: 043-54614.

Managing agency Largely Autonomous.

General details 1) 3 terms: Jan/Apr, May/Aug, Sep/Dec. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **ENVIRONMENTAL TOXICOLOGY**
A short programme leading to an Extended Studies Diploma in Environmental Toxicology is available to students already holding a BSc or equivalent degree and who are engaged in environmental work.

MARINE SCIENCE
This subject is included in the Biology graduate programme.

Courses are also offered at MSc and PhD level.
Entry standard: Appropriate first degree.

NATURAL RESOURCES MANAGEMENT
Courses are available leading to Masters degree in Natural Resources Management (MRM).
The aim is to give students increased familiarity and competence in understanding the natural dynamics of resources, strategies and techniques of natural resource management.
Entry standard: Appropriate first degree.

PEST MANAGEMENT
Postgraduate course leading to Master of Pest Management (usually completed in 3 4-month semesters)
The course combines classroom lectures with field demonstrations and surveys, and stresses hands-on experience in the field as a method instruction.
Entry standard: BSc or Bachelors degree in agriculture, forestry or a related discipline.

CAN 10 UNIVERSITY OF BRITISH COLUMBIA

Enquiries Associate Dean, University of British Columbia, Faculty of Agricultural Sciences, 248-2357 Main Mall, Vancouver, BC, V6T 2A2.

General Details	1) 2 terms of 15-16 weeks between September and April (examination periods included). 2) Residential accommodation available. 3) Students from abroad accepted (international student fees set for undergraduate programmes).
Courses	SUNDRY 4-year courses leading to BSc (Agri) are offered in: Agricultural Economics, Animal Science, Food Science, Plant Science, Soil Science and Aquaculture. Entry standard: High School Certificate (grade 12) in appropriate subjects. Courses leading to MSc (2 years) and PhD (3 years) are offered in: Agricultural Economics, Agricultural Engineering, Animal/Poultry Science, Food Science, Plant Science and Soil Science. Entry standard: Appropriate Bachelors degree.
CAN 11	UNIVERSITY OF VICTORIA
Enquiries	Director of Admission Services, University of Victoria, P O Box 1700, Victoria, British Columbia, V8W 2Y2. Tel: (604) 721-7211. Telex: 049-7222. Fax: 604-721-8653
Managing agency	Autonomous.
General details	1) 3 terms: Sep/Dec, Jan/Apr, May/Aug. 2) Residential accommodation is available. 3) Students from abroad are accepted.
Courses	SUNDRY 4-year courses leading to Bachelor degree in Biology/or Marine Biology, Marine Science, Ecology, Environmental Science. Entry standard: High School graduation including maths, science, English and a second language. 1-2 year courses leading to Masters degree in Marine Science and Ecology. PhD programmes are also available. Entry standard: Appropriate Honours degree or Masters degree.
MANITOBA	
CAN 12	UNIVERSITY OF MANITOBA
Enquiries	The Administrative Assistant, Faculty of Agriculture, University of Manitoba, Room 300, Agriculture Building, Winnipeg, Manitoba R3T 2N2. Tel: 204-474-9787 Telex: 075 8721.
Managing agency	Autonomous.
General details	1) 2 terms: Sep/Apr, May/Jul. 2) Residential accommodation is available. 3) Students from abroad are accepted.
Courses	AGRICULTURE 2-year course leading to Diploma in Applied Agriculture and Farm Business Management. Entry standard: Appropriate High School Certificate

SUNDRY

4-year courses leading to Bachelor degree in: Agricultural Economics, Agricultural Sciences, Agronomy, Animal Science, Entomology, Food Science, Plant Science, Agricultural Engineering
Entry standard: Appropriate High School Certificate

2-year courses leading to MSc in all subjects listed above.
Entry standard: Appropriate BSc degree.

3-4 year course leading to PhD in above disciplines including Nutritional Sciences but excluding Agricultural Engineering and Food Science.
Entry standard: Appropriate Masters degree.

NEW BRUNSWICK

CAN 13 UNIVERSITY OF NEW BRUNSWICK

Enquiries The Registrar, University of New Brunswick, P O Box 4400, Fredericton, New Brunswick E3B 5A3. Tel:(506) 453-4864. Telex: 014 - 46202.

Courses **FORESTRY**
5-year course leading to BSc in Forestry (BScF)
Course covers: Forest economics, Soil science, Silviculture, Forest management science, Forest ecology, Forest hydrology and watersheds.

5-year course leading to BSc in Forest Engineering (BScFE)
Course includes: Soil science, Dendrology, Soil mechanics, Wood engineering, Silviculture practices, Forest biometry, Transportation of forest products.
Entry standard: Grade 12 High School examination in physics and chemistry.

NEWFOUNDLAND

CAN 14 COLLEGE OF FISHERIES, NAVIGATION, MARINE ENGINEERING AND ELECTRONICS

Enquiries The Registrar, College of Fisheries, Navigation, Marine Engineering and Electronics, P O Box 4920, St John's, Newfoundland AIC 5RS.

Managing agency Board of Governors.

General details 1) Start in Sept. 2) Residential accommodation is available.
3) Students from abroad are accepted.

Courses **FOOD TECHNOLOGY (MARINE PRODUCTS)**
3-year Diploma course.
Entry standard: Grade 11 or its equivalent.

CAN 15 MEMORIAL UNIVERSITY OF NEWFOUNDLAND

Enquiries The Registrar, Memorial University of Newfoundland, St John's, Newfoundland, AIC 5S7. Tel: (709) 737-8260. Telex: 016-4101.

Managing agency Autonomous.

General details 1) 3 terms: Sep/Dec, Jan/Apr, May/Aug. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

4-5 year courses leading to BSc (Major or Honours) in;
Biochemistry

Subjects studied include Chemistry, Maths, Biology.

Food Science

Subjects studied include English, Chemistry, Maths, Physics, Biology.

Nutrition

Subjects studied include Biochemistry, Psychology and three approved elective courses.

Entry standard: High School Certificate or University matriculation.

1-2 year course leading to MSc in **Biochemistry**

Entry standard: Appropriate Bachelor degree.

2-3 year course leading to PhD

Entry standard: Appropriate Masters degree.

4-5 year courses leading to BSc in:

Biology

Subjects studied include Plant biology, Animal biology, Principles of genetics, Principles of ecology, Microbiology, Cell biology.

Entomology/Parasitology

In addition to core subjects students can chose from Population and evolutionary ecology, Boreal ecology, Animal behaviour, Virology, Mycology, Protozoology, Immunology, Plant and animal distribution, Ichthyology, Ornithology, Mammalogy.

Ecology/Evolution

Subjects studied include: Population and evolutionary ecology, Principles of systematics and evolution, Community and ecosystem ecology, Principles of plant and animal distribution, Quantitative methods in biology.

Marine Biology

Subjects studied include: Marine botany, Biology of the Invertebrates/Vertebrates, Aquatic biology, Principles of systematics and evolution, Quantitative methods in Biology, Phycology, Marine invertebrates, Ichthyology, Planktology.

Entry standard: Higher School Certificate or University matriculation.

1-2 year course leading to MSc in **Biology**

Entry standard: Appropriate Bachelors degree.

2-3 year course leading to PhD.

Entry standard: Appropriate Masters degree.

NOVA SCOTIA

CAN 16

COADY INTERNATIONAL INSTITUTE

Enquiries

The Director, Coady International Institute, St Francis Xavier University, Antigonish, Nova Scotia B2G 1C0. Tel: (902) 867-3960. Cables: COADYINTER.

Canada

Managing agency Autonomous.

Courses **RURAL DEVELOPMENT**
6-month course leading to Diploma in Social Development.
This course is designed to support Third World organisations engaged in social development by providing training opportunities for their leaders or staff. Subjects covered include co-operative management.
Entry standard: A minimum of 5 years' work experience related to social and economic development.

3-week courses are held in Development Studies for senior level administrators engaged in the implementation of development policies.

CAN 17 NOVA SCOTIA AGRICULTURAL COLLEGE

Enquiries The Principal, Nova Scotia Agricultural College, P O Box 550, Truro, Nova Scotia B2N 5E3. Tel: (902) 895-1571.

Managing agency Provincial Government.

General details 1) 2 semesters: Sep/Dec, Jan/Apr.

Courses **SUNDRY**
4-year courses leading to BSc (Agri) with options in: Agricultural Economics, Animal Science, Agricultural Mechanisation, Agricultural Chemistry, Agricultural Soils, Plant Protection, Plant Science.
Entry standard: Minimum Nova Scotia Grade 12 or its equivalent with mathematics, chemistry, English and biology.

CAN 18 TECHNICAL UNIVERSITY OF NOVA SCOTIA

Enquiries The Principal, Technical University of Nova Scotia, PO Box 1000, Halifax, Nova Scotia, B3J 2X4. Tel.(902) 429-8300. Telex: (TUNS) 019-21566.

Courses **AGRICULTURAL ENGINEERING**
5-year course leading to Bachelor of Agricultural Engineering.
Course covers: Soil and crop science, Animal science, Drainage and irrigation, Agricultural waste management, Engineering economics; with electives from Food science for engineers, Drainage theory, Advanced farm machinery, Energy in Agriculture.
Entry standard: Senior matriculation including maths, physics and chemistry.

ONTARIO

CAN 19 CENTRALIA COLLEGE OF AGRICULTURAL TECHNOLOGY

Enquiries The Principal, Centralia College of Agricultural Technology, Alberta Street, Huron Park, Ontario, NOM 1Y0.

Managing agency Ministry of Agriculture and Food, Ontario.

General details 1) 2 terms between September and April. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

AGRICULTURAL BUSINESS MANAGEMENT

2-year course leading to Diploma.

A wide range of elective subjects are offered; a unique feature of the course is the farm analysis project in which the physical and economic factors which affect the viability of a farm operation are examined.

Entry standard: Ontario Secondary School Graduation Diploma or equivalent.

ANIMAL HEALTH TECHNOLOGY

2-year course leading to Diploma.

Subjects studied include Anatomy, Physiology, Biochemistry, Microbiology. The final year studies include the administration of anaesthetics, surgical assistance, radiography, clinical biochemistry and parasitology.

Entry standard: Ontario Secondary School Graduation Diploma or equivalent.

FOOD SERVICE MANAGEMENT

2-year course leading to Diploma.

The course combines theoretical and practical subjects in food service management as well as studies in the basic and behavioural sciences.

Entry standard: Ontario Secondary School Graduation Diploma or equivalent.

CAN 20

COLLEGE DE TECHNOLOGIE AGRICOLE ET ALIMENTAIRE D'ALFRED

Enquiries

The Principal, College de Technologie Agricole et Alimentaire d'Alfred, P O Box 580, 31 St Paul, Alfred, Ontario K0B 1A0.

Managing agency

Autonomous.

Courses

SUNDRY

Up to 2-year Diploma courses in Agricultural Technology and Food Service Management.

Entry standard: High School education (Grade 12) or its equivalent.

CAN 21

FANSHAWE COLLEGE

Enquiries

The Registrar, Fanshawe College, P O Box 4005, London, Ontario, N5W 5H1. Tel: (519) 452-4277.

Managing agency

Ministry of Colleges and Universities, Ontario.

Courses

FARM BUSINESS MANAGEMENT

2-year course leading to Diploma.

Subjects studied include Animal husbandry, Communication, Computers in agriculture, Crop husbandry, Agricultural engineering, Farm credit, Agricultural law, Farm business management.

Entry standard: Ontario Secondary School Diploma or equivalent.

CAN 22

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

Enquiries

The Director, International Development Research Centre (IDRC), Box 8500, Ottawa, Ontario, K1G 3H9. Tel: (613) 236-6163. Telex: 053 3753.

Canada

Managing agency Board of Governors.

Courses SUNDRY

The Centre is not a formal teaching institution and does not offer courses. Its Fellowship and Awards Division assists, through training, in the upgrading of the qualifications of individual researchers, managers, and planners in scientific fields, thereby strengthening research institutions in the Third World.

To this end they offer awards such as:

Pearsons Fellowships: Offered to outstanding young public servants from Third World countries who have had at least 3 years' working experience in the service of their government.

Research Fellowships: For senior academics, researchers, policymakers or planners who are fully committed to the field of international development. Awards are available for Third World candidates as well as Canadians.

Programme-Related Awards: Aimed at increasing the human resource base of Third World research institutions.

Project-Related Awards: Training programmes vary and include short-term courses tailored to the needs of the project, as well as academic studies leading to a degree.

Group Training Courses: Designed for researchers, technicians and administrative personnel from Third World countries.

Further information from address above. Training can take place in the student's own region or at academic institutions elsewhere.

CAN 23 LAKEHEAD UNIVERSITY

Enquiries The Registrar, Lakehead University, Thunder Bay, Ontario P7B 5E1.
Tel: (807) 343-8110.

Managing agency Largely autonomous.

General details 1) 2 terms: Sep/Dec, Jan/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses FORESTRY

2-year Diploma course.

Entry standard: Ontario Secondary School (Grade 13) with mathematics, chemistry and biology.

4-year course leading to Bachelor degree.

Entry standard: Ontario Secondary School (Grade 13) with maths, chemistry and biology.

1-year course leading to MSc.

Entry standard: Appropriate Honours degree.

CAN 24 NEW LISKEARD COLLEGE OF AGRICULTURAL TECHNOLOGY

Enquiries The Head, New Liskeard College of Agricultural Technology, New Liskeard, Ontario POJ 1PO. Tel: (705) 647-6701.

Managing agency Ministry of Agriculture and Food, Ontario.

General details 1) 2 terms: Sep/Dec, Jan/Apr. 2) Residential accommodation is not available. 3) Students from abroad are accepted.

Courses **SUNDRY**
2-year Diploma courses in Dairy Cattle Technology, Livestock Technology, Equine Technology and Agricultural Technology.
Entry standard: Ontario Secondary School Diploma with English, mathematics and science.

CAN 25 RIDGETOWN COLLEGE OF AGRICULTURAL TECHNOLOGY

Enquiries The Principal, Ridgetown College of Agricultural Technology, Ridgetown, Ontario NOP 2CO. Tel: (519) 674-5456.

Managing agency Ministry of Agriculture and Food, Ontario.

General details 1) 2 semesters commencing September and January. 2) Residential accommodation is available.
3) Students from abroad are accepted.

Courses **SUNDRY**
2-year Diploma courses in Agricultural Production and Management, Agricultural Laboratory Technology, Agricultural Business and Commerce.
Entry standard: Secondary School Diploma or its equivalent.

CAN 26 SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

Enquiries The Principal, Sir Sandford Fleming College of Applied Arts and Technology, School of Natural Resources, Frost Campus, Box 8000, Lindsay, Ontario K9V 5E6. Tel: (705) 324-9144.

Managing agency Ministry of Colleges and Universities, Ontario.

Courses **FARM MANAGEMENT**
2-year Technician's Diploma course.
Entry standard: Ontario Secondary School Diploma with mathematics, English, biology and chemistry.

CAN 27 ST CLAIR COLLEGE OF APPLIED ARTS AND TECHNOLOGY

Enquiries The President, St Clair College of Applied Arts and Technology, 2000 Talbot Road West, Windsor, Ontario N9A 6S4.

Managing agency Ministry of Colleges and Universities, Ontario.

Courses **ANIMAL HEALTH**
2-year Animal Health Technician course leading to Diploma.
Subjects studied include: Animal care, Veterinary, hospital and small business economics.
Entry standard: Ontario Secondary School Diploma with English, maths, chemistry and biology.

Canada

CAN 28 UNIVERSITY OF GUELPH

Enquiries The Registrar, University of Guelph, Independent Study Divison,
Guelph, Ontario N1G 2W1.

Managing agency Largely autonomous.

General details 1) 3 terms: Sep/Dec, Jan/Apr, May/Jul. 2) Residential
accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE/HORTICULTURE**
2-year Associate Diploma course.
A course leading to a Diploma in Horticulture can be taken in
3 years by correspondence.
Entry standard: Ontario Secondary School (Grade 12) or its
equivalent.

SUNDRY
4-year Bachelor Degree courses in Agriculture, Agricultural
Engineering, and Veterinary Medicine; Specializations in BSc degree
courses include Earth Science, Fish and Wild Life Biology, Food
Science and Marine Biology.
Entry standard: Ontario Secondary School (Grade 13), with some
special credit requirements.

1-year MSc courses in Agricultural Economics, Agrometeorology,
Apiculture, Hydrology, Veterinary Microbiology and Resources
Development.

The post-graduate diploma in Veterinary Medicine requires 1 year
after DVM.

Entry standard: Appropriate first degree.

CAN 29 UNIVERSITY OF WESTERN ONTARIO

Enquiries The Registrar, University of Western Ontario, London,
Ontario N6A 3K7. Tel: (519) 679-2111. Telex: 0247134 UWO L1B LDN.

Managing agency Largely autonomous.

General details 1) 2 terms: Sep/Dec, Jan/May; and Graduate Studies 3 terms:
Sep/Dec, Jan/May, May/Aug. 2) Residential accommodation is
available. 3) Students from abroad are accepted.

Courses **SUNDRY**
4-year course leading to BSc Hons in:
Ecology and Evolution
Subjects studied include Zoology, Plant sciences, Biology.
Genetics
Choice of subjects during final year of Biochemistry, Zoology,
Biology, Genetics.

Entry standard: 3 'O' levels and 2 'A' levels or equivalent.

PLANT SCIENCES
4-year course leading to BSc Hons.
Subjects studied include Ecology, Genetics, Microbiology,
Biochemistry.
Entry standard: 3 'O' levels and 2 'A' levels or equivalent.

Graduate students are accepted for programmes of research, together with coursework, leading to the degree of MSc (up to 3 years) and PhD (up to 5 years) in Plant Sciences.

Areas of research: Ecology; Genetics; Cell Biology; Growth and Development; Microbiology; Systematics and Statistical Plant Sciences.

Entry standard: Appropriate degree(s)

CAN 30 YORK UNIVERSITY

Enquiries The Registrar, York University, 4700 Keele Street, North York, Ontario M3J 1P3.

Managing agency Autonomous.

General details 1) 3 terms: Sep/Dec, Jan/May, May/Aug. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses ENVIRONMENTAL STUDIES

2-3 year postgraduate course leading to Master of Environmental Studies.

Courses available include: Introduction to Urban-Regional Planning, Introduction to Development Studies, Resource Management in Third World Development, Economics of Pollution and Resource Depletion, Ecology in Third World Development, Resource Management, Theory and Planning of Rural Land Use, Rural Planning, Programme and Policy Evaluation, Environmental Impact Assessment, Agricultural and Rural Development in Third World Countries.

Entry standard: Appropriate first degree.

QUEBEC Most of the institutions in the Province of Quebec (except CAN 31) offer courses in French.

CAN 31 MACDONALD COLLEGE OF MCGILL UNIVERSITY

Enquiries The Registrar, Macdonald College of McGill University, P O Box 287, Macdonald College, Ste. Anne de Bellevue PQ, Montreal H9X 1C0. Tel: (514) 398-7928.

Managing agency Autonomous.

General details 1) Sessions Sep/Dec, Jan/Apr with summer sessions May/Aug. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses AGRICULTURE

2-year leading to Diploma.

Entry standard: Secondary School Diploma with biology, chemistry, mathematics and physics. (Available only to Province of Quebec residents).

SUNDRY

3-year Bachelor Degree courses in Agriculture, Agricultural Engineering, Agricultural Sciences, Food Science, Nutrition, Food Administration, Biological Sciences and Renewable Resource Development.

Entry standard: GCE 'A' level or its equivalent.

2-year Master's degree courses in Agricultural Engineering, Agronomy, Animal Science, Entomology, Genetics, Horticulture, Microbiology, Parasitology, Plant Pathology, Soil Science, Wildlife Biology and Forestry.

Entry standard: Appropriate first degree.

2-3 year PhD courses as in Master's Degree disciplines.

Entry standard: Appropriate Master's degree.

CAN 32 UNIVERSITE DE MONTREAL

Enquiries Faculte de Medecine Veterinaire, Universite de Montreal, C.P.5000, St-Hyacinthe, Que. J2S 7C6.

Managing agency Autonomous.

General details 1) 2 terms: Sep/Dec, Jan/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses VETERINARY STUDIES

4-year course leading to Diploma in Veterinary Medicine.

Entry standard: High School Diploma or equivalent

1-year postgraduate Certificate course in Applied Veterinary Science.

Entry standard: Appropriate first degree.

1-year postgraduate course leading to Diploma in Veterinary Preventive Medicine.

Entry standard: Appropriate first degree.

2-year course in all disciplines of Veterinary Medicine leading to MSc.

Entry standard: Appropriate first degree.

1-year course leading to MSc in Veterinary Epidemiology.

Entry standard: Appropriate first degree.

CAN 33 UNIVERSITE LAVAL

Enquiries Faculte des Sciences de l'Agriculture et de l'Alimentation, Pavillon Paul-Comtois, Universite Laval, Ste-Foy, Quebec, GIK 7P4.

Managing agency Largely autonomous.

General details 1) Sessions Sep/Dec, Jan/May with summer sessions May/Sep. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses AGRICULTURE

4-year courses leading to Bachelor degrees in:

Agro-economy

This course gives students an understanding of the evolution of human activities in the fields of agriculture and feeding, particularly in socio-economical aspects.

Bio-agronomy

Course gives students a training in biological sciences concerning plants and animals.

Entry standard: College diploma or equivalent.

RURAL STUDIES

4-year course leading to Bachelor degree in Rural Engineering.

Entry standard: College diploma or equivalent.

FOOD SCIENCES

4-year course leading to Bachelor degrees in Food Sciences and Dietetics.

Entry standard: College diploma or equivalent.

Courses are also available in a variety of subjects leading to MSc (2 years) PhD (4 years).

SASKATCHEWAN

CAN 34

UNIVERSITY OF SASKATCHEWAN

Enquiries

The Registrar, University of Saskatchewan, College of Agriculture, Saskatoon, Saskatchewan S7N DWO. Tel: (306) 966-4050. Telex: 074-2659

Managing agency Largely autonomous.

General details

1) 2 terms: Sep/Dec, Jan/Apr (Faculty of Veterinary Medicine has four 8-week terms during Sep/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

4-year Bachelor Degree courses in Agricultural Biology, Agricultural Chemistry, Agricultural Economics, Agricultural Extension, Agronomy, Animal Science, Applied Microbiology, Crop Science, Food Science, Horticultural Science, Mechanized Agriculture, Plant Ecology, Poultry Science and Soil Science. The Doctor of Veterinary Medicine degree is awarded after 2 pre-vet years and 4-years vet med.

Entry standard: GCE 'A' level or equivalent.

Higher Degree specializations include: Agricultural Economics, Agricultural Engineering, Animal and Poultry Science, Applied Microbiology and Food Science, Crop Science and Plant Ecology, Genetics, Horticulture, Soil Science, Herd Medicine and Theriogenology, Veterinary Anatomy, Veterinary Anaesthesiology, Radiology and Surgery, Veterinary Internal Medicine, Veterinary Microbiology, Veterinary Pathology and Veterinary Physiological Sciences.

Entry standard: Appropriate first degree.

Cyprus is the largest island in the eastern Mediterranean. The total area of the island is 9,251 Sq.Kms (925,100 ha) : of which 47% is cultivated ie. 434.000 ha. Out of the total cultivated area, only about 14% ie. 60,000 ha. is irrigated.

The agricultural land in the Government controlled area is about 210,000 ha., of which 28,000 ha. is irrigated. In this area, 74.7% of the agricultural land is used for crops and fallows, (ie. 157,000 ha.) Pasture and forests constitute the rest. With the construction of dams and the completion of major irrigation projects by the Government, the total irrigated area will go up to 17% of the cultivated land, ie. 35,000 ha.

The major objective of the Five Year Emergency plans prepared by the Government, is the maximization of agricultural production with the optimum utilization of existing resources. This will improve the competitiveness of agricultural products in the world market.

Another major objective is to improve agricultural income to reduce the gap between rural and urban incomes and living conditions. In summary the objectives of the plan are the following:

- Expansion of agricultural exports fully utilizing the opportunities offered from the customs union agreement between Cyprus and the EEC which came into force on 1st January 1988.
- Improvement of coordination between agricultural research and extension aiming at promoting production of products for which demand is high.
- Modernization of the agricultural sector, improvement in the management of agricultural units for increases in productivity, reduction in cost and improvement in the quality of production.
- Emphasis on the development plans and assistance thereof to fulltime farmers without preventing part-time farming.
- Maximum utilization of water resources and reduction of any waste with the promotion of improved irrigation systems.
- All efforts will be made to reduce the gap between incomes in rural and urban areas, and to attract young people to work in agriculture.

Agricultural education and training are geared mainly towards the implementation of these aims.

Training of the rural population in agricultural and home economics subjects is provided through the Extension Service of the Ministry of Agriculture and Natural Resources. There are five-year and annual programmes of training for farmers, rural women and youth, prepared within the framework of the official agricultural policy. The implementation of this programme is pursued through personal contacts, group methods including farmers' training centres and mass media.

Personal contacts are carried out by the Beat Agricultural Officers, each serving an agricultural beat (small area) and assisted by subject matter specialists and technicians posted either at district level or at headquarters. Two training centres

provide short training courses both for the purpose of agricultural extension and in-service training of extension staff. Other group methods include talks, lectures and demonstrations organised at village level. Farmers' training is also carried out through demonstration fields as well as through extensive use of mass media.

Agricultural training focuses on major crops grown in Cyprus such as potatoes, vegetables, citrus, deciduous fruits, vines, cereals, olives and almonds as well as on animal husbandry and home economics. Specific subjects covered in these areas include soil cultivation, pruning, fertilizers, irrigation, control of pests and diseases, weed control, mechanization, greenhouses and low tunnels, genetic improvement of animals and animal feeding, housing and management. Training in home economics encompasses human nutrition, food processing and preservation, handicrafts, nursing, child care and family planning. There are also special programmes for the training of rural women in agricultural matters.

CYP 1 CYPRUS FORESTRY COLLEGE

Enquiries The Principal, Cyprus Forestry College, Prodromos, Limassol.
Tel: 00 357 5452 516.

Managing agency Forestry Departement, Ministry of Agriculture and Natural Resources.

General details 1) 3 terms: Oct/Dec, Jan/Apr, May/July. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses FORESTRY

2-year course leading to Diploma.

Course is designed to train supervisory staff in the general principles of forestry practice. Emphasis is given to the Mediterranean conditions.

Entry standard: Full secondary education up to GCE 'O' level including English and maths.

6-month post-diploma course leading to Higher Diploma.

Each course is individually oriented to cater for the specific needs of the course participants and the training theme is of practical investigation and research studies, with supplementary lectures and tutorials.

Entry standard: Degree/Diploma/Certificate in Forestry or relevant subjects with some years of work experience and very good knowledge of English.

Dominica

Dominica is the most northerly of the Windward Islands in the Caribbean Sea. Roughly rectangular in shape, it is mountainous and well-watered. The island is volcanic in origin and evidence of continued volcanic activity is given by the thermal springs and a geyser. The soil is rich though porous, but it is easily eroded and landslides are frequent after heavy rain. The total land area is 751 sq kms.

Agriculture provides most of the employment opportunities, the Department of Agriculture being responsible for the organization and development of the island's agricultural resources. Bananas are the principal cash crop and mainstay of the economy. The Island is the largest exporter of bananas in the Windward Islands. Citrus production is also significant, particularly lime and grapefruit which are grown mainly for export. Coconuts and cocoa are other important export crops. The livestock industry (cattle and poultry) is expanding as a result of official encouragement, and production from inshore fishing is also increasing. Dominica has over 70 square miles of forested land with scope for development.

Courses in agriculture at ordinary level are offered at two secondary schools on the island - Dominica Grammar School and St. Mary's Academy. The Land Management Authority provides courses of instruction for the tenants of its settlements, the Authority staff providing training, with help from staff of the Division of Agriculture. The Division of Lands and Surveys provides in-service training in land surveying and survey draughting, with Survey Division staff acting as tutors to four or five trainees annually.

The Gambia

The Gambia forms a narrow strip on both sides of river Gambia in West Africa and is mostly Savannah bush. The total land area is 11,295 sq kms.

The national economy of The Gambia is based on agricultural production, in particular the growing of groundnut. Some diversification is being achieved by Government supported schemes of cotton growing and rice production by irrigation on the higher reaches of the River Gambia. There is now a fairly rapid change of techniques from total hand labour to the use of animal power for ploughing, sowing, weeding and lifting of crops. About 75% of the active population is engaged in agriculture.

Fisheries resources along the 57 km Atlantic front are rich. At present only a small quantity of shrimp is exported to Europe. Various projects under way aim to increase the country's fish processing capacity for both domestic and foreign markets.

In its first five-year Development Plan the Government laid stress on rural development, both agricultural and social. Over 80% of the population of more than half a million live in rural areas and the Development Plan aims at "providing a sustained improvement in their standard of living", and will give "preference to the poorest members of the community".

The Department of Agriculture deploys a force of over 100 trained extension workers with twice that number of single crop demonstrators working under them. Demonstrators are recruited to help farmers in the production of cotton or irrigated rice, or to support a 'package deal' of improved groundnut cultivation or dry-season growing of onions. Staff training is therefore a combination of pre-service training of agricultural assistants, refresher training, and single-crop training of demonstrators.

There are at present no facilities for agricultural education at university level. Agricultural education at intermediate level is offered by a few schools of agriculture. Agricultural in-service training is provided by special units of the Ministry of Agriculture.

GAM 1 GAMBIA COLLEGE

Enquiries The Principal, Gambia College, Brikama, Western Division.

Managing agency The Board of Governors.

General details 1) Residential accommodation is available.
2) Students from abroad not accepted.

Courses AGRICULTURE
3-year Certificate course in General Agriculture.
Entry standard: Minimum 3 GCE 'O' levels.

Note: The courses are designed to strengthen the agriculture of The Gambia by providing well trained college graduates as advisers to the farmers.

Ghana is a West African country with a coastline on the Atlantic Ocean to the South. It has a total land area of 238,537 sq kms.

In Ghana, agriculture is seen as having the highest potential for growth of all the sectors of the economy. There are however, a number of inhibiting factors to increasing the areas under cultivation, such as high cost of land clearance and of provision of roads and storage facilities. Expansion of agriculture will mainly depend on a rapid dissemination, through the national extension service programme, of information about new techniques.

In the early 1970s, one of the main instruments for the policy of increasing agricultural production was the campaign "Operation Feed Yourself", which used the mass media of communication to awaken the whole population to the need to increase agricultural output and to the methods of so doing. It was not, however, concerned solely with increasing production of food for internal consumption, but also of food and other agricultural products for local industry or for export.

It is realized that rural development requires regional planning too ensure proper co-ordination between national goals and local aspirations. The technique for this will be to create development centres or towns throughout the country to service agricultural activities in the rural areas and to become focal points for local industrial development, thus raising rural incomes. Great importance is given to the role of the Co-operative Movement in channelling local energies and skills for development purposes.

A big expansion programme in the field of technical and vocational education will result in larger numbers of trained people needed for accelerated agricultural production. It is also planned to provide training to middle and higher level manpower in a number of subjects, including farm management and farm machinery mechanics, fisheries technology, food processing technology and food service management, in institutions which will provide an alternative to formal university training to those who have a good secondary education.

The extension services related to fisheries are being strengthened and more attention is being paid to the inland cultivation of fish, pelagic fishing and the preservation and marketing of both.

Ghana's development strategy is essentially employment-oriented and this means encouraging labour-intensive and capital-saving patterns of investment and giving high priority to projects likely to make minimal demands on scarce resources of equipment but able to use spare labour. Such projects include food and agricultural production, small scale irrigation projects and water control and drainage, land reclamation, conservation and afforestation, which can use otherwise unemployed youth with the minimum of specialised training. Three universities offer agriculture courses at degree and intermediate level, the latter are also being available at some agriculture colleges. Agricultural vocational training at the grassroot level is also provided by some training centres.

GHA 1 FISHERY RESEARCH UNIT

Enquiries The Project Director, Fishery Research Unit, P O Box B-62, Tema.
Tel: (0221) 2346 and 6627.

Courses **FISHERIES**
3-year course of practical in-service training, including lectures, laboratory and field work, leading to Technical Officer certificate.
Entry standard: 5 GCE 'O' levels including English, maths, and a science subject.

Note: The Unit provides laboratory, field equipment, vessel and other facilities for post-graduate research work (MSc/PhD university students) by special arrangement.
Short ad hoc courses of up to 6 months duration, covering lectures, laboratory and field or workshop, are also held mainly to provide some practical experience for technical grade and lower grade personnel.

GHA 2 KPONG IRRIGATION COLLEGE

Enquiries The Principal, Kpong Irrigation College, P O Box 9, Kpong, Eastern Region.

Managing agency Ministry of Agriculture.

Courses **AGRICULTURE**
3-year Certificate course.
Entry standard: 5 GCE 'O' levels.

GHA 3 KWADASO AGRICULTURAL COLLEGE

Enquiries The Principal, Kwadaso Agricultural College, Private Post Bag, Academy Post Office, Kwadaso, Kumasi.

Managing agency Ministry of Agriculture.

General details 1) 3 terms: Feb/Apr, Apr/Aug, Aug/Dec. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
3-year course leading to Certificate in General Agriculture.
Courses offers in-service training for field officers and subjects studied include: Agricultural economics, Meteorology, Farm mechanisation, Crop production and protection, Animal husbandry, Soil science, Surveying, Farm management, Extension education, Field experimentation.
Entry standard: West African School Certificate or passes in 5 GCE subjects to include English, maths, general science.

GHA 4 NYANKPALA AGRICULTURAL COLLEGE

Enquiries The Principal, Nyankpala Agricultural College, P O Box 347, Tamale. Tel: 2411.

Managing agency Ministry of Agriculture.

Ghana

General details 1) 3 terms: Course starts in February. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
3-year training courses in General Agriculture for middle-level manpower, agricultural technicians and farmers.
Entry standard: West African School Certificate or 'O' levels in English language, maths, general science or agricultural science.

GHA 5 OHAWU AGRICULTURAL COLLEGE

Enquiries The Principal, Ohawu Agricultural College, P O Box 28, Ohawu, Abor, Volta Region.

Managing agency Training & Manpower Division, Ministry of Agriculture.

General details 1) 3 terms: Course starts in February. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
3-year Certificate course in General Agriculture, consisting of 2 years residential and 1 year field practical with recognized agricultural organisation.
Entry standard: West African School Certificate or GCE 'O' level passes in at least 5 subjects including English, maths, general science/agricultural science.

GHA 6 SCHOOL OF FORESTRY

Enquiries The Principal, School of Forestry, P O Box 214, Sunyani.
Tel: 061628-Sunyani.

Managing agency Ministry of Lands and Mineral Resources.

General details 1) 3 terms: Course starts August. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **FORESTRY**
3-year course of training for forestry technical officers leading to Forestry Certificate.
Subjects studied include: Surveying, Forest management, Silviculture, Forest law and court procedure, Mensuration, Forest protection, Soils, Animal ecology and wildlife management.
Entry standard: West African School Certificate or GCE 'O' levels in 5 subjects to include English, maths and at least a science subject.

GHA 7 UNIVERSITY OF CAPE COAST

Enquiries The Registrar, University of Cape Coast, Cape Coast.
Tel: 2440-2449; 2480-2489. Cables: University, Cape Coast.

Managing agency University Council.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.

- Courses** **AGRICULTURE**
 4-year BSc (Agr) course.
 Entry standard: GCE 'O' level or University matriculation.
- GHA 8** **UNIVERSITY OF GHANA**
- Enquiries** The Registrar, University of Ghana, Faculty of Agriculture,
 P O Box 68, Legon. Tel: Accra 75381. Cables: University, Legon.
- Managing agency** Autonomous.
- General details** 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jul, Jul/Sep. 2) Residential
 accommodation is available. 3) Students from abroad are accepted.
- Courses** **AGRICULTURE**
 2-year course leading to National Diploma in General Agriculture
 and Agricultural Mechanisation.
 Entry standard: Minimum 5 GCE 'O' levels.
- 3-year course in Agricultural Economics leading to BSc.(Agr.)
 Entry standard: Passes in 5 GCE subjects, to include at least 3 'A'
 levels.
- 1-year course leading to Graduate Diploma in Agriculture
 Administration.
 Entry standard: Appropriate first degree plus experience.
- ANIMAL HEALTH**
 2-year course leading to National Diploma.
 Entry standard: Minimum 5 GCE'O' levels.
- ANIMAL SCIENCE**
 3-year course leading to BSc (Agr)
 Entry standard: Passes in 5 GCE subjects, to include at least 3 'A'
 levels.
- 2-year course leading to MSc.
 Entry standard: Appropriate first degree.
- CROP SCIENCE/SOIL SCIENCE**
 3-year courses in Crop Science and Soil Science leading to BSc
 (Agr)
 Entry standard: Passes in 5 GCE subjects, to include at least 3 'A'
 levels.
- 2-year courses in Crop Science and Soil Science leading to MSc.
 Entry standard: Appropriate first degree.
- 3-4 year programmes in Crop and Soil Sciences leading to PhD.
 Entry standard: Appropriate Masters degree.
- GHA 9** **UNIVERSITY OF SCIENCE AND TECHNOLOGY**
- Enquiries** The Registrar, University of Science and Technology, Kumasi. Tel:
 5351-5360. Cable: Kumasitech, Kumasi.
- Managing agency** Autonomous.
- General details** 1) 2 terms: Jan/May, May/Sep. 2) Residential accommodation is
 available. 3) Students from abroad are accepted.

Courses	SUNDRY 2-year course leading to Diploma in Agricultural Extension and Farm Management; Tropical Horticulture. Entry standard: 5'O' levels to include English language, maths, and two science subjects. 4-year course leading to BSc (Agric) with specialisations in: Agricultural Economics and Farm Management; Agricultural Extension; Agricultural Engineering; Animal Science; Agronomy; Soil Science; Crop Protection; Grassland Management; Horticulture. Entry standard: 3 GCE 'A' levels to include chemistry, biology and/or agricultural science, physics with maths, economics. 2-year courses leading to MSc in Agricultural Engineering; Agricultural Economics; Agronomy; Animal Science; Soil Science and Horticulture. Entry standard: Appropriate first degree.
GHA 10	VETERINARY COLLEGE
Enquiries	The Principal, Veterinary College, Pong, P O Box 300, Tamale, Northern Region. Tel: 2832.
Managing agency	Ministry of Agriculture.
General details	1) 3 terms: Course starts September. 2) Residential accommodation is available. 3) Students from abroad are accepted.
Courses	VETERINARY STUDIES 3-4 years training for Technical Officers (Vet), (field and laboratory). Entry standard: West African School Certificate or its equivalent.

Grenada

Grenada is the most southerly of the Windward Islands in the eastern Caribbean Sea and is mountainous, with thick forest and brushwood, springs and rapid rivers. The total land area is 344 sq kms.

Agriculture is the major economic activity and is more diversified than in the other islands; the country's farmers have shown considerable flexibility in changing to and from various crops - a flexibility made necessary by Grenada's vulnerability to hurricanes, from which certain crops recover very slowly. Agriculture contributes about 30% of the gross domestic product (GDP). The main export crops are cocoa, nutmeg-mace (Grenada supplying about a third of the world output) and bananas, while cultivation of sugar cane, coconuts, citrus (especially limes), and minor spices are also important. Subsistence food crops are widely grown in great variety.

Government efforts are mainly on improvement of existing cultivation through fertilizers and pest control schemes, and on expansion and improvement of the livestock industry, which, except for poultry products, does not meet local demand. It is hoped that both dairy farming and beef raising may be developed if adequate foodstuffs can be made available. The determined efforts to increase production have been generally successful. Attempts are also made to settle some of the unemployed as smallholders.

An important Government reforestation programme has been implemented to repair hurricane damage. The Government sawmill has a timber preserving and treatment plant for practical and experimental use.

Both in-shore and off-shore fishing are significant, the Government providing supporting cold storage plants and harbour facilities.

It should also be noted that the three major export crops, cocoa, nutmeg and mace and bananas, are all organised by Producers' Co-operatives with sole responsibility for marketing the individual crops.

There is at present no agricultural education at University level.

GRE 1	CARIBBEAN AGRICULTURAL RURAL DEVELOPMENT AND ADVISORY TRAINING SERVICE
Enquiries	The Director, Caribbean Agricultural, Rural Development and Advisory Training Service (CARDATS), Lowthers Lane, P O Box 270, St George's W.I.
Managing agency	The Caribbean Community Secretariat (CARICOM).
Courses	Short courses are held for farms in the Windward and Leeward Islands to transmit relevant technological innovations to the participants with the expectation that their agricultural production and productivity will be increased. Entry standard: For small farmers and Extension officers.

Amongst Caribbean countries, Guyana is exceptional in having large tracts of land which are either un-utilised or seriously under-utilised. It has a total land area of 214,969 sq kms. However, agriculture is accepted as the springboard from which economic transformation will be launched.

Since the early 1970s the Government's policies for agriculture have remained constant - the achievement of a greater degree of self-sufficiency through a strategy of feeding, clothing and housing the population, utilising to the greatest degree possible, indigenous raw materials and human resources.

Major programmes which have been designed and implemented to promote rapid agricultural development include drainage and irrigation schemes and other infrastructural work, and direct and indirect incentives to producers. The Guyana Agricultural Co-operative Development Bank has intensified its role in developing the sector by lending increased sums over a range of agricultural activity including rice farming, peasant cane farming, pig rearing, beef and dairy cattle and poultry farming, and small loans have been made available to food crop producers under a special Food Crop Production and Marketing Programme. Under this programme, six marketing centres and five extension centres have been constructed in rural areas, to help streamline storage and marketing functions, and as centres for extension activities for the communities.

The Government has always given high priority to training in relevant skills as an important pre-requisite to the development of the forest, mineral and water resources of the country. Technical and vocational training is provided at the University of Guyana, two technical institutes, an industrial training centre, two training centres for industrial apprentices, and a school of agriculture. A regional training institution for animal health assistants is also located here.

GUY 1

GUYANA SCHOOL OF AGRICULTURE

Enquiries The Principal, Guyana School of Agriculture, Mon Repos, East Coast, Demerara. Tel: 020-2804-9 Cables: GSA, Mon Repos.

Managing agency Board of Governors.

General details 1) 3 terms: Courses start in September.
2) Residential accommodation is available.

Courses

AGRICULTURE

2-year course leading to Diploma..

Subjects studied include: Economics and marketing, Agricultural machinery, Animal husbandry, Crop husbandry, Co-operatives, Entomology, Pasture development and management, Rural sociology, Seed technology.

Entry standard: 4 'O' level passes of which at least one must be in a science subject.

GUY 2 KURU KURU CO-OPERATIVE COLLEGE

Enquiries The Principal, Kuru Kuru Co-operative College, Linden Highway, P O Box Bag 896, Georgetown, Tel: 961-326, 061-327.

Managing agency Board of Governors.

Courses CO-OPERATIVE STUDIES
1-year course leading to Diploma in Management
Entry standard: 4 'O' levels or equivalent.

GUY 3 REGIONAL EDUCATIONAL PROGRAMME FOR ANIMAL HEALTH ASSISTANTS (REPAHA)

Enquiries The Project Manager/Principal, REPAHA, 23 Brickdam, Starbroek, Georgetown. Tel: 72089. Cable: REPAHA GEORGETOWN.

Managing agency Pan American Health Organization/World Health Organization (PAHO/WHO).

Courses ANIMAL HEALTH
2-year Diploma course for Animal Health assistants.
Entry standard: GCE 'O' levels in at least 3 subjects, one of which must be a science subject, or equivalent. Mature students recommended by Ministries of Agriculture and Health.

Note: The programme was established in 1975 to train assistants for the Veterinary Services throughout the Caribbean region.

GUY 4 UNIVERSITY OF GUYANA

Enquiries The Dean, Faculty of Agriculture, University of Guyana, Box 101110, Georgetown. Tel: 54841-9. Cables: UNIGUY.

Managing agency University Council.

General details 1) 3 terms: Sep/Dec, Jan/Mar, Apr/May. 2) No residential accommodation. 3) Students from abroad are accepted.

Courses AGRICULTURE
4-year course leading to BSc in Agriculture covering a wide range of subjects.
Entry standard: Diploma in Agriculture or GCE 'O' levels to include English, maths and a science subject.

Note: By 1990 it is hoped to include programmes leading to Diplomas and Masters degrees in various disciplines.

Hong Kong

Hong Kong is mostly steep infertile hillside covered in parts with dense scrubs. The total land area is 1,067 sq kms. About 80 sq kms of the land is arable, a large proportion of which is laid fallow and the rest is made up of small, intensively cultivated vegetable and livestock farms which have taken over from the more traditional rice farming. The main vegetable crops which grow all the year round are white cabbage, flowering cabbage, lettuce, spinach, Chinese kale, etc., while pigs and poultry are the principal animals reared for food.

The policy of the Agriculture and Fisheries Department is to seek the social and economic advancement of all those associated with farming and fishing industries by means of greater productivity obtained through increased technical and economic efficiency, improved stability of production, and maintenance of orderly and efficient marketing. At the same time, it is the departmental policy to protect the consumer from unnecessarily high food prices by ensuring that local produce of an acceptable standard is marketed efficiently.

Farmer training is arranged through the Extension Services of the Agriculture and Fisheries Department largely by individual approach and farm visits. The services include: a) the teaching of improved methods and practices in the cultivation of crops; b) the control of crop pests and diseases, livestock and poultry husbandry; c) prophylactic and curative treatment of livestock diseases; d) enquiries concerning the disposal of pig and poultry manure; e) advising on the mechanization of farm tasks; f) distributing improved planting materials and breeding stock of good quality; g) irrigation problems; and h) the provision of credit facilities.

Farmers' education through group approach is also practised and includes courses of instruction, demonstrations, discussion group meetings, talks with co-operative societies and organized farm visits.

HOK 1 UNIVERSITY OF HONG KONG

Enquiries The Registrar, University of Hong Kong, Pokfulam Road. Hong Kong.
Tel: 5-8592111. Telex: 71919, CEREB HX. Fax: 852-5-479907.

Managing agency Autonomous.

General details 1) 3 terms: Sep/Dec, Jan/Mar, Apr/Jun. 2) Residential
accommodation is available. 3) Students from abroad are accepted.

Courses BOTANY
3-year course leading to BSc.
Subjects studied include: Plant physiology, Crop physiology,
Plant biochemistry, Plant and environment, Plant and man,
Vascular plant systematics.
Entry standard: 3 'A' levels.

India has a total land area of 3,287,590 sq kms. About 77% of the Indian population live in villages and nearly three-quarters of them get their living directly from the land, the majority either as subsistence farmers or labourers. Along with its allied industries, agriculture accounts for nearly 40% of the national income. It is the main source of supply of raw materials for the textile and leather industries which account for a large proportion of the country's traditional exports.

India is the world's largest producer of tea, and major producer of oilseeds, sugar-cane, cotton, jute, cashew nuts, tobacco and rubber. Thus agriculture has been given high priority in the Development Plans formulated since 1951. New high-yielding varieties of seeds have been introduced successfully in many parts of the country. Production of wheat in particular has greatly increased. However, the new seeds are dependent on better supplies of water and higher use of fertilizer. High priority has therefore been accorded in each successive National Development Plan to the development of agriculture, the attainment of economic self-reliance and the removal of poverty.

During the Seventh Plan, the basic priorities will be higher production of food, more work and increasing productivity. The strategy for their realisation includes emphasis on productive employment opportunities and development of agricultural and basic industries. The Government places high priority on schemes of irrigation, flood control, and reclamation, and making farming less susceptible to vagaries of weather. In recent years, Indian agriculture has acquired greater strength and resilience through better management of irrigation and other crucial inputs. The challenges to meet the needs of a continuously increasing population, and expanding industries and exports, call for suitable strategy for consolidating the gains already achieved, making further strides in agricultural production, and extending and percolating benefits of the new technology to all farmers and labourers in all regions. For diversifying the structure of production, the Department of Agriculture and Co-operation is continuously engaged in meeting these challenges through its policies and programmes. Through the introduction of a Comprehensive Action Programme, as a part of 20-Point Economic Programme launched in 1982, priority has been given to: (i) development of dryland agriculture, (ii) production of pulses and oilseeds, and (iii) afforestation.

In the allied sectors, the major emphasis is on the development of Animal Husbandry which occupies an important position in the economy of the country. India has about one-sixth of the world's cattle and half the world's buffaloes. Livestock development programmes have received increasing importance and attention in the agricultural development programmes in each successive Plan. Dairy development, with its immense potential to benefit the rural poor, particularly small and marginal farmers and landless agricultural labourers, occupies a crucial place in the scheme of agricultural and rural development. Development of fisheries is another important activity in the allied sector. India continues to be the largest producer of fish in the Inland Fisheries Sector. Development of inland fisheries has been spectacular, the increase being four-fold during the last three decades. India has more than 7,500 Kms of coastline suitable for brackish water aquaculture as well as captive fisheries in the Marine Sector.

The extension organizations in the States have been improved to cater for the intensive development work. Agricultural Universities and the Indian Council of Agricultural Research are training experts in the rarer disciplines so as to strengthen extension work at State and district levels. "Training and Visit Systems" have been adopted in 14 major States. This approach offers an effective management system to transfer expertise from research stations to the farmers, step by step, through intensive training of extension personnel at various levels.

India has successfully implemented programmes like Community Development and National Extension Service, Intensive Agricultural District Programme, High-Yielding Varieties Programme, Intensive Agricultural Areas Programme, Farmers' Training and Education Programme and Re-organized Agricultural Extension System (T&V) to increase agricultural production and per capita income. India has thus developed expertise in the field of setting up training institutions for extension personnel, farmers and farm women, and the organization, supervision, monitoring and evaluation of agricultural production programmes. Thus India can offer training in Indian Institutions and provide consultancy services to developing countries.

IND 1 AGRA UNIVERSITY

Enquiries The Registrar, Agra University, Paliwal Park, Agra, Uttar Pradesh, 282004. Tel: Agra University PBX 64164 to 64168.
Cables: Agra University, Agra, Uttar Pradesh.

Managing agency Autonomous.

General details 1) 2 terms: Jul/Dec, Jan/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
2-3 year BSc (Agr) courses.
Entry standard: GCE 'A' level or equivalent.

SUNDRY
2-year Masters Degree courses in Agricultural Botany, Agricultural Chemistry, Agricultural Economics, Agricultural Extension, Agronomy, Entomology, Horticulture, Plant Pathology, Soil Conservation, Animal Husbandry, and Dairying.
Entry standard: Appropriate first degree.

Note: Affiliated colleges, some of which offer similar courses, are: Narain College, Shikohabad and Raja Balwant Singh College, Agra.

IND 2 THE UNIVERSITY OF AGRICULTURAL SCIENCES

Enquiries (A) The Director, Agricultural College, University of Agricultural Sciences, Dharwad, Karnataka
(B) The Director, Agricultural College, University of Agricultural Sciences, Hebbal, Bangalore.

- (C) The Principal, Agricultural Engineering Institute,
University of Agricultural Sciences, PB24, Raichur.584101.
Tel: 8652.
- (D) The Director of Instruction (Fisheries), University of
Agricultural Sciences, College of Fisheries,
Mangalore 575 002 Karnataka. Tel: 27834, 23852.
Cable: FISHCOL.
- (E) The Director, Veterinary College, University of Agricultural
Sciences, Hebbal, Bangalore 560 024. Tel: 365383.
Cable: UNIVAGRIS.

Managing agency Autonomous.

General details 1) 3 terms: Sep/Dec, Dec/Apr, Apr/Jul. 2) Residential
accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURAL ENGINEERING**
3-year course leading to Diploma.
4-year course leading to BSc (Agr Eng)
Entry standard: Pass in the pre-university exam.

AGRICULTURE
4-year course leading to BSc (Agr).
Entry standard: Pass in the pre-university exam.

FORESTRY
4-year course leading to BSc (Forestry)
Entry standard: Pass in the pre-university exam.

VETERINARY SCIENCE
5-year course leading to BVSc
Entry standard: Pass in the pre-university exam.

Postgraduate programmes are also available:
2-year course leading to MSc - subjects offered: Agricultural
Economics, Agricultural Extension, Agricultural Microbiology, Foods
and Nutrition.

2-year course leading to MSc (Agr) - subjects offered:
Soil Science; Agricultural Entomology; Plant Pathology;
Horticulture; Agronomy: Seed Technology; Agricultural Botany, Plant
Breeding and Genetics; Crop Physiology; Soil and Water Conservation
Engineering.

3-year course leading to PhD - subjects offered: Agronomy;
Agricultural Botany - Plant Breeding and Genetics; Crop Physiology;
Soil Science; Plant Pathology; Horticulture, Agricultural
Microbiology; Agricultural Entomology; Agricultural Extension;
Agricultural Economics; Foods and Nutrition.
Entry standard: Appropriate first degree.

IND 3 **ALLAHABAD AGRICULTURAL INSTITUTE**

Enquiries The Principal, Allahabad Agricultural Institute, Allahabad-211007,
Uttar Pradesh. Tel: 744145. Cable: AGRINST.

Managing agency Board of Directors.

India

General details 1) Courses start July. 2) Residential accommodation is available.

Courses **AGRICULTURE**
2-year Intermediate course.
3-year Bachelor Degree course.
4-year Bachelor of Technical Agriculture Degree course for Agricultural Engineers.
2-year Master's Degree course.
Entry standard: All courses by entrance examination.

DAIRY HUSBANDRY
2-year Indian Dairy Diploma course.
Entry standard: By entrance examination.

IND 4 UNIVERSITY OF ALLAHABAD

Enquiries The Registrar, University of Allahabad, Allahabad, Uttar Pradesh 211002. Tel: Allahabad 50668.
Cables: University, Allahabad.

Managing agency Largely autonomous.

General details 1) 3 terms: Jul/Sep, Oct/Dec, Jan/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
3-4 year Bachelor Degree courses in Agriculture, and Agricultural Engineering.
Entry standard: GCE 'A' level or equivalent.

2-year courses for MSc and PhD in Agricultural Biochemistry, Agricultural Botany, Agricultural Chemistry, Agricultural Economics, Agricultural Extension, Entomology, Agronomy, Horticulture, Plant Pathology, Animal Husbandry, and Dairy Technology.
Entry standard: Appropriate first degree for Master's degree course.

IND 5 ANDHRA PRADESH AGRICULTURAL UNIVERSITY

Enquiries The Registrar, Andhra Pradesh Agricultural University, Rajendranagar, Hyderabad 500030. Tel: 48122, 559475.

Managing agency Autonomous.

General details 1) Courses start July. 2) Residential accommodation is available. 3) Students from abroad are accepted if sponsored by Government of India.

Courses **AGRICULTURE**
4-year course leading to BSc (Agr)
Entry standard: Pass in two year Intermediate Examination or equivalent in approved subjects.

AGRICULTURAL ENGINEERING
4-year course leading to B.Tech (Agr Eng).
Entry standard: Pass in two year Intermediate Examination or equivalent in approved subjects.

SUNDRY

2-year courses leading to MSc (Agr).

Courses available in: Agricultural Economics, Agronomy, Entomology, Horticulture, Genetics and Plant Breeding, Plant Pathology, Soil Science.

Entry standard: Appropriate first degree.

3-year course leading to PhD. Courses in Agronomy, Genetics and Plant Breeding, Soil Science, Entomology, Agricultural Economics, Plant Physiology, Plant Pathology, Horticulture.

Entry standard: Appropriate Masters degree.

DAIRY TECHNOLOGY

4-year course leading to BSc.

Entry standard: Pass in two year Intermediate Examination or equivalent in approved subjects.

HOME SCIENCE

3-year course leading to BSc.

Entry standard: Pass in two year Intermediate Examination or equivalent in approved subjects.

2-year course leading to MSc.

Course offered in Foods and Nutrition.

Entry standard: Appropriate first degree.

HORTICULTURE

4-year course leading to BSc.

Entry standard: Pass in two year Intermediate Examination or equivalent in approved subjects.

VETERINARY SCIENCE

5-year course leading to Bachelor of Veterinary Science and Animal Husbandry.

Entry standard: Pass in two year Intermediate Examination or equivalent in approved subjects.

2-year course leading to MVSc. Courses available in: Animal Anatomy, Animal Science, Animal Reproduction, Dairy Production, Dairy Science, Genetics and Animal Breeding, Meat Science and Technology, Veterinary Medicine, Poultry Science and Surgery.

Entry standard: Appropriate first degree.

3-year courses leading to PhD.

Courses offered: Anatomy, Physiology, Animal Nutrition, Feed and Food Technology, Poultry Science, Genetics and Animal Breeding, Parasitology, Pathology, Microbiology, Medicine and Surgery.

Entry standard: Appropriate Masters degree.

IND 6

ANNAMALAI UNIVERSITY

Enquiries

The Registrar, Annamalai University, Annamalainagar P O 608002, South India. Tel: 2451.

Managing agency Autonomous.

General details 1) 2 terms: Jul/Nov, Dec/Mar. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

AGRICULTURE

4-year course leading to BSc (Agr).

Subjects studied include: Crop production, Plant breeding, Farm management, Insect pest management principles and practices, Agricultural extension and rural development, Diseases of crops and their management.

Entry standard: Pass in Higher Secondary exam with physics, chemistry and biology or botany and zoology, or equivalent.

2-year courses leading to MSc (Agr) with options in:

Agronomy

Subjects studied include Crop production, Soil fertility and its management, Growth analysis and physiology of production.

Entomology

Subjects include Insect morphology and taxonomy, Insect physiology, Insect ecology, Agricultural statistics, Insect pest management.

Microbiology

Subjects include Microbiological techniques and taxonomy of microorganisms, Food, dairy, water and textile microbiology, Soil microbiology, Industrial microbiology.

Plant Pathology

Subjects include Principles of plant disease management, Plant pathology, Diseases of crops and their control.

Agricultural Chemistry and Soil Science

Subjects include Soil physics, Geology and soils, Soil chemistry, Plant biochemistry, Soil fertility.

Entry standard: BSc (Ag) or equivalent.

Courses (up to 3 years) also available leading to PhD by research.

IND 7

ASSAM AGRICULTURAL UNIVERSITY

Enquiries

- (A) The Dean, College of Veterinary Science, Assam Agricultural University, Khanapara Campus, Guwahati-781022.
Tel: 87281, 87688 and 87135. Telex: Vetcol.
- (B) The Dean, The Faculty of Agriculture, Assam Agricultural University, Jorhat-785013, Assam.

Managing agency Autonomous.

General details 1) 2 terms commencing July and January. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

(A) VETERINARY SCIENCE

4.5-year course leading to BVSc & AH.

Subjects offered include: Animal production and management, Anatomy and histology, Veterinary physiology, Veterinary microbiology, Animal genetics and breeding, Animal nutrition, Preventive medicine.

Entry standard: Pass in Higher Secondary School exam to include physics, chemistry, biology or equivalent.

2-year courses leading to MVSc in:

Veterinary Medicine; Animal Nutrition; Veterinary Surgery; Veterinary Gynaecology and Obstetrics; Veterinary Physiology; Veterinary Pathology; Veterinary Parasitology; Veterinary Anatomy; Animal Genetics and Breeding; Veterinary Microbiology; Animal Production and Management.

Entry standard: BVSc & AH or equivalent.

3-year courses leading to PhD for holders of appropriate MVSc degree.

(B) AGRICULTURE

4-year course leading to BSc (Agr).

Elective subjects offered include: Agricultural chemistry, Agricultural economics and farm management, Agronomy, Crop physiology, Entomology, Extension education, Horticulture, Nematology, Plant breeding and genetics, Plant pathology, Soil science, Tea husbandry and technology.

Entry standard: Pass in Higher Secondary School exam to include physics, chemistry and biology or equivalent.

2-year course leading to MSc (Agr)

Entry standard: BSc (Agr) or equivalent.

Holders of MSc (Agr) or equivalent can take a PhD programme.

IND 8

BALWANT VIDYAPEETH RURAL INSTITUTE

Enquiries

The Principal, Balwant Vidyapeeth Rural Institute,
P O Bichpurt, Agra-283105. Tel: 73641.

Courses

AGRICULTURE/RURAL SERVICES

2-year Bachelor Degree course.

Entry standard: GCE 'A' level or equivalent.

SUNDRY

2-year Master's Degree course in Agricultural Economics and Co-operation, and Rural Sociology and Extension.

Entry standard: University first degree or equivalent.

IND 9

BANARAS HINDU UNIVERSITY

Enquiries

The Director, Institute of Agriculture Sciences, Banaras Hindu University, Varanasi-221005. Tel: 54291, 54846.

Managing agency Autonomous.

General details 1) 2 terms: Jul/Dec, Jan/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

3-year BSc (Agr) courses in Agronomy, Animal Husbandry and Dairying, Agricultural Economics, Entomology and Agricultural Zoology, Extension Education, Genetics and Plant Breeding, Horticulture, Mycology and Plant Pathology, Plant Physiology and Soil Science, and Agricultural Chemistry.

Entry standard: Pass in higher secondary school examination including physics, chemistry and biology/mathematics or equivalent.

2-year MSc (Agr) courses in the above-mentioned disciplines.

Entry standard: Appropriate Honours degree.

2-3 year PhD Degree courses in all disciplines in which MSc (Agr) degrees are awarded.

Entry standard: Appropriate Master's degree.

India

IND 10 BIDHAN CHANDRA KRISHI VISWA VIDYALAYA

Enquiries The Registrar, Bidhan Chandra Krishi Viswa Vidyalaya, P O Mohonpur,
District Nadia, West Bengal-741252. Cable: KRISHIBIDHAN.

Managing agency Autonomous.

General details 1) 3 terms: Jul/Oct, Nov/Dec, Jan/Apr. 2) Residential
accommodation is available. 3) Students from abroad are accepted.

Courses AGRICULTURE

4-year course leading to BSc (Agr) Hons.

Subjects offered include: Agricultural chemistry and soil
science; Agricultural economics; Agricultural entomology;
Agricultural extension; Agricultural statistics; Agronomy;
Horticulture; Plant pathology; Soil and water conservation;
Genetics and plant breeding.

Entry standard: Pass in Higher Secondary exam or equivalent with
physics, chemistry and biology.

2-year course leading to MSc (Ag) in above named subjects.

Entry standard: Appropriate first degree.

DAIRY TECHNOLOGY

4-year course leading to BSc.

Entry standard: Pass in Higher Secondary exam or equivalent with
physics, chemistry and maths.

VETERINARY AND ANIMAL SCIENCES

5-year course leading to BVSc & AH.

Entry standard: Pass in Higher Secondary exam or equivalent with
physics, chemistry and biology.

2-year course leading to MVSc.

Subjects offered include: Gynaecology and obstetrics,
Pathology, Physiology, Surgery, Animal genetics and breeding,
Animal nutrition, Animal production and management,
Microbiology, Parasitology.

Entry standard: Appropriate first degree.

IND 11 BIRSA AGRICULTURAL UNIVERSITY

Enquiries (A) The Dean, Faculty of Forestry, Birsa
Agricultural University, Kanke, Ranchi, 834006. Tel: 22212.

(B) The Dean, Faculty of Agriculture, Birsa Agricultural
University, Kanke, Ranchi 834006. Tel: 22212.
Cable: COLAGRI.

(C) The Dean, Faculty of Veterinary & Animal Husbandry, Birsa
Agricultural University, Kanke, Ranchi 834007. Tel: 23925.
Cable: VETCOL.

Managing agency Autonomous.

General details 1) Residential accommodation is available.
2) Students from abroad are accepted.

Courses (A) FORESTRY

4-year course leading to BSc.

Subjects offered include: Silviculture, Forest management, Forest production and utilisation, Wildlife management, Ecology and environment, Extension and social forestry, Forest sciences.

Entry standard: Pass in Higher Secondary exam or equivalent.

(B) SUNDRY

2-year MSc (Agr) courses in Agronomy, Agricultural Economics, Entomology, Extension Education, Horticulture and Plant Breeding, Genetics, Plant Pathology and Mycology, Soil Science and Agricultural Chemistry.

Entry standard: Appropriate first degree.

(C) VETERINARY SCIENCE

4-year BVSc & AH course.

Entry standard: University entrance.

SUNDRY

2-year MVSc courses in Animal Anatomy, Veterinary Surgery, Animal Gynaecology, Parasitology, Veterinary Microbiology, Veterinary Physiology, Veterinary Public Health, Animal Nutrition and Animal Breeding.

Entry standard: BVSc & AH degree.

Note: The University has facilities in (B) and (C) for research studies leading to PhD degree.

IND 12

UNIVERSITY OF BOMBAY

Enquiries

The Registrar, University of Bombay, University Road, Fort, Bombay-400032, Maharashtra State. Tel: 273623.

Managing agency

Autonomous.

General details

1) 2 terms: Jun/Oct, Dec/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

3-year BSc courses in Food Technology, and Home Science.

Entry standard: Pass in higher secondary school examination or equivalent.

AGRICULTURAL ECONOMICS

2-year MA course in Economics and Agricultural Economics.

Entry standard: First degree with economics.

IND 13

BUNDELHAND UNIVERSITY

Enquiries

The Registrar, Bundelhand University, Jhansi, Uttar Pradesh 284003. Tel: (Registrar) 1578.

Managing agency

Autonomous.

Courses

AGRICULTURE

3-year BSc (Agr) course.

Entry standard: GCE 'A' level or equivalent.

SUNDRY

Higher Degree courses (2 years for MSc, 2-3 years for PhD) in Agricultural Economics, and Agronomy.

India

Entry standard: Appropriate first degree for Master's degree course.

IND 14 C S AZAD UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

- Enquiries (A) The Dean, College of Agriculture, C S Azad University of Agriculture and Technology, Kanpur 208002.
- (B) The Dean, College of Veterinary Science and Animal Husbandry, C S Azad University of Agriculture and Technology, Mathura 281002. Tel: 3288. Cable: VETCOL.

Managing agency Autonomous.

Courses (A) AGRICULTURE/ANIMAL HUSBANDRY
3-year BSc course.
Entry standard: University entrance.

SUNDRY

2-year MSc (Agr) courses in Soil and Agricultural Chemistry, Agricultural Economics, Agricultural Entomology and Zoology, Agricultural Extension, Agronomy, Animal Husbandry and Dairying, Genetics and Plant Breeding, Horticulture, Plant Pathology and Plant Physiology and Soil Conservation.
Entry standard: Appropriate first degree.

(B) VETERINARY SCIENCE

4-year BVSc & AH course.
Entry standard: University entrance.

SUNDRY

2-year MVSc courses in Bacteriology, Animal Pathology, Parasitology, Animal Nutrition, Animal Genetics and Breeding, Animal Physiology, Pharmacology, Veterinary Medicine, Veterinary Surgery, Animal Anatomy, Obstetrics, Animal Gynaecology and Poultry Science.
Entry standard: BVSc & AH degree.

IND 15 UNIVERSITY OF CALCUTTA

Enquiries The Registrar, University of Calcutta, Senate House, College Street, Calcutta, West Bengal, 700073. Tel: 343014-90.
Cables: University Calcutta.

Managing agency Largeley autonomous.

General details 1) Courses start in June (vacations Sep/Oct, Apr/May). 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses VETERINARY SCIENCE
5-year BVSc & AH course.
Entry standard: GCE 'A' level or equivalent.

SUNDRY

2-year courses leading to MSc and PhD in Agriculture, Biochemistry, Botany, Zoology and Veterinary Science and Animal Husbandry.
Entry standard: Appropriate Honours degree for Master's degree course.

IND 16 CENTRAL BEE RESEARCH INSTITUTE

Enquiries The Director, Beekeeping Industry, Khadi and Village Industries Commission, Central Bee Research Institute, 839/1, Deccan Gymkhana, Pune 1411 004. Tel: 54019. Cable: BEESCIENCE.

Managing agency Khadi and Village Industries Commission, Ministry of Rural Reconstruction, Bombay 400 056.

Courses **BEEKEEPING.**
 3-month Certificate course for field technicians.
 Entry standard: Matriculation or secondary school certificate.
 In-service or experienced beekeepers.

2-8 week Certificate courses in Bee Palynology, Queen Rearing, Bee Pathology, Chemical Analysis of Honey and Bees Waxes, etc.
 Entry standard: BSc (Biology, Chemistry or Agriculture). Adequate educational background and/or experience in each field of specialization.

APICULTURE
 9-month Certificate course for field laboratory technicians.
 Entry standard: MSc/BSc (Biology or Agriculture), in-service or experienced beekeepers.

APIDOLOGY
 1-year (proposed) Postgraduate Diploma course.
 Entry standard: BSc (Biology or Agriculture, or MSc; preferably aged under 30 years).

Note: This training and research centre has been proposed as a training centre for developing countries in the Tropics.

IND 17 CENTRAL FISHERIES EXTENSION TRAINING CENTRE

Enquiries The Principal, Central Fisheries Extension Training Centre, 5/60 Kayshalyanagar, Saroornagar, Hyderabad 500035.

Managing agency Indian Council of Agricultural Research.

Courses **FISHERIES**
 10-month Certificate course in Inland Fisheries Extension Methods and Techniques.
 Entry standard: University degree.

IND 18 CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE

Enquiries The Chairman, Training Centre, Central Food Technological Research Institute, Mysore-570013. Tel: 37450 Telex: 846241 FTRI IN.

Managing agency Council of Scientific and Industrial Research, Government of India.

Courses **FOOD SCIENCE AND TECHNOLOGY**
 2-year course leading to MSc in Food Technology and 3-year course leading to MSc in Food Science by research.
 Entry standard: Appropriate first degree.

3-5 year course leading to PhD by research.
 Entry standard: Appropriate Masters degree.

Short-term courses and tailor-made training programmes are available to meet the specialised needs of industry and the institutions.

Entry standard: Degree in science/agriculture/technology.

IND 19 CENTRAL INSTITUTE OF FISHERIES EDUCATION

Enquiries The Director, Central Institute of Fisheries Education, P O Box 7392, Jaiprakash Road, Andheri (West), Bombay 400058.
Tel: 571446-8. Telex: 011-71476.

Managing agency Indian Council of Agricultural Research.

General details 1) Course starts July. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **FISHERY SCIENCE**
2-year Post-graduate course leading to Diploma/Certificate.
Entry standard: Minimum University degree.

Note: Degree courses in Zoology, Biochemistry and Fish Production Management, and PhD Degree courses in Zoology, and Biochemistry are conducted in collaboration with the University in Bombay.

IND 20 CENTRAL RESEARCH INSTITUTE

Enquiries The Director, Central Research Institute, P O Kasuli RI 173205 (HP). Tel: CRI-22. Cable: PROBLEM KASAULI.

Managing agency Directorate General of Health Services, Ministry of Health & Family Welfare, Govt of India.

Courses **MICROBIOLOGY**
2-year BSc (Microbiology) course (Himachal Pradesh University).
2-year MSc (Microbiology) course. Also 1 further year for MPhil.
Entry standard: BSc of a recognized university with either Botany, Zoology and Chemistry or Physics, Chemistry and Mathematics; or BSc with any 2 of these sciences plus 3 years' laboratory experience in Microbiology. Candidates for MSc should have BSc (Microbiology), MBBS, BVSc or similar qualifications.

LABORATORY ANIMALS
6-week course in the use of laboratory animals in Biomedical Research, Standardization and Testing of Biological Products.
6-week course in the Management and Breeding of Laboratory Animals including barrier-maintained pathogen-free animals.
Entry standard: BCS, MVSc, MSc (Microbiology) or equivalent.

IND 21 CENTRAL SERICULTURE RESEARCH AND TRAINING INSTITUTE AND INTERNATIONAL CENTRE FOR TRAINING AND RESEARCH IN TROPICAL SERICULTURE

Enquiries The Director, Central Sericulture Research and Training Institute, Srirampura, Mysore 570008. Tel: (0821) 21406. Cable: SILK BOARD.

Managing agency The Central Silk Board, Bangalore.

Courses

SERICULTURE

8-month course leading to Diploma in Tropical Sericulture.

The course is for overseas students from developing countries. Specialisations are offered in: Silkworm breeding and genetics, Mulberry breeding and genetics, Mulberry agronomy, Seed technology, Reeling and spinning.

Entry standard: Appropriate first degree.

14-month specialisation course in Tropical Sericulture for Indian and overseas students.

Subjects offered: Silkworm breeding and genetics, Silkworm seed technology, Silkworm rearing technology, Silkworm pathology, Mulberry agronomy, Mulberry breeding and genetics, Silk reeling, organisation and management.

Entry standard: Appropriate degree/diploma and 3 years' experience in sericulture.

15-month course leading to postgraduate Diploma in Sericulture for Indian students only.

Subjects covered include: Silkworm physiology, Silkworm rearing technology, Silkworm genetics and breeding, Seed technology and silkworm pathology, Biology and breeding of mulberry, Mulberry agronomy, Silk reeling, testing and spinning, Sericulture organisation, extension and management.

Entry standard: Appropriate degree and some experience.

Orientation visits and refresher courses can be arranged by the Institute.

IND 22

CENTRAL SHEEP AND WOOL RESEARCH INSTITUTE

Enquiries

The Director, Central Sheep and Wool Research Institute, Avikanagar 304501, Rajasthan. Tel: 12 Malpura. Cable: SHEEPINST.

Managing agency

Indian Council of Agricultural Research.

Courses

SHEEP AND WOOL PRODUCTION

9-month course leading to National Diploma in Sheep and Wool Production.

Subjects studied include: Animal genetics and breeding, Sheep nutrition, Sheep physiology, Sheep health, Meat science, Statistics, economics and marketing, Wool science, Grassland and fodder agronomy.

Entry standard: A degree in animal sciences or agriculture.

Short courses (3 weeks) are held twice a year in:

Sheep Management; Performance Record Maintenance and its Utilization; Artificial Insemination in Sheep; Sheep Nutrition and Pasture and Fodder Development; Wool Quality Evaluation; Wool Grading and Marketing.

Entry standard: The courses are intended mainly for graduates already engaged in sheep development/sheep farming.

IND 23

CENTRAL SOIL AND WATER CONSERVATION RESEARCH AND TRAINING INSTITUTE

Enquiries

The Director, Central Soil and Water Conservation Research and Training Institute, 218 Kaulagarh Road, Dehradun, UP 248195. Tel: 4213. Cable: SOILCONS.

India

Managing agency Indian Council of Agricultural Research.

Courses **SOIL AND WATER CONSERVATION**
5.5-month in-service training course covering Soils, Agronomy, Forestry and Engineering with emphasis on practical training, for gazetted officers (supervisory staff), at Dehradun.
Entry standard: Officers in departments of agriculture, forests, engineering, soil conservation, or agricultural universities, etc, normally graduates.

5.5-month course in Soil and Water Conservation, for middle-level technicians.
This takes place at the Kota, Bellary, Ootacamund and Hazaribagh centres.
Entry standard: Graduate in Arts with Geography, or graduate in Science/Agriculture/Civil Engineering, Diploma holders in Civil Engineering, Forestry.

Note: The Institute was established in 1954 to conduct research, to train, and to demonstrate soil and water conservation methods. It has 8 centres located to facilitate research in differential soil and climate conditions. In addition to the above regular courses, there are ad hoc short-term and refresher courses on special subjects.

IND 24 CENTRAL POULTRY TRAINING INSTITUTE

Enquiries The Director, Central Poultry Training Institute, Hessaraghatta 560088, Bangalore Tel:384303. Telex 0845-5088 CPTI IN

Managing agency Department of Agriculture, Government of India.

Courses **POULTRY SCIENCE**
8-week courses are held in:
Poultry Processing and Technology; Poultry Management and Farm Economics; Poultry Breeding and Genetics; Marketing of Poultry and Poultry Products; Duck Production and Management; Poultry Nutrition and Feeding.
Entry standard: Degree in Veterinary/Animal Science/Agriculture with experience in specialisation.

IND 25 CENTRAL TOBACCO RESEARCH INSTITUTE

Enquiries The Director, Central Tobacco Research Institute, Rajahmundry 533104, Andhra Pradesh. Tel: 7. Cable: TABSEARCH.

Managing agency Indian Council of Agricultural Research.

Courses **TOBACCO PRODUCTION**
9-month programme to provide overseas trainees with scientific knowledge on various aspects of improved tobacco production for applying in their respective countries. Programme covers seed bed management to harvesting, curing, grading and preparation for market.
Entry standard: Minimum BSc (Agr) or Diploma in agriculture or allied sciences.

Note: The Institute works in collaboration with other scientific institutes/industry in handling some of the problems relating to quality aspects. Assistance is received from and given to tobacco-producing countries on an exchange basis by way of supply of seed of improved varieties and scientific knowledge.

IND 26 CHHATRAPATI SHAHU CENTRAL INSTITUTE OF BUSINESS EDUCATION AND RESEARCH

Enquiries The Director, Chhatrapati Shahu Central Institute of Business Education and Research, University Road, Kolhapur Pin Code 416 004, Maharashtra, India. Tel: 26387, 26558, 27583. Telegrams: SIBER

Courses **BUSINESS ADMINISTRATION**
2-year postgraduate course leading to Master of Business Administration (MBA) with specialisation in Agriculture and Rural Development.

2-year postgraduate course leading to Master of Environment Management (MEM).

1-year course leading to postgraduate Diploma in Co-operative Management (DCM).

Entry standard: Appropriate first degree.

IND 27 FISHERIES TRAINING INSTITUTE

Enquiries The Director, Fisheries Training Institute, Government of Madhya Pradesh, A P, Nowgong (BKD), District Chhatarpur (MP).

Managing agency Government of Madhya Pradesh State.

Courses **FISHERIES**
10-month Training course in Inland Fisheries.
Entry standard: BSc with Zoology, Botany, Physics or Chemistry.

10-month courses for Certificate of Inland Fisheries.
Entry standard: MSc (Zoology).

IND 28 FOREST RESEARCH INSTITUTE AND COLLEGES

Enquiries The Director, Forest Research Institute and Colleges, P O New Forest, Dehra Dun UP. Tel: 27021-28. Telex: 595-258.

Managing agency Ministry of Agriculture and Irrigation.

Courses **FORESTRY**
2-year course leading to postgraduate Diploma in Forestry.

6-month course leading to postgraduate Diploma in Social Forestry.
Entry standard: Appropriate first degree.

Refresher courses for Forest Officers are available covering Silviculture, Genetics and Tree Breeding, Forest Ecology, Forest Statistics.

India

IND 29 GANDHIGRAM RURAL INSTITUTE

Enquiries The Registrar, Gandhigram Rural Institute, Faculty of Agriculture and Animal Husbandry, Gandhigram, Anna District, Tamil Nadu, South India 624302. Tel: Chinnalapatti 371 Cable: GRAMVARSITY.

Managing agency Autonomous.

General details 1) 2 terms: Jul/Nov, Dec/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
2-year course leading to Diploma in Agriculture.
Subjects covered include: Crop husbandry, Animal husbandry, Agricultural entomology, Farm management, Farm machinery, Horticulture, Agricultural engineering, Nursery care and management.
Entry standard: Pass in Higher Secondary exam or equivalent to include biology.

RURAL DEVELOPMENT
3-year course leading to BA in Rural Industries and Management.
Entry standard: Usual university entrance.

2-year courses leading to MA in:
Rural Development
Subjects covered include Economics of agriculture, Rural society, Rural organisation, Rural development and change.
Rural Economics and Extension Education
Subjects covered include Economic growth and development, Agriculture and animal husbandry, Agriculture finance and management, Agriculture marketing, Farm business management, Communication.
Entry standard: Appropriate first degree.

IND 30 UNIVERSITY OF GORAKHPUR

Enquiries The Registrar, University of Gorakhpur, Gorakhpur, Uttar Pradesh 273001. Tel: 5201, 30600, 3874, 3745, 4428, 4551.
Cables: University Gorakhpur.

Managing agency Autonomous.

General details 1) 2 terms: Jul/Dec, Jan/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
4-year BSc (Agr) course.
Entry standard: GCE 'A' level or equivalent.

2-year MSc (Agr) course and 20-month PhD course.
Entry standard: Appropriate first degree.

Note: Affiliated colleges, some of which offer similar courses, are: B R D Degree College, Deoria; Degree College, Ghazipur; Government Degree College, Jakhimi; National Degree College, Barahalgani; S D J College, Chandsar; T D College, Balhia; T D College, Jaunpur; and Udai Pratap College, Varanasi, which also offers MSc (Agr) and PhD in Animal Husbandry and Dairying, and Horticulture.

- IND 31 GOVERNMENT AGRICULTURE COLLEGE**
- Enquiries** The Principal, Government Agriculture College, Wadoora, Soporejammu and Kashmir.
- Managing agency** Ministry of Agriculture, Soporejammu and Kashmir Government.
- Courses** **SUNDRY**
Up to 5 years for BSc (Agr) courses in Agronomy, Agricultural Economics, Agricultural Extension, and Entomology.
Entry standard: Higher Secondary School education, or University matriculation.
- IND 32 GOVIND BALLABH PANT UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**
- Enquiries** The Registrar, Govind Ballabh Pant University of Agriculture and Technology, Pantnagar, District Nainital, Uttar Pradesh 263145.
Tel: Rudrapur 291/9. Cables: Pantvarsity, Pantnagar.
- Managing agency** State Government.
- General details** 1) 3 terms: Jul/Oct, Nov/Feb, Mar/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.
- Courses** **SUNDRY**
3-year courses leading to BSc (Agr & AH) and BSc (Home Science).
4-year courses leading to BSc (For) and BSc (Fisheries).
Entry standard: Pass in Intermediate science with agriculture/maths/biology or equivalent.
- 5-year course leading to BVSc & AH.
Entry standard: Pass in Intermediate science with biology/agriculture or equivalent.
- IND 33 GUJARAT AGRICULTURAL UNIVERSITY**
- Enquiries** (A) The Principal, Extension Education Institute, Gujarat Agricultural University, Anand - 388110. Tel: 3346. Cable: Agrisearch, ANAND.
- (B) The Registrar, Gujarat Agricultural University Dantiwada Campus, Sardar Krishinagar-385506 District Banaskantha. Cable: KRUSHI.
- (C) The Principal, College of Agriculture, Gujarat Agricultural University, Junagadh 362001. Tel: 93. Cable: AGRICOL.
- (D) The Principal, College of Veterinary Science and Animal Husbandry, Gujarat Agricultural University, Sardar, Krishinagar, Banaskantha 385506.
- (E) The Principal, Gujarat College of Veterinary Science and Animal Husbandry, Gujarat Agricultural University, Anand 388001. Tel: 3464. Cable: GUJVET.
- (F) The Principal, N M College of Agriculture, Gujarat Agricultural University, Narsari, Bulsar 396450. Tel: 162. Cable: AGRICOL.

India

- (G) The Principal, Sheth M C College of Dairy Science, Gujarat Agricultural University, Anand 388110. Tel: 224. Cable: Agrisearch, ANAND.

Managing agency Autonomous.

General details 1) 2 terms: Jun/Nov, Dec/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses (A), (B), (C) & (F) AGRICULTURE
4-year course leading to BSc (Agri).
Subjects studied include: Agronomy, Agricultural chemistry and soil science, Agricultural entomology, Plant pathology, Agricultural botany, Horticulture, Agriculture engineering.
Entry standard: Higher Secondary School Certificate.

(D) & (E) VETERINARY SCIENCE
5-year course leading to BVSc & AH
Subjects covered include: Anatomy, Physiology, Pharmacology, Microbiology, Pathology, Parasitology, Public health, Surgery, Gynaecology and obstetrics, Animal nutrition, Livestock production.
Entry standard: Higher Secondary School Certificate with passes in physics, chemistry, maths and English.

(G) DAIRY TECHNOLOGY
4.5-year course leading BSc (Dairy Technology).
Subjects studied include: Dairy engineering, Dairy chemistry, Dairy microbiology, Dairy husbandry, Management science.
Entry standard: Higher Secondary School Certificate with passes in physics, chemistry, maths and English.

IND 34 GURU NANAK DEV UNIVERSITY

Enquiries The Registrar, Guru Nanak Dev University, Amritsar, Punjab.

Managing agency Autonomous.

General details 1) 3 terms: Jul/Sep, Oct/Dec, Jan/Apr.
2) Residential accommodation is available.

Courses AGRICULTURE
4-year BSc course.
Entry standard: University matriculation or equivalent.

SUNDRY
2-year MSc courses in Agricultural Economics, Agronomy and Horticulture.
Entry standard: BSc (Agr) or equivalent.

IND 35 HARYANA AGRICULTURAL UNIVERSITY

Enquiries The Registrar, Haryana Agricultural University, Hissar, Haryana 125004. Tel: 4166 PARX 3881/294. Cables: Agriversity, Hissar.

Managing agency Autonomous.

General details 1) 2 terms: Jul/Nov, Feb/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses	SUNDRY 4-5 year Bachelor Degree courses in Agriculture, and Veterinary Science and Animal Husbandry. Entry standard: GCE 'A' level or equivalent. 2-year MSc (Agr) courses in Agriculture, Agricultural Economics, Agronomy, Entomology, Extension Education, Horticulture, Plant Breeding, Plant Pathology, Soil Science, and Vegetable Crops; MSc (Animal Sc) and MVSc courses in Veterinary Anatomy, Veterinary Gynaecology and Obstetrics, Veterinary Microbiology, Veterinary Parasitology, Veterinary Pharmacology, Veterinary Physiology, and Veterinary Public Health and Surgery. Research studies leading to PhD Degree also available. Entry standard: Appropriate first degree. <u>Note:</u> Affiliated colleges, some of which offer similar courses, are: College of Agriculture, Hissar; College of Agriculture, Kaul; College of Animal Science, Hissar; College of Veterinary Sciences, Hissar.
IND 36	HIMACHAL PRADESH KRISHI VISHVA VIDYALAYA
Enquiries	The Registrar, Himachal Pradesh Krishi Vishva Vidyalaya, Palampur - 176062. Tel: 61. Cables: HIMKRISHI PALAMPUR.
Managing agency	Himachal Pradesh University.
Courses	AGRICULTURE 3-4 year course leading to BSc (Agr). Entry standard: Higher School Certificate or equivalent. SUNDRY Courses leading to MSc (2 years) and PhD (3 years) available in: Agronomy and Agrometeorology, Plant Breeding, Soil Science and Water Management, Animal Production, Agricultural Economics, Home Science (Food Science and Nutrition), Mycology and Plant Pathology, Entomology and Apiculture, Vegetable Crops. Entry standard: Appropriate degree. VETERINARY SCIENCE 5-year course leading to BVSc & AH. Entry standard: University entrance or equivalent.
IND 37	INDIAN AGRICULTURAL RESEARCH INSTITUTE
Enquiries	The Registrar, Indian Agricultural Research Institute, New Delhi-110012. Tel: 582081. Cables: KRISHIPUSA.
Managing agency	Indian Council of Agricultural Research.
General details	1) 3 terms: Sep/Dec, Jan/Apr, Jan/Sep. 2) Residential accommodation is available. 3) Students from abroad are accepted.
Courses	SUNDRY 2-4 year courses leading to MSc and 2-5 year courses leading to PhD in: Agricultural Economics, Agricultural Engineering, Agricultural Extension, Agricultural Physics, Agricultural Statistics, Agronomy, Biochemistry, Entomology, Genetics, Horticulture, Microbiology,

India

- (G) The Principal, Sheth M C College of Dairy Science, Gujarat Agricultural University, Anand 388110. Tel: 224. Cable: Agrisearch, ANAND.

Managing agency Autonomous.

General details 1) 2 terms: Jun/Nov, Dec/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses (A), (B), (C) & (F) AGRICULTURE
4-year course leading to BSc (Agri).
Subjects studied include: Agronomy, Agricultural chemistry and soil science, Agricultural entomology, Plant pathology, Agricultural botany, Horticulture, Agriculture engineering.
Entry standard: Higher Secondary School Certificate.

(D) & (E) VETERINARY SCIENCE
5-year course leading to BVSc & AH
Subjects covered include: Anatomy, Physiology, Pharmacology, Microbiology, Pathology, Parasitology, Public health, Surgery, Gynaecology and obstetrics, Animal nutrition, Livestock production.
Entry standard: Higher Secondary School Certificate with passes in physics, chemistry, maths and English.

(G) DAIRY TECHNOLOGY
4.5-year course leading BSc (Dairy Technology).
Subjects studied include: Dairy engineering, Dairy chemistry, Dairy microbiology, Dairy husbandry, Management science.
Entry standard: Higher Secondary School Certificate with passes in physics, chemistry, maths and English.

IND 34 GURU NANAK DEV UNIVERSITY

Enquiries The Registrar, Guru Nanak Dev University, Amritsar, Punjab.

Managing agency Autonomous.

General details 1) 3 terms: Jul/Sep, Oct/Dec, Jan/Apr.
2) Residential accommodation is available.

Courses AGRICULTURE
4-year BSc course.
Entry standard: University matriculation or equivalent.

SUNDRY
2-year MSc courses in Agricultural Economics, Agronomy and Horticulture.
Entry standard: BSc (Agr) or equivalent.

IND 35 HARYANA AGRICULTURAL UNIVERSITY

Enquiries The Registrar, Haryana Agricultural University, Hissar, Haryana 125004. Tel: 4166 PARX 3881/294. Cables: Agriversity, Hissar.

Managing agency Autonomous.

General details 1) 2 terms: Jul/Nov, Feb/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.

- Courses** **FORAGE PRODUCTION**
 9-month course leading to National Diploma in Forage Production and its Utilisation.
 Course covers: Grazing and cutting management of grasslands under tropical/sub-tropical/temperate and alpine conditions; Soil fertility/Soil conservation technology; Silvipastoral production; Process, techniques, equipments and structures in forage conservation; Forage seed production and storage technology; Plant protection methods; Integrated farming systems.
 Entry standard: Course is intended for in-service sponsored candidates having appropriate degree/diploma.
- IND 41** **INDIAN INSTITUTE OF MANAGEMENT, AHMEDABAD**
- Enquiries** The Director, Indian Institute of Management, Ahmedabad 380015.
 Tel: 450041. Cable: INDINMAN.
- Managing agency** Government of India.
- Courses** **AGRICULTURAL MANAGEMENT**
 Short programmes are arranged for middle and senior management executives on Management of Agricultural and Rural Development and Agricultural Management.
- IND 42** **INDIAN INSTITUTE OF SUGARCANE RESEARCH**
- Enquiries** The Director, Indian Institute of Sugarcane Research, Rae Bareli Road, Lucknow 226002. Tel: 51572 and 51673. Cable: GANNAANUSAN DHAN.
- Managing agency** Indian Council of Agricultural Research.
- Courses** **SUGARCANE PRODUCTION TECHNOLOGY**
 4-month course for Sugarcane Development Officers leading to Certificate.
 Course covers Agronomy, Soil science, Agricultural chemistry, Plant physiology, Agricultural engineering, Entomology, Plant pathology and Nematology as related to sugar crops.
 Entry standard: Degree in Agricultural Science and experience in sugarcane development work.
- IND 43** **INDIAN INSTITUTE OF TECHNOLOGY**
- Enquiries** The Head, Department of Agricultural Engineering, Indian Institute of Technology, Kharagpur-721302, West Bengal.
 Tel: Kharagpur 221-224.
- Managing agency** Autonomous.
- General details** 1) 2 terms: Jul/Dec, Dec/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.
- Courses** **AGRICULTURAL ENGINEERING**
 4-year course leading to B. Tech. (Hons).

Course covers the principles of engineering and technology as applied to production, processing, transportation and storage of agricultural commodities.

Entry standard: Pass in Higher Secondary School exam with physics, chemistry and maths.

18-month course leading to M.Tech in Agricultural Engineering with specialisation in: Farm Machinery and Power; Soil and Water Conservation Engineering; Dairy and Food Engineering; Aquacultural Engineering; Water Resources Development and Management; Applied Botany; Agricultural Systems and Management.

Entry standard: Appropriate first degree.

IND 44

INDIAN VETERINARY RESEARCH INSTITUTE

Enquiries

The Director, Indian Veterinary Research Institute,,P O Izatnagar (U P)-243122. Tel: 74069. Telex: 577-205 VETEX-BE.

Managing agency

Indian Council of Agricultural Research.

General details

1) Courses start in July. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

VETERINARY STUDIES

9-month courses leading to National Diploma in Animal Husbandry, Animal Reproduction, Biological Products, Equine Husbandry-Medicine-Surgery, Poultry Husbandry, Preventative Veterinary Medicine.

Entry standard: Degree or Diploma in Veterinary Science with experience in area concerned.

2-year courses leading to MVSc or MSc in: Animal Genetics and Breeding, Animal Gynaecology and Obstetrics including Andrology, Animal Nutrition, Animal Physiology, Animal Science Extension, Avian Diseases, Biochemistry, Bio-statistics, Biotechnology, Epidemiology, Livestock Production Management, Livestock Economics, Livestock Products Technology, Poultry Science, Veterinary Bacteriology, Vet. Immunology, Vet. Medicine, Vet. Public Health, Vet. Surgery, Vet. Virology.

Entry standard: Appropriate Honours degree or equivalent.

2-3 year courses leading to PhD in most subjects mentioned above.

Entry standard: Appropriate Masters degree.

IND 45

INLAND FISHERIES TRAINING CENTRE

Enquiries

The Principal, Inland Fisheries Training Centre, Barrackpore, Pin 743101 West Bengal.

Managing agency

Indian Council of Agricultural Research.

Courses

FISHERIES

1-year Postgraduate Certificate course in Inland Fisheries Management.

Entry standard: University degree.

IND 46 INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS (ICRISAT)

Enquiries The Principal Training Officer, International Crops Research Institute for the Semi-Arid Tropics, Patancheru P O, Andhra Pradesh 502324. Tel: Hyderabad 224016. Telex: 0152-203.

Managing agency ICRISAT Governing Board.

Courses **AGRICULTURAL RESEARCH**
1-2 years research training in Plant Breeding, Physiology, Agronomy, Biotechnology and related sciences.
Entry standard: Mainly research officers sponsored by their employers.

Note: The Institute provides in-service fellowship training, research guidance and facilities for research students (MSc and PhD) nominated by Universities.

IND 47 JAWAHARLAL NEHRU KRISHI VISHWA VIDYALAYA

Enquiries The Registrar, Jawaharlal Nehru Krishi Vishwa Vidyalaya, P B No 80, Krishinagar, Jabalpur, Madhya Pradesh 482004. Tel: Jabalpur (PBX junction lines) 23771-3, 25221. Cables: Krisiviswa, Jabalpur 4, M P State.

Managing agency Autonomous.

General details 1) 2 terms: Jun/Nov, Dec/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
4-4.5 year Bachelor Degree courses in Agriculture, Agricultural Engineering, and Veterinary Science and Animal Husbandry.
Entry standard: GCE 'A' level or equivalent.

2-year MSc (Agr) courses in Agricultural Chemistry and Soil Science, Agricultural Economics, Agricultural Statistics, Food Science, Agricultural Engineering, Agronomy, Extension Education, Entomology, Genetics and Plant Breeding, Horticulture, Plant Pathology.

MVSc & AH courses in Veterinary Microbiology, Veterinary Pathology, Animal Breeding and Genetics, Animal Nutrition, and Animal Production and Management. Research studies leading to PhD Degree course available.

Entry standard: Appropriate first degree for Master's degree course.

Note: Affiliated colleges, some of which offer similar courses, are: College of Agricultural Engineering, Jabalpur; Colleges of Agriculture at Gwalior, Indore, Jabalpur, Raipur and Rewa; Colleges of Veterinary Science and Animal Husbandry at Jabalpur and Mhow, and R A K College of Agriculture, Sehore.

IND 48 KANPUR UNIVERSITY

Enquiries The Registrar, Kanpur University, Kalyanpur, Kanpur, Uttar Pradesh, 208024. Tel: Kanpur 42239, 43301, 44350.
Cables: University of Kanpur.

India

Managing agency Autonomous.

Courses AGRICULTURE
3-year BSc (Agr) course.
Entry standard: GCE 'A' level or equivalent.

SUNDRY
2-year MSc (Agr) course in Agricultural Botany, Agricultural Economics, Dairying, Entomology, Horticulture and Plant Pathology.
Entry standard: Appropriate first degree for MSc course.

Note: Affiliated colleges, some of which offer similar courses, are: Janta College, Entawah 206/24; Janta Mahavidyalaya Entawah 206121, and Kulbhaskar Ashiram Degree College, Allahabad.

IND 49 UNIVERSITY OF KASHMIR

Enquiries The Registrar, University of Kashmir, University Campus, Hazratbal, Srinagar Jammu and Kashmir 190006. Tel: PABX 76972-4, 72745, 72333, 73541, 76975. Cables: University Srinagar.

Managing agency Autonomous.

General details 1) 2 terms: Mar/Jul, Aug/Dec. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses AGRICULTURE
3-4 year Bachelor Degree course.
Entry standard: GCE 'A' level or equivalent.

IND 50 KERALA AGRICULTURAL UNIVERSITY

Enquiries The Registrar, Kerala Agricultural University, P O Vellanikkara, Trichur, Kerala State - 680654. Tel: 23432. Cable: Agrivarsity.

Managing agency Autonomous.

General details 1) 3 terms: Jun/Aug, Sep/Dec, Jan/Mar. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses SUNDRY
4-year courses leading to BSc (Ag), BFSc, B.Tech (Ag.Engineering), BSc (Rural Home Science), BSc (Forestry)
5-year course leading to BVSc & AH.
Entry standard: Pass in pre-degree examination.

2-year courses leading to MSc (Ag), MSc (Food Science and Nutrition), MSc (Forestry) and MVSc.
Entry standard: Appropriate first degree.

Doctorate programmes (3 years) are offered in 8 disciplines under the Faculty of Agriculture, 10 disciplines under the Faculty of Veterinary Science and Animal Husbandry, and in Food Science and Nutrition.

IND 51 KONKAN KRISHI VIDYAPEETH

Enquiries The Registrar, Konkan Krishi Vidyapeeth, Dapoli, District Ratnagiri, Maharashtra 415712. Tel: 26.
Cables: Konkanagri Dapoli.

Managing agency Autonomous.

General details 1) 3 terms: Jun/Sep, Oct/Jan, Jan/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses SUNDRY

3-4.5 year Bachelor Degree courses in Agriculture, Fisheries Science and Veterinary Science and Animal Husbandry.
Entry standard: GCE 'A' level or equivalent.

2-year Master's Degree courses in Agricultural Botany, Agricultural Chemistry and Soil Science, Agricultural Economics, Agricultural Entomology, Agricultural Extension, Agronomy, Animal Husbandry and Dairy Science, Horticulture, Plant Pathology, Marine Fisheries, Fresh Water Fisheries and Marine Biology.
Research studies leading to PhD Degree are available.
Entry standard: Appropriate first degree.

Note: Affiliated colleges, some of which offer similar courses, are: Bombay Veterinary College, Bombay; College of Agriculture, Dapoli; College of Fisheries, Ratnagiri; and 2 research stations: Marine Biological Research Station, Ratnagiri and Taraporevala Marine Biological Research Station, Bombay.

IND 52 KURUKSHETRA UNIVERSITY

Enquiries The Registrar, Kurukshetra University, Kurukshetra-132119, Haryana. Tel: 26. Cable: Dharamkshetra, Kurukshetra.

Managing agency Autonomous.

General details 1) 3 terms: Jul/Sep, Oct/Dec, Jan/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses DAIRY HUSBANDRY/TECHNOLOGY

4-year courses leading to BSc (Dairy Technology) and BSc (Dairy Husbandry).

Entry standard: Pass in Higher Secondary School examination including English, physics, chemistry and mathematics/or biology.

2-year MSc course in Dairying.

Entry standard: Appropriate first degree or equivalent.

IND 53 LOK BHARTI GRAMUIDYAPITH

Enquiries The Director, Lok Bharti Gramuidyapith, P O Sansosara, District Bhavnagar, Gujarat State-364230. Tel: 22.

Managing agency Lok Bharti Trust.

Courses RURAL STUDIES

3-year Bachelor Degree course.

Entry standard: Higher Secondary School examination.

Note: The College has an informal education centre for training agriculturalists, animal breeders, co-operative workers, etc, for a duration of one to two weeks.

IND 54 MAHATMA PHULE AGRICULTURAL UNIVERSITY

Enquiries The Registrar, Mahatma Phule Agricultural University, Rahuri, District Ahmednagar (Maharashtra)-413722. Tel: Rahuri 16. Cable: Krishivid, Rahuri.

Managing agency Autonomous.

General details 1) 3 terms: Jun/Sep, Nov/Feb, Feb/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
4-year courses leading to BSc (Agr) in:
Agricultural sciences, Agronomy, Horticulture, Plant pathology, Entomology, Agricultural engineering, Animal sciences, Agricultural economics, Agricultural extension.
B. Tech in Agricultural Engineering
Subjects offered include Farm machinery and power, Soil and water conservation, Irrigation and drainage, Agricultural structures and rural electrification, Agricultural sciences.

Entry standard: Higher Secondary School examination with passes in physics, chemistry, maths.

2-year courses leading to MSc (Agr) and M.Tech (Agr Eng.)
Entry standard: Appropriate first degree.

Note: Affiliated colleges offering similar courses are:
Colleges of Agriculture Pune, Kolhapur, Dhule; College of Agricultural Engineering, Rahuri and Post Graduate Institute, Rahuri.

IND 55 MANIPUR UNIVERSITY

Enquiries The Registrar, Manipur Agricultural College, Manipur University, Iroisemba, Post Box No.31, Imphal 795 001. Tel: Imphal 859, 756. Cables: Manvarsity, Imphal.

Managing agency Autonomous.

Courses **AGRICULTURAL SCIENCE**
4-year course leading to BSc (Agr Sc)
Subjects offered include: Plant pathology, Agronomy, Agricultural meteorology, Farm management, Soil and water conservation engineering, Entomology, Plant breeding, Crop production.
Entry standard: Higher Secondary exam or equivalent with passes in physics, chemistry and maths.

IND 56 MARATHWADA AGRICULTURAL UNIVERSITY

Enquiries The Registrar, Marathwada Agricultural University, P O Krishinagar, Parbhani, Maharashtra 431402. Tel: Parbhani 301. Cable: University Parbhani.

Managing agency Autonomous.

General details 1) 3 terms: Jul/Oct, Oct/Jan, Feb/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
 3-4.5 year Bachelor Degree courses in Agriculture, Food Science, and Veterinary Science and Animal Husbandry.
 Entry standard: GCE 'A' level or equivalent.

2-year Master's Degree courses in Agricultural Botany, Agricultural Chemistry, Agricultural Economics, Agricultural Entomology, Agricultural Extension, Agronomy, Animal Husbandry, Horticulture, Plant Pathology, Dairy Science, Animal Breeding and Genetics, Animal Nutrition, Anatomy, and Animal Management. Research studies leading to PhD Degree are available.
 Entry standard: Appropriate first degree.

Note: Affiliated colleges, some of which offer similar courses, are: College of Agricultural Technology; College of Agriculture; College of Veterinary and Animal Science.

IND 57 MEERUT UNIVERSITY

Enquiries The Registrar, Meerut University, Meerut, Uttar Pradesh 250001.
 Tel: 75021-24.

Managing agency Autonomous.

General details 1) 2 terms: Jul/Dec, Jan/Jun.
 2) Residential accommodation is available.

Courses **AGRICULTURE**
 3-year Bachelor Degree course.
 Entry standard: GCE 'A' level or equivalent.

SUNDRY
 2-year Master's Degree courses in Agricultural Botany, Agricultural Chemistry, Agricultural Economics, Agricultural Extension, Agronomy, Animal Husbandry and Dairying, Horticulture and Plant Pathology. Research studies leading to PhD Degree are available.
 Entry standard: Appropriate first degree.

Note: Affiliated colleges, some of which offer similar courses, are: Amar Singh College, Lakhgoti; Chotturam Degree College, Muzaffarnagar; Institute of Advanced Studies, Meerut; Gochar Agricultural College, Rampur; Janta Vedic College, Baraut; K V Degree College, Machhra; Kisan Degree College, Simbhali; Raja Mahendra Pratap Prem Mahavidyalaya, Gurukul-Narsan; Rana Shiksha Shivir Degree College, Palikhava; Rashtriya Kisan College, Shamli.

IND 58 NARENDRA DEV UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

Enquiries The Dean, Faculty of Agriculture, Narendra Deva University of Agriculture and Technology, Faizabad 224229, U P. Tel: 792.
 Cables: AGRIVARSITY.

Managing agency Autonomous.

India

Courses

SUNDRY

4-year courses leading to BSc in Home Science and Agriculture.

Entry standard: University entrance examination.

2-year courses leading to MSc (Agr) in Agronomy, Genetics and Plant Breeding, Horticulture, Vegetable Science, Soil Science, Agricultural Economics, Entomology, Plant Pathology, Animal Science, Biochemistry, Crop Physiology.

Entry standard: Appropriate first degree.

2-year PhD courses available in all MSc subjects listed above.

Entry standard: Appropriate Masters degree.

IND 59

NATIONAL BUREAU OF SOIL SURVEY AND LAND USE PLANNING

Enquiries

The Director, National Bureau of Soil Survey and Land Use Planning, Seminary Hills, Nagpur 440006. Tel: 32386. Telex: 0715-262.

Managing agency

Indian Council of Agricultural Research.

Courses

SOIL SURVEY AND LAND USE

4-month training programme in Soil Survey and Mapping.

Short training programmes (2-4 weeks) in:

Soil Correlation and Classification; Soil Survey Interpretations for Land Use Planning; Cartography; Soil Micromorphology.

Entry standard: Degree in Agriculture or Soil Science and experience in relevant field.

IND 60

NATIONAL COUNCIL FOR CO-OPERATIVE TRAINING

Enquiries

(A) The Director, Vaikunth Mehta National Institute of Co-operative Management, Pune University Road, Pune-411007.

(B) The Director, Co-operative Training College, c/o National Council for Co-operative Training, Jawahar Lal, Nehru National Co-operative Complex (3rd Floor), 3 Siri Institutional Area Hauz Khas, Post Bag No 2, New Delhi-110016.

Managing agency

National Council for Co-operative Training of the National Co-operative Union of India.

Courses

(A) CO-OPERATIVE BUSINESS MANAGEMENT

38-week Post-graduate course.

4-week courses and programmes for University teachers and college lecturers.

Entry standard: Mainly in-service for senior level personnel.

(B) CO-OPERATIVE STUDIES

36-week Higher Diploma Certificate course in Co-operation.

18-week Diploma course in Industrial Co-operative Management.

18-week Certificate course in Handloom Co-operative Management.

12-week Diploma course in Land Development Banking.

10-week Diploma course in Co-operative Marketing Management.

Diploma course in Co-operative Dairy Management.

Entry standard: Mainly in-service for experienced intermediate personnel of co-operatives.

Note: There are 17 Co-operative Training Colleges. As well as Diploma courses, the College arranges functional, short-term and induction courses on many special topics in Co-operative studies. Trainees from Afro-Asian countries are accepted and many attend courses at the Colleges under various Government Aided Schemes, eg Colombo Plan, SCAAP, ITEC Programmes.

IND 61

NATIONAL DAIRY RESEARCH INSTITUTE

Enquiries

The Principal, Dairy Science College, National Dairy Research Institute, Karnal (Haryana). Tel: 2621.
Cable: DAIRYSEARCH KARNAL.

Managing agency

Indian Council of Agricultural Research.

Courses

DAIRYING

4-year course leading to BSc in Dairy Technology.

Entry standard: Intermediate examination or equivalent with physics, chemistry, maths and English.

2-3 year course leading to MSc (Dairying). Disciplines offered: Dairy Bacteriology, Dairy Chemistry, Dairy Technology, Animal Genetics and Breeding, Livestock Production and Management, Animal Nutrition, Animal Biochemistry, Dairy Economics, Dairy Extension, Dairy Engineering.

Entry standard: BSc in relevant subject.

3-4 year course leading to PhD (Dairying). Disciplines offered: Dairy Bacteriology, Dairy Chemistry, Dairy Technology, Dairy Engineering, Animal Genetics and Breeding, Animal Nutrition, Animal Physiology, Animal Biochemistry, Dairy Economics, Dairy Extension.

Entry standard: MSc in relevant subject.

1-year course leading to postgraduate Diplomas in Analytical Research Techniques.

Entry standard: Appropriate Bachelor degree.

1-year course leading to postgraduate Diplomas in Management of Dairy Enterprises and Quality Control in Dairy Processing are available at the Southern Regional Station of the National Research Institute, PO Adugodi, Bangalore.

Note: The National Dairy Research Institute is the main centre for research and training in Dairying in India. The main Institute at Karnal, with regional stations at Bangalore, Bombay and Malyani, provides competent staff for dairy production (fodder-growing, dairy cattle husbandry and hygiene, milk production, dairy extension work), for milk processing and milk products manufacture, for hygiene and quality control at dairy plants, for dairy equipment design and manufacture, and for research and development work. The College is affiliated to Kurukshetra University.

IND 62

NATIONAL INSTITUTE OF RURAL DEVELOPMENT

Enquiries

The Director-General, National Institute of Rural Development, Rajendranagar, Hyderabad 500 030, Andhra Pradesh. Tel: 48001-4.
Cable: GRAVIK. Telex: 0425-6510

Managing agency

Ministry of Rural Reconstruction.

India

Courses

RURAL DEVELOPMENT

A wide range of training programmes are offered in Rural Development Administration, Poverty Alleviation, Micro-level Planning, Behavioural and Social Dimensions in Rural Development, Rural Organisations, Policy Analysis and Management in Agriculture and Rural Development, Voluntary Action for Rural Development, Skill Development, Transfer of Technology and Extension Methods, Rural Industrialisation, Computer Use for Rural Development and People and Forests.

The courses run from 1 to 4 weeks and are intended to cater for the training needs of Development Functionaries.

The Institute is the only one of its kind for research and training in rural development and is supported and financed by the Department of Rural Development, Government of India. It organises short-term in-service courses, seminars and workshops on issues of topical importance. It offers consultancy services both in research and training to state governments, national and international organisations. Other advanced training centres like the National Academy of Agriculture Research Management, Directorate of Rice Research, Central Plant Protection Training Institute are located within the vicinity of NIRD.

IND 63

NATIONAL SUGAR INSTITUTE

Enquiries

The Director, National Sugar Institute, Government of India, Kalyanpur, PO NSI, Kanpur 208017. Tel: 243016, 243216, 243416.

Managing agency

Ministry of Food and Civil Supplies.

General details

1) Courses start in July. 2) Students from abroad are accepted.

Courses

SUGAR TECHNOLOGY

2.5-year postgraduate diploma course leading to Associateship of National Sugar Institute in Sugar Technology - ANSI (Sugar Tech).
Entry standard: BSc or equivalent.

18-month postgraduate diploma course leading to Associateship of National Sugar Institute in Sugar Engineering - ANSI (Sugar Eng).
Entry standard: Degree in Mechanical or Electrical Engineering or equivalent.

1-year postgraduate course leading to Diploma in Industrial Fermentation and Alcohol Technology (DIFAT).
Entry standard: BSc with 1 year's appropriate experience

IND 64

NORTH-EASTERN HILL UNIVERSITY

Enquiries

The Registrar, North-Eastern Hill University, Lower Lachumiere, Shillong, Meghalaya 793001. Tel: Shillong 3222.
Cables NEHU, Shillong.

Managing agency

Autonomous.

Courses

AGRICULTURE

2-year Bachelor Degree course.
Entry standard: GCE 'A' level or equivalent.

IND 65

ORISSA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

Enquiries The Registrar, Orissa University of Agriculture and Technology,
Bhubaneswar 751003, Orissa.

Managing agency Autonomous.

General details 1) 2 terms: Jul/Dec, Jan/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses**SUNDRY**

4-year courses leading to BSc in:

Agriculture

Subjects studied include Crop husbandry, Plant breeding, Farm management, Plant diseases, Soil and water analysis.

Forestry

Subjects studied include Silviculture, Forest products, Forest conservation.

Agricultural Engineering and Technology

Subjects studied include Soil and water engineering, Irrigation and drainage, Farm machinery, Rural electrification.

Fisheries

Subjects studied include Fish farming, Fish and fish food technology, Fish diseases and sanitation, Inland fisheries.

4.5-year course leading to BVSc & AH.

Subjects offered include: Animal breeding and genetics, Animal nutrition, Animal production, Anatomy, Gynaecology, Parasitology, Pathology, Surgery.

Entry standard: Higher Secondary Examination or equivalent.

2-year courses leading to MVSc and MSc (Agr), MSc (Agr.Eng & Tech), MFSc (Aquaculture)

Entry standard: Appropriate first degree.

3-year programmes leading to PhD in Agriculture, Veterinary Science, Fishery Science.

Entry standard: Appropriate Masters degree.

IND 66

UNIVERSITY OF POONA

Enquiries The Registrar, University of Poona, Pune-411007. Tel: 56061.
Telex: UNIPUNA.

Managing agency Autonomous.

General details 1) 2 terms: Jun/Oct, Nov/Mar. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses**SUNDRY**

1-2 year MSc Degree and Research courses in General Botany, Mycology and Plant Pathology, Plant Physiology, Cytogenetics and Plant Breeding.

Entry standard: Appropriate first degree.

India

IND 67 PUNJAB AGRICULTURAL UNIVERSITY

Enquiries The Registrar, Punjab Agricultural University, Ludhiana, Punjab-141004. Tel: Ludhiana 22960, 24955. Cables: Agriversity, Ludhiana.

Managing agency Autonomous.

General details 1) 3 terms: Aug/Nov, Nov/Feb, Feb/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses AGRICULTURE
5-year course leading to BSc (Agr) Hons.
Subjects studied include: Crop science, Animal science, Soil science, Plant protection, Agricultural economics, Food science.

Entry standard: Matriculation examination.

VETERINARY SCIENCE

4-year course leading to BVSc & AH

Entry standard: University entrance examination.

2-year courses leading to MVSc in:

Veterinary Anatomy, Histology, Bacteriology & Virology, Parasitology, Surgery and Radiology, Medicine, Pharmacology, Obstetrics and Gynaecology, Pathology, Physiology, Public Health.

Entry standard: Appropriate first degree.

SUNDRY

2-year courses leading to MSc in:

Agronomy, Animal Science, Extension Education, Agricultural Meteorology, Entomology, Food Technology, Horticulture, Plant Breeding, Plant Physiology, Soil Science.

Entry standard: Appropriate first degree.

2-year courses leading to PhD in:

Agronomy, Extension Education, Animal Science, Horticulture, Entomology, Plant Pathology.

Entry standard: Appropriate Masters degree.

IND 68 PUNJABRAO KRISHI VIDYAPEETH

Enquiries The Registrar, Punjabrao Krishi Vidyapeeth, P O Krishinagar, District Akola, Maharashtra State. Tel: 5365, 5372.

Managing agency Autonomous.

General details 1) 2 terms: Jul/Dec, Dec/May. 2) Residential accommodation is available.

Courses SUNDRY
4-year Bachelor Degree courses in Agriculture, Agricultural Engineering, and Horticulture.

4.5-year Bachelor Degree course in Veterinary Science and Animal Husbandry.

Entry standard: Pass in Higher Secondary School examination with chemistry, biology and physics or equivalent.

2-year courses leading to MSc (Agr) in Agricultural Botany, Agricultural Economics, Agricultural Entomology, Agricultural Extension, Agronomy, Genetics and Breeding, Animal Nutrition, Dairy Cattle Production, and Poultry Production. Research studies leading to PhD Degree are available.

Entry standard: Appropriate first degree.

Note: Affiliated colleges, some of which offer similar courses, are: Anand Niketan College of Agriculture, Warora; College of Agricultural Engineering and Technology, Akola; College of Agriculture, Akola; College of Agriculture, Nagpur; Nagpur Veterinary College, Nagpur; Post-graduate Institute, Akola; Shri Shivaji Agricultural College, Amravati.

IND 69

UNIVERSITY OF RAJASTHAN

Enquiries

- (A) The Principal, College of Veterinary and Animal Science, Bikaner, Rajasthan, India.
- (B) The Principal, Rajasthan College of Agriculture, Udaipur, Rajasthan.
- (C) The Principal, College of Technology and Agricultural Engineering, Udaipur, Rajasthan.
- (D) College of Home Science, Udaipur, Rajasthan.
- (E) College of Dairy Science, Udaipur, Rajasthan.
- (F) SKN College of Agriculture, Jobner, Jaipur, Rajasthan.

Managing agency Autonomous

Courses

(A) VETERINARY SCIENCE

4.5-year course leading to BVSc & AH

Entry standard: University entrance examination.

2-year courses leading to MVSc and PhD

Entry standard: Appropriate first or Masters degree.

(B) and (F) AGRICULTURE

4-year course leading to BSc (Agr).

Entry standard: 11th class with science/agriculture.

2-year courses leading to MSc (Agr) and PhD

Entry standard: Appropriate first or Masters degree.

(C) 4-year course leading to BE (Agr).

Entry standard: Pre-university exam.

18-month course leading to ME (Agr)

Entry standard: Appropriate first degree.

(D) HOME SCIENCE

3-4 year course leading to BSc

Entry standard: 11th class with science.

2-year course leading to MSc.

Entry standard: Appropriate first degree.

(E) DAIRY TECHNOLOGY
5-year course leading to BSc
Entry standard: 11th class or equivalent.

IND 70

RAJENDRA AGRICULTURAL UNIVERSITY

Enquiries

- (A) The Principal, Bihar Agricultural College, Rajendra Agricultural University, Sabour 813210. Tel: 11. Cables: COLAGRI.
- (B) The Principal, Bihar Veterinary College, Rajendra Agricultural University, Patna 800014. Tel: 22221. Cables: VETCOL.
- (C) The Principal, Sanjay Gandhi Institute of Dairy Science and Technology, Rajendra Agricultural University, Darbhanga, Bihar.
- (D) The Principal, Tirhut College of Agriculture, Rajendra Agricultural University, Dholi, Muzaffarpur 843121. Tel: 25. Cables: COLAGRI.

Managing agency Autonomous.

Courses

SUNDRY
3-4 year Bachelor Degree courses in Agriculture, Veterinary Science, and Dairy Technology.
Entry standard: University entrance.

(B) & (D) SUNDRY
2-year MVSc courses in Animal Anatomy, Animal Breeding, Animal Nutrition, Extension Education, Animal Gynaecology, Parasitology, Pathology, Veterinary Microbiology, Veterinary Physiology and Veterinary Public Health;

MSc (Agr) courses in Agricultural Economics, Agronomy, Entomology, Extension Education, Horticulture, Plant Breeding, Plant Pathology, and Soil Science.
Entry standard: Appropriate first degree.

Note: The University has facilities at (A) and (D) for research studies leading to PhD.

IND 71

REGIONAL TRAINING CENTRE FOR INLAND FISHERIES OPERATIVES

Enquiries

The Principal, Regional Training Centre for Inland Fisheries Operatives, Rajanikaten, Civil Line, Delhi, Gate, Agra 2.

Managing agency Indian Council of Agricultural Research.

Courses

FISHERIES
9-month course for Inland Fisheries Operatives at mid-graduate level.
Entry standard: University degree.

IND 72

ROHILKHAND UNIVERSITY

Enquiries

The Registrar, Rohilkhand University, 204-B Civil Lanes, Bareilly, Uttar Pradesh 243001. Tel: 5815, 3541. Cables: Ruversity.

Managing agency Autonomous.

General details 1) 3 terms: Jul/Oct, Nov/Dec, Jan/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
3-4 year course leading to BSc (Agr) Hons.
Subjects studied include: Agronomy, Agricultural engineering, Agricultural economics, Animal husbandry and dairying, Agricultural extension, Agricultural biochemistry, Agricultural botany, Agricultural chemistry, Horticulture, Entomology, Soil conservation, Plant pathology.
Entry standard: Intermediate agriculture.

IND 73 SAURASHTRA UNIVERSITY

Enquiries The Registrar, Saurashtra University, University Campus, Kalavad Road, Rajkot Gujarat State, 360005. Tel: 28991-8.
Cables: University, Rajkot.

Managing agency Autonomous.

General details 1) 2 terms: Jan/Oct, Nov/Apr. 2) Residential accommodation is available.

Courses **AGRICULTURE**
3-year Bachelor Degree course in Rural Agriculture.
Entry standard: GCE 'A' level or equivalent.

BIOLOGICAL SCIENCES
2-year MSc Degree course.
Entry standard: Appropriate first degree.

IND 74 SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY

Enquiries The Principal, College of Agriculture, Sher-E-Kashmir University of Agricultural Sciences and Technology, P O Box 262, Srinagar-190001
Tel: 73459. Telegrams: AGRISITY SRINAGAR.

Managing agency Autonomous.

Courses **AGRICULTURE**
4-year course leading to BSc (Agr)

FORESTRY
4-year course leading to BSc (For)

Entry standard: Senior School Certificate or equivalent with English, physics, chemistry, biology or maths.

SUNDRY
2-year courses leading to MSc(Agr).
Disciplines offered: Agronomy, Entomology, Plant pathology, Plant breeding and genetics, Pomology, Olericulture with supporting disciplines of Soil science and Statistics.
Entry standard: Appropriate first degree.

VETERINARY SCIENCE

5-year course leading to BVSc & AH.

Entry standard: Senior School Certificate or equivalent with English, physics, chemistry and biology.

IND 75

SUGARCANE BREEDING INSTITUTE

Enquiries The Director, Sugarcane Breeding Institute, Coimbatore 641 007, Tamil Nadu. Tel: 37641-7, Telex: 855-383.

Managing agency Indian Council of Agricultural Research.

General details 1) Course starts in September. 2) Students from abroad are accepted.

Courses **SUGARCANE PRODUCTION**
2-year course leading to MSc (Agr)
Subjects covered include: Sugarcane crop production technology, Sugarcane physiology, Sugarcane breeding and cytogenetics, Sugarcane chemistry, Sugar engineering, Sugarcane pests and diseases and their management, Sugarcane economics.
Entry standard: BSc (Agr) with 3 years' experience in agricultural department or sugar factory.

IND 76

TAMIL NADU AGRICULTURAL UNIVERSITY

Enquiries The Registrar, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu 641003. Tel: 41222. Cables: Farmvar, Coimbatore, Tamil Nadu. Telex: 855-360 TNAU-IN.

Managing agency Autonomous.

Courses **SUNDRY**
4-year courses leading to BSc in:
Agriculture
Subjects covered include Farm management, Crop management, Plant breeding, Soil science, Pests and diseases, Seed production technology.
Horticulture
Subjects covered include Food technology, Forestry, Agricultural extension, Seed technology, Agricultural economics, Agricultural botany, Plant pathology.

2-year courses leading to Masters degrees in:
Agriculture, Horticulture, Agricultural Engineering, Veterinary Science, Fisheries Science, Food Science and Nutrition, and Water Management.

Entry standard: Appropriate first degree.

3-year courses leading to PhD in:
Agriculture, Horticulture, Veterinary Science, Agricultural Engineering.

Entry standard: Appropriate Masters degree.

AGRICULTURAL ENGINEERING

4-year course leading to BE (Agr).

Subjects covered include: Farm machinery, Dairy engineering, Irrigation and drainage engineering, Soil survey and land use, Soil conservation, Rural and environmental engineering.

FISHERIES

4-year course leading to BFSc.

Subjects covered include: Fishery management, Fish pathology and parasitology, Fish breeding, Equipment and plant maintenance, Fish byproducts, Quality control, Marketing and co-operation.

VETERINARY SCIENCE

4.5-year course leading to BVSc.

Subjects covered include: Animal breeding, Animal nutrition, Animal health, Veterinary surgery, Obstetrics and gynaecology, Preventive medicine.

Entry standard for all undergraduate courses: Pass in Higher Secondary Class or equivalent.

IND 77

UNIVERSITY OF UDAIPUR

Enquiries

The Registrar, University of Udaipur, Pratapnagar, Udaipur, Rajasthan 313001. Tel: Udaipuar 4966. Cables: University Udaipur.

Managing agency Autonomous.

General details 1) 2 terms: Jul/Dec, Jan/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

3-5 year Bachelor Degree courses in Agriculture, Agricultural Education, Dairying, Food Technology and Poultry Science.

Entry standard: GCE 'A' level or equivalent.

2-year MSc (Agr) courses in Agricultural Economics, Agricultural Extension, Agronomy, Horticulture, Plant Breeding and Genetics, Plant Pathology, Soil Science, Animal Husbandry.

ME (Agr) courses in Farm Machinery, Soil and Water Conservation, Processing and Food Engineering.

MVSc courses in Veterinary Microbiology, Animal Breeding and Genetics, Animal Nutrition, Dairy Production, Poultry Production, Anatomy and Veterinary Pathology. Research studies leading to PhD Degree are available.

Entry standard: Appropriate first degree.

Note: Affiliated colleges, some of which offer similar courses, are: College of Dairy Science, Udaipur; College of Technology and Agricultural Engineering, Udaipur; College of Veterinary and Animal Science, Bikaner; Rajasthan College of Agriculture, Udaipur; S K N College of Agriculture, Jobner.

IND 78

VISVA-BHARATI

Enquiries

The Registrar, Visva-Bharati, P O Santiniketan, District Birbhum, West Bengal 731235. Tel: Bolpur Junctions 451-456. Cables: Visvabharati, Santiniketan.

India

Managing agency Autonomous.

General details 1) 3 terms: Jul/Sep, Oct/Dec, Dec/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
3-4 year Bachelor Degree course.
Entry standard: GCE 'A' level or equivalent.

2-year MSc (Agr) course in Agronomy.
Entry standard: Appropriate first degree.

IND 79 **CENTRAL ARID ZONE RESEARCH INSTITUTE**

Enquiries The Director, Central Arid Zone Research Institute, Jodhpur, Rajasthan 342 001, Tel.No.21984, Telegraphic Address: Shushketra.

Courses: **SUNDRY**
10 days - 6 months Training Programme for Maximizing Productivity of Wasteland of Arid Zone Regions;
Grass and Pasture Development in Arid Regions; Arid Zone Pasture; Role of Horticulture in Raising Productivity of Arid Fruits; Integrated Course for Development of Arid Agriculture.
Entry standard: Appropriate Masters degree.

IND 80 **CENTRAL AVIAN RESEARCH INSTITUTE**

Enquiries The Director, Central Avian Research Institute, Izatnagar, Bareilly, Uttar Pradesh 243 122, Telephone No. 74095, 76095, Telegraphic Address: POULTRY, Telex No. 0577 206 CARI IN.

Courses **POULTRY SCIENCE**
2-year course leading to MVSc
Entry standard: Appropriate first degree.

3-year course leading to PhD.
Entry standard: Appropriate Masters degree.

IND 81 **CENTRAL MARINE FISHERIES RESEARCH INSTITUTE**

Enquiries The Director, Central Marine Fisheries Research Institute, Cochin, Kerala 682 031. Tel.No. 367459, Telegraphic Address: CADALMIN. Telex No.0885 6435 MFRI IN.

Courses **MARICULTURE**
2-year course leading to MSc.
Entry standard: Appropriate first degree.

3-year course leading to PhD
Entry standard: Appropriate Masters degree.

IND 82 **CENTRAL RICE RESEARCH INSTITUTE**

Enquiries The Director, Central Rice Research Institute, Cuttack, Orissa 753 006. Tel.No.21887, Telegraphic Address: RICE CUTTACK, Telex No.0676 220 CRRI IN.

Courses	RICE PRODUCTION TECHNOLOGY 12-20 weeks training programme in Rice Production Technology. Entry standard: M.Sc (Agr) in Agronomy, Soil Science, Agricultural Chemistry, Plant Breeding, Plant Pathology, Nematology.
IND 83	DR YASHWANT SINGH PARMAR UNIVERSITY OF HORTICULTURE AND FORESTRY
Enquiries	The Registrar, Dr Yashwant Singh Parmar University of Horticulture and Forestry, Solan, Shimla, Himachal Pradesh 173 230, Telephone No. 62, 57, Telegraphic Address: VANUDYAN.
General details	1) Courses start August 2) Students from abroad are accepted.
Courses	SUNDRY 4-year BSc courses in Horticulture and Forestry. Entry standard: Pass in the pre-university exam. 2-year course leading to MSc (Horticulture/Forestry). Subjects offered: Pomology and Fruit Technology, Vegetable Crops and Floriculture, Microbiology, Plant Pathology, Entomology, Apiculture, Soil Science and Water Management, Forestry. Entry Standard: Appropriate first degree 3-year course leading to Ph.D. Courses offered: Pomology and Fruit Technology, Vegetable Crops and Floriculture, Forestry, Microbiology, Plant Protection, Entomology, Apiculture. Entry standard: Appropriate masters degree. <u>Note:</u> The University has two affiliated colleges: 1. College of Agriculture, Solan and 2. College of Forestry, Solan.
IND 84	INDIRA GANDHI KRISHI VISHWA VIDYALAYA
Enquiries	The Registrar, Indira Gandhi Krishi Vishwa Vidyalaya, Krishak Nagar, Raipur, Madhya Pradesh 492 012, Tel. No. 24615, Telegraphic Address: KRISHI VISWA.
General details	Courses start July.
Courses	SUNDRY 4-year Bachelor Degree courses in Agriculture and Dairy Technology. Entry standard: Pass in higher secondary school examination including Physics, Chemistry, Biology/Mathematics. 2-year courses leading to MSc (Agr). Courses available in: Agronomy, Botany, Agricultural Economics and Farm Management, Entomology, Extension Education, Horticulture, Plant Pathology, Plant Breeding and Genetics, Soil Science and Agricultural Chemistry. <u>Note:</u> The University has three affiliated Colleges 1) College of Agriculture, Raipur. 2) College of Dairy Technology, Raichur and 3) College of Veterinary Science, Anjora.

Jamaica is an Island in the Caribbean Sea, is mountainous in the west and has many bays and harbours. It has a total land area of 10,991 sq kms. It is primarily an agricultural country and its agricultural development policy is directed towards obtaining optimum utilization of total resources - land, people and capital.

Government policy is outlined in its Five Year Agricultural Policy and Production Plan. Major initiatives include: a comprehensive Rural Development Programme which gives special attention to the upgrading of infrastructure and the provision of social amenities; the implementation of a programme to give farmers a more secure tenure of land than previously provided; a major improvement in the distribution and marketing of domestic food crops including the provision of infrastructural inputs; rationalization of the Agricultural Credit System; the introduction of a system of zoning which it is hoped will develop and expand special food production areas; and restoration of the export crops, bananas, coffee, cocoa to increase their contribution to the national economy in terms of foreign exchange earnings, and employment opportunities.

The agricultural economy of the country has long been based on the main export crops of sugar-cane, bananas, pimento, citrus, cocoa and coffee. The Ministry of Agriculture is attempting to rationalize the sugar and banana industries while expanding the other traditional export crops and developing non-traditional areas, such as winter vegetables, fruit and horticulture. Considerable attention is also being paid to the expansion of inland ponds for the rearing of fish and improving the facilities available for off-shore fishermen.

There are several Government programmes aimed at increasing agricultural production. The Agro-21 concept is aimed at developing non-traditional agricultural products primarily for export. Some projects under Agro-21 are also aimed at decreasing Jamaica's dependence on imported products, viz rice, beef and dairy products. The Government has recently announced a food self-sufficiency programme which it is envisaged will reduce the country's dependence on a number of imported items over a period of time.

Farmers' Training Centres across the island demonstrate new developments in crop and livestock husbandry skills, both in theory and practice. Extension service officers assist farmers' families in topics such as nutrition and home-making. Training is also provided by organizations such as 4-H Clubs, while various rural development programmes encourage local participation and self-help in rural areas.

Various levels of formal agricultural education exist in Jamaica. Junior, secondary, technical and private schools provide some agricultural training and there are vocational schools which teach various aspects of crop and livestock production. The Agricultural College of Jamaica (formerly the Jamaica School of Agriculture) provides technical training in agriculture for men and women and produces graduates for appointments in the Government agricultural services and the private sector. Graduate and post-graduate level courses are available at the University of the West Indies on its St Augustine (Trinidad) campus. The Training Division of the Ministry of Agriculture conducts in-service training sessions for

various levels of extension staff to acquaint them with recent innovations in their particular fields. The Division is responsible for co-ordinating all training for Ministry of Agriculture staff at all levels.

JAM 1 JAMAICA COLLEGE OF AGRICULTURE

Enquiries The Principal, Jamaica College of Agriculture, Port Antonio.

Managing agency Ministry of Education.

General details 1) 2 terms between January and November. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
2-year Diploma courses in Agriculture, Agricultural Science.
3-year Associate Degree in Science course in Agriculture.
Entry standard: Jamaica School Certificate, GCE 'O' level with passes in English, mathematics and science, or equivalent.

AGRICULTURAL EDUCATION

A teacher training course (3 years for Diploma and 4 years for Associate Degree in Science) to prepare teachers of agricultural science.

Entry standard: Jamaica School Certificate with passes in English, mathematics and science or GCE 'O' level.

JAM 2 UNIVERSITY OF THE WEST INDIES, MONA CAMPUS

Enquiries The Campus Registrar, University of the West Indies, Mona Campus, Mona, Kingston 7. Tel: (809) 92-7 6661-9. Telex: 2123.

Managing agency University of the West Indies.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **BIOLOGICAL SCIENCES**
3-4 year Bachelor Degree courses in Botany, Zoology, and Marine Biology.
Entry standard: GCE 'O' level with 3 subjects plus 2 subjects at 'A' level.

Higher Degree courses (2 years for MSc and 3 years for PhD) in Botany, and Zoology.

Entry standard: Appropriate first degree for MSc degree course.

Kenya is mainly arid in the south east and in the north (except for Lake Turkana), and the southwest plateau rises to Mount Kenya and is bisected by the Great Rift Valley. It has a total land area of 582,646 sq kms.

Agriculture continues to be the main source of employment in Kenya. Kenya's agriculture is at a crossroads. Until the early 1970s it was extremely successful, with a rapidly growing and increasing monetized smallholder base backed by a well-developed physical infrastructure, a dynamic commercial network and a well-staffed system of government agricultural services. However, the drought-related reduction in food production and the unprecedented large food imports in 1979-81, have caused policy makers to become acutely aware of the incipient imbalance between food supply and demand caused by the pressure of a rapidly increasing population on Kenya's limited area of high-potential arable land.

Agricultural development goals are clearly outlined in Kenya's Fifth Plan (1984-88): achievement of a significant growth of marketed production through intensified land use; improvement of the distribution of rural income by increasing the proportion of farmers producing cash crops; development of less favoured areas; increase in agricultural exports. Success in the development effort depends to a great extent on manpower with the right skills, so very high priority is given to training and extension programmes aimed at helping the farming community to take up better agricultural methods.

The Fifth Plan policies and programmes are geared towards giving special attention to the following areas: small farms focus; more intensive resource use through improved crop and livestock husbandry practices; technology improvement through an increased research and extension effort; market incentives that not only provide fair prices but also ensure prompt payment for deliveries of produce to parastatal bodies; increased emphasis on arid and semi-arid land by providing improved services, including output increasing technology; improvement management and administrative procedures to ensure that resources are used efficiently.

The Government research programme will be the major source of the new technology that is vital for the continued success of the National Extension Programme. Extension research linkages will be strengthened by the establishment of liaison units on all major research stations. Agricultural research policy will focus on development of technologies appropriate to the arid and semi-arid lands and on development of labour-intensive technologies appropriate to smallholder food production. Current farm management research also will be expanded in order to generate recommendations suited to specific socio-economic conditions. This type of research is needed to ensure the continuous adaptation of extension recommendations to changing price ratios, market conditions and input supply situations.

Since Kenya's independence, there has been a big expansion in educational institutions, while curricula have been made more relevant to the country's needs by increasing the emphasis on technical, practical and scientific studies. Schools in areas of large-scale agriculture provide for the teaching of mechanized farming, while in areas of small-scale agriculture the emphasis is on techniques for smallholders.

The National Youth Service and the Youth Development Programme of the Ministry of Co-operatives and Social Services are enlarging agricultural training programmes and providing a much higher standard of rural education. These are supported by agricultural vocational training at grassroots level provided by numerous training centres, while intermediate level agricultural education is offered by several colleges with the University of Nairobi providing agricultural education at degree level.

KEN 1 CO-OPERATIVE COLLEGE OF KENYA

Enquiries The Principal, Co-operative College of Kenya, P O Box 24814, Karen.

Managing agency Ministry of Co-operative Development.

Courses **CO-OPERATIVE STUDIES**
2-year Diploma course in Co-operative Management.
Entry standard: Higher School Certificate or Certificate in Co-operative Administration.

KEN 2 EGERTON UNIVERSITY

Enquiries The Registrar, Egerton University, P O Njoro, Njoro.

Managing agency Ministry of Education.

Courses **SUNDRY**
3-year Diploma courses in Agriculture and Home Economics, Animal Husbandry, Animal Health, Agriculture, Horticulture, Dairy Technology, Food Science and Technology, Farm Management, Food and Agricultural Marketing, Agricultural Education and Extension, Farm Power and Machinery Engineering, Soil and Water Engineering, Range Management and Ranch Management.
Entry standard: Kenya Certificate of Education or equivalent with at least 5 credits including biology and chemistry.

3-year Bachelor Degree courses in some of the above-mentioned disciplines.
Entry standard: Kenya Advanced Certificate of Education or equivalent

KEN 3 INTERNATIONAL LABORATORY FOR RESEARCH ON ANIMAL DISEASES (ILRAD)

Enquiries The Training and Outreach Officer, ILRAD, P O Box 30709, Nairobi.
Tel: 592311. Telex: 22040 ILRAD.

Managing agency The Consultative Group on International Agricultural Research (CGIAR), Secretariat, World Bank, Washington DC.

Courses **SUNDRY**
ILRAD is a research laboratory whose mandate is to develop immunological control methods against animal trypanosomiasis and theileriosis (East Coast Fever). ILRAD's training programme is designed to support the development of scientific and field personnel who can extend research on trypanosomiasis, theileriosis and other pressing veterinary problems and carry out the most

Kenya

effective control programmes possible with the means currently available. Opportunities for individual training at ILRAD exist for senior technicians, scientists, postgraduate students and post-doctoral fellows. These opportunities are provided mainly for people from African countries but are also available to people from other countries affected by trypanosomiasis and theileriosis.

KEN 4 JOMO KENYATTA COLLEGE OF AGRICULTURE AND TECHNOLOGY

Enquiries The Principal, Jomo Kenyatta College of Agriculture and Technology,
P O Box 62000, Nairobi. Tel: (0151) 22646/(22666-9)

Managing agency Kenya Government.

Courses **AGRICULTURAL ENGINEERING**
3-year course leading to Diploma in Agricultural Engineering (including Farm Power and Machinery; and Soil and Water).
Entry standard: Kenya Certificate of Education or equivalent with credit passes in maths, English language and a science subject.

FOOD TECHNOLOGY
3-year course leading to Diploma.
Entry standard: Kenya Certificate of Education or equivalent with credit passes in maths, English language and a science subject.

HORTICULTURE
3-year course leading to Diploma.
Entry standard: Kenya Certificate of Education or equivalent with credit passes in maths, English language and a science subject.

The Diploma courses aim to train middle-level manpower for the Kenyan economy in the public and private sectors.

KEN 5 KENYA FORESTRY COLLEGE, LONDIANI

Enquiries The Principal, Kenya Forestry College, P O Box 8, Londiani.
Tel: Londiani 29.

Managing agency Ministry of Natural Resources.

Courses **FORESTRY**
1-year Diploma course.
- in-service for forest department workers.
Entry standard: Forest Assistant Certificate holders with at least 3 years' field experience.

KEN 6 KENYA POLYTECHNIC

Enquiries The Principal, Kenya Polytechnic, P O Box 52428, Nairobi. Tel: 338231.

Managing agency Ministry of Education, Science and Technology.

General details 1) 3 terms: May/Aug, Sep/Dec, Jan/Apr.
2) Residential accommodation is available.

Courses **AGRICULTURAL ENGINEERING**
 4-year Higher Diploma course.
 Entry standard: Minimum credit passes plus relevant experience.

KEN 7 KENYATTA UNIVERSITY

Enquiries The Registrar, Kenyatta University, P O Box 43844, Nairobi.
 Tel: 810901/2/3/4/5/12. Telex: 25483-KEN-UN-KEN.

Managing agency Autonomous.

General details 1) 2 Semesters: Sept.-Dec., Jan-May.
 2) Residential accommodation is available.
 3) A limited number of students from abroad are accepted.

Courses **BIOLOGICAL SCIENCES**
 3-year courses leading to Bachelor of Education in:
Botany
 Option subjects include Mycology, Evolution, Plant pathology,
 Phytochemistry, Ecophysiology, Genetics, Ecology, Applied
 microbiology.
Zoology
 Optional subjects include General genetics, Physiology and
 histology, Immunology, Arthropod biology, Aquatic ecology,
 Entomology, Parasitology.
 Entry standard: 5 'O' levels and 2 'A' levels.

KEN 8 UNIVERSITY OF NAIROBI

Enquiries The Registrar, University of Nairobi, P O Box 30197, Nairobi.
 Tel: 334244. Cable: 'Varsity' Nairobi.

Managing agency Autonomous.

General details 1) 4 terms: Nov/Feb, Mar/Jun, Jul/Sep, Sep/Nov. 2) Residential
 accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
 3-year course leading to BSc.
 Subjects studied include: Agricultural economics, Crop
 Science, Soil science, Nutrition and feeding, Agricultural
 engineering, Animal production.
 Entry standard: Principal level passes or equivalent in biology and
 chemistry.

LAND AND WATER MANAGMENT
 2-year course leading to MSc.
 Entry standard: BSc in Agriculture.

AGRICULTURAL ENGINEERING
 3-year course leading to BSc.
 Optional subjects include Farm power and machinery and design,
 Watershed management, Crop processing, Rural water resource
 development, Agricultural mechanisation, Irrigation and
 Drainage Engineering, Refrigeration and engineering.
 Entry standard: Principal level passes in maths and physics.

2-year course leading to MSc in Agricultural Engineering (Soil and
 Water)
 Entry standard: BSc in Agricultural Engineering.

VETERINARY MEDICINE

4-year course leading to Bachelor of Veterinary Medicine.

Studies include: Pathology, Animal Production, Veterinary Jurisprudence, Public Health, Surgery, Reproduction and Obstetrics.

Entry standard: Principal level passes in chemistry and either biology or zoology.

Postgraduate courses are also available in Veterinary Medicine leading to MSc and PhD.

Kiribati

Kitibati comprises 33 islands, mostly coral atolls formed on a submerged volcanic chain. The total land area is 886 sq kms.

Agriculture is of major importance to the country as the basis of subsistence production, together with fisheries. It also, through copra, provides the main source of cash income in rural areas. The environment of Kiribati has led to the evolution of specialized forms of agriculture. Development tends to be difficult and relatively expensive.

The environmental constraints include, most importantly, the limitations of land area suitable for agriculture and a delicately poised ecological balance. Subsistence agriculture is based on coconut, bread fruit, pandanus and babai. Experience has shown that extension work cannot be wholly successful without a full understanding of the social as well as agricultural constraints on development.

Pigs and poultry are the two main types of livestock retained by local families. The livestock development programme is aimed at increasing output from subsistence stock by cross-breeding from quality stock bred by the Agricultural Divisions, and at cash earnings from livestock, to increase rural cash income and contribute to import replacement.

Agricultural development is most closely involved with the everyday lives of rural people and it is consequently a sector which can have important impact on local culture. The ideal, in order to sustain local culture, is to evolve a process of change that is closely connected with island cultures, and a specific aim is to maintain and expand the training programme for outer island staff.

Initial training courses in agricultural work were commenced in 1969. Regular in-service training of extension staff is being undertaken. These courses are being held at District centres. The Agricultural Division will continue to use the facilities of overseas educational institutions and others which provide agricultural training courses.

Lesotho

Lesotho is a mountainous and landlocked country with a total land area of 30,355 sq kms, only 11% of land suitable for arable cultivation.

However, almost 88% of the population of Lesotho (1.4 million), live in the rural areas, and about 85% of this rural population have access to agricultural resources, either land or livestock. This underlines the importance of agriculture in Lesotho. Efforts are being made through development projects to improve the degree of self-sufficiency in staple food crops, together with an improvement in nutritional levels throughout the country, and also to improve the productivity of the livestock sector. The main agricultural export commodities from Lesotho are wool and mohair.

The training of both farmers and Government staff for agriculture development is given a high priority in Lesotho. There are six Farmer Training Centres which run short courses for farmers (both male and female), on all aspects of agricultural production and marketing including the organization of co-operatives. The Farmer Training Centres are also utilized for the in-service training of Government staff. Courses on Home Economics for women are given both at Farmer Training Centres and at the widely distributed Nutrition Centres.

The Lesotho Agricultural College provides training at diploma level in General Agriculture and Forestry and at certificate level in General Agriculture, Agricultural Engineering and Rural Domestic Economy. Some of the successful graduates from the Lesotho Agricultural College are appointed to posts in the Ministry of Agriculture and Marketing as extension staff, servicing staff or research staff, whilst others join the private sector. There is as yet no Faculty of Agriculture at the National University of Lesotho, and students wishing to study agricultural subjects at degree level have at present to enrol for training at universities outside Lesotho.

LES 1

LESOTHO AGRICULTURAL COLLEGE

Enquiries

The Principal, Lesotho Agricultural College, Private Bag A4, Maseru. Tel: 322484.

Managing agency Ministry of Agriculture.

Courses

AGRICULTURE

3-year course leading to Diploma (DIA)

Subjects offered include: Animal health, Animal nutrition, Soil science, Horticultural crops, Agro-forestry, Irrigation engineering, Dairy husbandry, Agricultural marketing.

FORESTRY

3-year course leading to Diploma (DIF)

Subjects offered include: Dendrology, Silviculture, Forest mensuration, Forest ecology, Wood utilisation, Forest protection, Forest resources management.

HOME ECONOMICS

3-year course leading to Diploma (DHE)

Subjects offered include: Nutrition, Food science/preparation, Management skills, Clothing and textile, Home industry, Farm accounts and diary.

Entry standard: For all Diploma courses - minimum 3rd class pass in Secondary School examination with credits in English, maths and science.

Malawi is a landlocked state in East Africa and has four major topographical features: Lake Malawi, the Great Rift Valley, high table land between Lake Malawi and Luangora river and Shire High land plateau. It has a total land area of 118,484 sq kms.

Malawi is primarily an agricultural country, relying predominantly on the export of agricultural produce to earn its foreign currency needs. With approximately 90% of the population being rural and the majority dependent on agriculture for its livelihood, the Government of Malawi attaches great importance to the development of agriculture. Through the Ministry of Agriculture, the Government seeks to encourage increased agricultural production from the two sub-sectors (viz smallholders and estates) through a policy of self-sufficiency in food, improved nutritional standards, increasing exportable surpluses and the encouragement of a sound diversification policy. At the same time, emphasis is placed on sustaining and improving soil fertility for the future generations of Malawi.

Whereas the estate sector provides the bulk of the agricultural exports, the smallholder sector accounts for approximately 80% of the total agricultural production of Malawi, ie sufficient to meet the basic food requirements of the population, as well as to generate a significant contribution to export earnings. In recent years the surplus maize production, from the smallholder sector, has enabled the country to export significant quantities to other parts of Africa.

While technical support to the estate sector is in the process of being expanded, the bulk of the resources of the Ministry of Agriculture is devoted to assisting the smallholder farmer through the national rural development programme (NRDP) which was introduced in 1978. The NRDP now forms the basis of all smallholder agricultural development in the country. Under this umbrella the country has been divided into 180 extension planning areas (EPA) which are, as far as possible, homogeneous areas in terms of soils, climate, crop potential, etc. These have been grouped together to form 30 discrete rural development projects (RDP) which, in turn, have been grouped into agricultural development divisions (ADD) for administration and technical support purposes. Malawi has recently adopted a modified extension approach to impart the message of improved farming practices. Each EPA is divided into a number of sections consisting of between 500 and 750 farming families. Each section is the responsibility of an extension field assistant who divides the area into blocks, with each block being visited once a fortnight on a fixed day of the week. Within the block, the farmers form a group, or farmers' club, and establish a block garden and block house where the extension meetings are held and the farming practices demonstrated.

Training is seen as an integral part of the agricultural development of the country, whether for the benefit of the farmer, staff or the general public. The farmer receives most of his training by demonstration at the block garden. He also has the opportunity to attend intensive day courses which are given at the day training centres at the EPA headquarters. Farmers requiring specialist training may attend one of the residential training centres in an ADD (usually one per project area, though some projects share residential training centres) for short courses of up to one week duration. Farmer training courses for periods of up

to three weeks are provided at the farm institutes. The day and residential training centres and the farm institutes are also used for short, specialist courses for the training of staff members.

There are several specialized colleges, institutes and centres that provide training in agriculture and related subjects, such as forestry, fishing, land husbandry, etc. This training usually leads to a certificate, diploma or degree qualification, depending on the educational level of the students. The Natural Resources College, in the central region of Malawi, opened to students in November 1983 and provides multi-disciplinary training for junior (technical assistant) level staff to be employed by (a) The Ministry of Agriculture (Extension, Land Husbandry, Veterinary, Women's Programmes); (b) The Ministry of Forestry and Natural Resources (Fisheries Assistants, Game Rangers); (c) The Department of Surveys (for upgrading junior serving staff); (d) The Ministry of Works (Hydrologists).

Bunda College offers training to degree and diploma levels. Graduates from this college generally take up employment within the Ministry of Agriculture or within the estate sector. Commercially oriented agricultural enterprises also provide employment opportunities to agricultural graduates. There is a small, but increasing, minority of graduates from Bunda College who use their knowledge and skills to farm independently and on a commercial basis.

MAW 1 BUNDA COLLEGE OF AGRICULTURE

- Enquiries The Principal, Bunda College of Agriculture, University of Malawi, P O Box 219, Lilongwe. Tel: Lilongwe 721 455. Telegrams: "Bundagric". Lilongwe.
- Managing agency University of Malawi.
- General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jul. 2) Residential accommodation is available. 3) Students from abroad are accepted.
- Courses **AGRICULTURE**
5-year course leading to BSc in Agriculture (with Diploma after 3 years)
Students can specialise in Agricultural Engineering, Crop Production, Livestock Production, Rural Development, Home Economics and Human Nutrition.
Entry standard: Ordinary Level of the Malawi School Certificate of Education or equivalent, subjects to include English and maths.

MAW 2 LAND HUSBANDRY TRAINING CENTRE

- Enquiries The Principal, Land Husbandry Training Centre, Ministry of Agriculture, P O Box 233, Zomba. Tel: Zomba 522201. Telex: 4441 BUREAU MI
- Managing agency Ministry of Agriculture.
- Courses **LAND HUSBANDRY**
12-week course in Land Use Planning and Management for newly recruited graduates training as Land Husbandry Officers.

The course is designed to give students a basic background in Land Husbandry with specific training in natural resource surveys, land use capability classification, land suitability evaluation, land use planning and soil & water conservation.
Entry standard: A degree in Agriculture, Geography or Earth Sciences, or a Diploma in a relevant field plus at least 5 years' experience.

4-week course in Land Use Planning, Management and Soil and Water Conservation for Land Husbandry Field Officers.
Entry standard: Diploma in Agriculture or equivalent.

3-week course in Land Husbandry for junior agricultural staff.
Entry standard: Certificate in Agriculture or School Certificate with at least 3 years' field experience in land husbandry work or agriculture.

MAW 3

MALAWI COLLEGE OF FORESTRY

Enquiries The Principal, Malawi College of Forestry, Private Bag 6, Dedza.
Tel: Dedza 220275. Cable: SCHOFORST.

Managing agency Ministry of Forestry and Natural Resources.

Courses **FORESTRY**
18-month Diploma course.
Entry standard: Certificate in General Forestry or equivalent.

Malaysia incorporates Peninsular Malaysia, Sabah and Sarawak on large island of Borneo and has a total land area of 329,749 sq kms.

Agriculture plays a dominant role in the economic and social development of Malaysia, with about half the working population actively employed in agriculture, fisheries or forestry and around three-quarters of the population rural based. However, nearly half of the rural households are classified as "poor" and one of the main aims of the Ministries concerned with agriculture and rural development is to raise living standards in rural areas, while developing and exploiting the agricultural resources, increasing and improving production, assisting the growth of agro-based industries and increasing employment opportunities.

The three main rural products are rubber, timber and palm oil, together accounting for 35% of exports in 1983. Because of lessening demand for rubber, Malaysia has been making serious attempts to diversify, and in particular to increase production of palm oil and exploit abundant timber resources. Other significant crops are rice, coconuts (copra), pineapples (mainly for canning), tea, nutmeg and pepper. Livestock production is increasing slowly, particularly pigs and poultry, though beef and dairy products have to be imported to supplement local production. Marine fish production is also increasing and there are long-term plans for the development and modernization of the fishing industry.

Because of the importance of skilled manpower, education and training figure prominently in development plans. Lower secondary schools have introduced agricultural science, industrial arts, commercial studies and home economics as elective subjects. Secondary Vocational Schools provide trade courses together with commerce, agriculture and home science, and there are various courses available in Secondary Technical Schools. The National Youth Programme, Youth Service Corps and Youth Settlement Training Schemes contribute significantly to the training of young people for rural life.

Staff for Government departments are trained at four Fisheries Training Centres, at the Institutes of Technology, at the new Veterinary Institute in Kluang, at the Forestry School (which has increased its intake of students), at the new Forestry College, and the Universities.

Extension and training programmes for farmers are provided by the Agriculture, Fisheries and Veterinary Departments of the Ministry of Agriculture. In addition to the above departments, statutory bodies like the Malaysian Agricultural Research Development Institute (MARDI), the Fisheries Development Authority (LKIM), the Federal Agricultural Marketing Authority (FAMA) and the Agricultural Bank of Malaysia also give training to farmers and fishermen in order to encourage their agricultural activities.

Malaysia

It is the policy of the Government to encourage the development and expansion of the Co-operative Movement as a vehicle for improving the standard of rural life, and in 1973 the Farmers' Organization Authority took over the responsibility of supervising all the agro-based co-operative societies.

MAY 1 NATIONAL UNIVERSITY OF MALAYSIA

Enquiries The Registrar, National University of Malaysia, Bangi, Selangor.
Tel: Kuala Lumpur 03-331500. Cable: Unikeb.

Managing agency Ministry of Education.

General details 1) 2 terms: Jun/Oct, Nov/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
3-4 year Bachelor Degree courses in Agricultural Economics, Food Science and Biological Sciences.
Entry standard: Malaysia Certificate of Education or equivalent.

MAY 2 UNIVERSITI PERTANIAN MALAYSIA

Enquiries The Registrar, Universiti Pertanian Malaysia, Serdang, Selangor.
Tel: 03-356101-(10 lines), 03-355425-(4 lines), 03-356304.
Telex: UNIPER MA37454.

Managing agency Ministry of Education.

General details 1) 2 terms: Jun/Oct, Nov/Apr. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
3-year Diploma and 4-year Bachelor Degree courses in Agricultural Engineering, Agriculture, Agricultural Science, Food Science and Technology, Fisheries and Marine Science, Forestry, Agribusiness;

3.5-year Diploma and 5-year Doctor of Veterinary Medicine courses in Veterinary Medicine and Animal Science.
Entry standard: Pass in Malaysia's Certificate of Education with biology and chemistry or equivalent.

Postgraduate programmes leading to Master's degree are available in the following subjects: Agricultural Process Engineering, Food Engineering, Forest Engineering, Machinery Engineering, Soil and Water Engineering, Environmental Engineering, Structural Engineering, Aquacultural Engineering, Energy System, Forest Resources Management, Forest Operations/Engineering, Forest Products, Agribusiness, Fisheries and Aquaculture Economics, and Agricultural Journalism.
Entry standard: Appropriate first degree.

MAY 3 UNIVERSITY OF MALAYA

Enquiries The Registrar, University of Malaya, Pantai Valley, Kuala Lumpur.
Tel: 7560022 Telex: UNIMAL MA 39845. Cable: UNIVSEL.

Managing agency Ministry of Education.

General details 1) 3 terms: Jun/Aug, Sep/Nov, Dec/Feb. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **RURAL DEVELOPMENT**
3-year course leading to Bachelor of Economics with major in Rural Development.
Entry standard: Malaysian Higher School Certificate or equivalent.

SUNDRY
4-year course leading to BSc with majors in Botany, Ecology, Genetics and Zoology.
Entry standard: Malaysian Higher School Certificate or equivalent.

Note: Both courses are taught in the national language (Bahasa Malaysia) and are not available in English.

Maldives

The Republic of Maldives is an archipelago of nearly 1400 small coral islands in the Indian Ocean. The islands are grouped together in clusters or "Atolls", nineteen in number. The total land area is 298 sq kms.

Fishing is the main occupation in the islands and remains the mainstay of the country's economy. All the able-bodied men are engaged in fishing which provides food and money to meet other needs.

Horticulture is largely at home-garden level with the exception of a few islands in Southern and Northern Atolls where people farm as a means of livelihood. Crop production in Maldives has great potential; at present it is only complementary to fishing. For balanced diet and more equitable growth of economy, there is a great need to improve efforts and harness resources in order to increase agricultural production. It has been estimated that the total cultivation area available for farming is about 6900 acres spread throughout the islands, thus placing a serious constraint on the development of any large scale enterprise to augment production of horticultural commodities.

Coconut is the major commercial crop of the country, every house having an average of three to four coconut palms. Breadfruit is also well adapted to island conditions and most homes have breadfruit trees which provide fruit and shade. In Male the mango tree is found in almost all compounds.

Among the vegetables, brinjals, chillies, pumpkin and watermelon are important and being grown as cash crops. Maize and millet are important grain crops. Production of maize has decreased recently, also onions, since cheaper, imported varieties have become available. Sweet potatoes, yams and cassava are important root and tuber crops in Southern Atolls.

Training is given once a year to field officers and rural development workers at the agricultural station in Feridu island. Training is based on small-scale agriculture.

Malta

Malta is an archipelago in the Mediterranean and consists of three islands of Malta, Gozo and Comino. The total land area is 316 sq kms.

Malta's rural development policies are intimately linked with the preservation of green areas and the raising of the socio-economic level of the farming community. These are achieved by a) restriction of building in 'green' areas; b) soil conservation legislation; c) improvement schemes for farmhouses, including installation of amenities; d) financial assistance for the purchase of agricultural equipment; e) an extension service to enable farmers to become acquainted with modern techniques in production and pest and disease control; and f) providing marketing facilities, including exports.

The area of agricultural land in Malta and Gozo is 11,986 hectares made up of 9,878 hectares dry land, 664 hectares irrigated land and 1,444 hectares wasteland. The total agricultural land represents about 38% of the total area of Malta and Gozo.

In 1978 the Government extended the island's territorial waters from 6 to 12 nautical miles, increasing the Maltese fishing rights boundary from 20 to 25 nautical miles.

Farming topics as such are not taught as part of the general curricula in primary and secondary schools, though some students at technical schools take GCE 'O' level in horticulture. However, the Department of Education operates an Agricultural School and a College of Agriculture in co-ordination with the Department of Agriculture and Fisheries.

In Malta it is not economically feasible to provide facilities for agricultural education at tertiary level in conformity with international standards, and all specialist and general staff are trained overseas. The presence of a nucleus of trained professional staff, however, makes possible a limited amount of post-graduate supervision in appropriate subjects.

Mauritius is encircled by coral reef with extensive Plains rising gently towards the central plateau. The total land area is 1,865 sq kms.

The economy of Mauritius has changed significantly during the last 5 years due to the rapid development of the manufacturing sector. The agricultural sector is still however characterised by a heavy dependence on the production of sugar from cane, which accounts for about 90% of the cultivated land area. This monoculture dependence is accompanied by a reliance upon imports for the supply of most of its staple foods.

In recent years efforts in agricultural diversification have resulted in increased food production mainly fish and potato. Prospects are promising for attaining self-sufficiency in a range of other food crops. Mauritius is now an exporter of fish and fish products. Government has set up the following targets over the period 1987-1992 :

- To increase the production of potatoes, maize, onions, garlic, beans, peas, groundnuts, tomatoes and tobacco. Research will be intensified on mushroom, rice, tropical wheat, cassava, cotton, seed production and fruits.
- New irrigation projects will be implemented.
- Meat and milk production will be intensified.
- To review the set up of agricultural research and make them more efficient.

Considerable investment and effort are being diverted to irrigation - a vital input to achieve optimum production per unit area of land. Priority will first be given to improving the existing canal systems and irrigation projects with a view to making them more efficient. Secondly incentives will be given to estates and planters to enable them to bring back into operation irrigation facilities which are currently unutilized, mainly because of high energy costs. Thirdly small-scale irrigation projects for foodcrop production will be implemented.

The Ministry of Agriculture, through its Extension Division, maintains a direct link with farmers to sustain efforts with a view to improving national agricultural productivity and to achieve national targets. The Ministry of Economic Planning and Development has begun a Rural Development Programme which has the objective of bettering the quality of life in the villages.

Formal training in agriculture is given by the University of Mauritius which absorbed the long-established College of Agriculture in 1968. The University courses are development-oriented, the main purpose being to promote research and training in agriculture, sugar technology, public administration, etc. Hence the University organises many short in-service courses to meet immediate needs of Government and other employers. As yet there is little agricultural education in the lower stages but, in an effort to arouse interest in agriculture, elements of the subjects are gradually being introduced in primary and secondary school curricula.

MAU 1

UNIVERSITY OF MAURITIUS

- Enquiries** The Registrar, University of Mauritius, Reduit. Tel: 54-1041. Telex: 4621 UNIMIW.
- Managing agency** Largely autonomous.
- General details** 1) 3 terms: Sep/Dec, Jan/Apr, Apr/Jul. 2) No residential accommodation. 3) Students from abroad are accepted.
- Courses**
- SUNDRY**
 3-year course leading to Diploma in Agriculture and Sugar Technology.
 Syllabus includes: Agricultural botany and chemistry, Agricultural management, Agricultural zoology, Crop production, Animal production, Agricultural engineering, Sugar processing.
 Entry standard: 5 'O' levels to include English, chemistry, maths and one other science subject.
- 3-year course leading to Diploma in Agriculture, Fisheries and Natural Resources.
 Syllabus includes a study of natural resources and their exploitation with particular reference to agriculture. The fisheries component covers basic oceanography, the marine ecosystem and the biological characteristics of the marine environment.
 Entry standard: 5 'O' levels to include English, chemistry, maths and one other science subject.
- AGRICULTURE**
 3-year course leading to BSc (Hons).
 Syllabus includes: Agricultural botany and zoology, Animal production, Crop production, Agricultural management, Agricultural engineering, Agricultural chemistry.
 Entry standard: GCE 'A' levels in chemistry and another science subject.
- CROP SCIENCE AND PRODUCTION**
 4-year part-time course leading to BSc (Hons).
 Syllabus includes: Agricultural botany, Agricultural chemistry, Agricultural engineering, Agricultural management and statistics, Agricultural zoology, Crop production.
 Entry standard: 'A' level in chemistry and one other science subject.
- SUGAR TECHNOLOGY**
 3-year course leading to BSc (Hons).
 Throughout the course emphasis is laid on the production, harvesting and utilisation of sugar cane, with some reference to sugar beet.
 Entry standard: 'A' level in chemistry and one other science subject.

Courses are also available leading to M. Phil (2 years) and PhD (3 years) by research in Agricultural Botany, Agricultural Chemistry, Agricultural Management, Agricultural Zoology, Animal Production, Crop Production.

Nauru

Nauru is a small island, coral atoll in the West-Central Pacific, North-East of Australia. The total land area is 21 sq kms.

Nauru has some of the highest quality phosphate deposits in the world and its economy is largely based upon the mining of that phosphate. It has limited agriculture and agricultural training facilities and for its food requirements it depends largely upon imported foodstuffs.

Education in Nauru is free, universal and compulsory for children between the ages of six and sixteen. Trade and teacher training is offered on the island. Nauru is within the region of the University of the South Pacific located in Fiji, and students from Nauru go to that University for higher education.

New Zealand

New Zealand's total land area is 268,676 sq kms. It's agricultural industry is traditionally based on low cost pastoral farming; sheep, beef and dairy. Diversification is now occurring into goats, deer and horticulture, especially pip and stone fruit.

In response to the changing economic situation New Zealand's agricultural industries are having to change and improve efficiency fast. Agricultural training and education is part of that movement.

Until 1986 agricultural training was coordinated by the Agricultural Training Council. Training itself is provided by a variety of tertiary institutions, including universities and polytechnics, private and government training farms and cadet schemes.

Government policy is to separate social services from potentially commercial ones and to charge for commercial services to cover their costs. This has affected the agricultural industry profoundly.

Two groups of consumers of agricultural training have been identified:

- young people wanting basic vocational training; and
- industry leaders wanting the latest in technological development.

Increasingly, vocational training is now being coordinated under the Department of Education. Emphasis is on low cost delivery as most students are young people entering the industry with limited financial support.

Training in this area places emphasis on farm experience, for example cadet schemes, supported by short formal learning courses eg. 20-week courses at institutions, one day special skills sessions and correspondence courses. Four schemes are in operation covering the pastoral, horticultural, equine and pig industries.

Education in technological developments is aimed at decision makers in the industry, both in New Zealand and overseas. Those people include farmers, executives in supporting industries and corporations investing in agriculture. Coverage includes practical agriculture and management skills.

This education is seen as the transfer of technology development by research institutions and is priced as a commercial service. The major supplier is the Ministry of Agriculture and Fisheries. Their delivery systems include visiting consultants, seminars, field days and courses. Customised programmes can be designed to meet the specific needs of both New Zealand and overseas clients, drawing on the full range of technology practised in MAF.

NEZ 1

LINCOLN COLLEGE

Enquiries

The Registrar, Lincoln College, University College of Agriculture, Canterbury. Tel: 03-252811.

Managing agency

Lincoln College Council.

General details 1) 2 terms: Feb/Jul, Jul/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

AGRICULTURAL ENGINEERING

4-year course leading to Bachelor of Engineering (Agriculture).
In the final year students can specialise in Land and Water Engineering or Agricultural Mechanisation and Services.
Entry standard: Usual university entrance or equivalent.

1-year postgraduate course leading to Diploma in Agricultural Engineering.
Entry standard: Appropriate first degree.

1-2 year course leading to Master of Engineering (Agriculture).
Entry standard: Appropriate first degree.

AGRICULTURAL SCIENCE

3-year course leading to Bachelor of Agriculture and 4-year course leading to Bachelor of Agricultural Science.

Subjects studied include Plant and animal production, Farm management and a choice between Biological experimentation B and Managerial economics. In the fourth year (Bachelor of Agricultural Science) students will select four specialist subjects to study.

Entry standard: University entrance or equivalent.

1-year postgraduate course leading to Diploma in Agricultural Science.
Entry standard: Appropriate first degree.

1-2 year course leading to Master of Agricultural Science.
Entry standard: Appropriate first degree.

SUNDRY

3-year course leading to Bachelor of Commerce with options in Farm Management and Horticultural Management.

Entry standard: University entrance or equivalent.

HORTICULTURE

3-year course leading to Bachelor of Horticulture and,
4-year course leading to Bachelor of Horticulture Science.

Subjects studied include: Biochemistry, Plant protection, Amenity horticulture, Horticultural management, Soil science. In the fourth year (Bachelor of Horticultural Science) students select four subjects.

Entry standard: University entrance or equivalent.

1-year postgraduate course leading to Diploma in Horticulture Science.

The course is designed to give students already qualified in other fields an introduction to the science of horticulture.

Entry standard: Appropriate first degree.

2-year course leading to Master of Horticulture Science.
Entry standard: Appropriate first degree.

RESOURCE MANAGEMENT

1-year postgraduate course leading to Diploma in Natural Resources.

2-year course leading to MSc in Resource Management.

Entry standard: Appropriate first degree.

WOOL TECHNOLOGY

9-month course leading to Diploma.

Subjects studied include: Wool marketing technology, Wool scouring technology, Wool processing technology, Wool production for manufacture, International trade and marketing, Production and operations management, Applied economics, Introductory engineering, Computing for wool technology.

Entry standard: Pass in 4 School Certificate subjects including English and at least one science subject or maths.

NEZ 2

MASSEY UNIVERSITY

Enquiries

The Dean, Faculty of Agricultural and Horticultural Sciences, Massey University, Palmerston North. Tel: 69-079, 69-089, 69-099.

Managing agency Massey University Council.

General details 1) 3 terms: Feb/May, May/Aug, Aug/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

1-year Diploma courses in Agriculture and Horticulture.

Entry standard: Higher School Certificate or satisfactory general education.

3-4 year Bachelor Degree courses in Agriculture, Horticulture, Agricultural Economics, Agricultural Science and Horticultural Science.

Entry standard: University entrance.

1-year Postgraduate Diploma courses in Agricultural Science, Horticultural Science, Environmental Agricultural Science and Agricultural Economics.

Entry standard: Appropriate Bachelor degree.

Higher Degree courses (2 years for Master's and 4 years for PhD) in Agricultural Science and Horticultural Science.

Entry standard: Appropriate Honours degree/Master's degree.

NEZ 3

UNIVERSITY OF CANTERBURY

Enquiries

The Registrar, University of Canterbury, Christchurch 1. Tel: Christchurch 667001. Cable: University, Canterbury, Telex: UNICANT NZ 4144, Fax: (03) 430 326

Managing agency Largely autonomous.

General details 1) 3 terms: Feb/May, May/Aug, Sep/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

SUNDRY

3-4 year Bachelor Degree courses in Agricultural Engineering, Forestry, and Soil Science.

Entry standard: University matriculation.

Higher Degree courses (1-2 years for MSc, and 2-3 years for PhD), in Forestry, and Microbiology.

Entry standard: Appropriate first degree for Master's degree course.

NEZ 4 UNIVERSITY OF WAIKATO

Enquiries The Registrar, University of Waikato, Private Bag, Hamilton. Tel: 62-889.

Managing agency The University Council.

General details 1) 3 terms: Mar/May, May/Aug, Sep/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **BIOLOGICAL SCIENCES/EARTH SCIENCES**
3-year course leading to BSc, majoring in Biological Sciences or Earth Sciences with supporting programme in Resources and Environmental Planning.

Biological Sciences

Subjects offered include: Plant and animal physiology, Microbiology, Biochemistry, Biotechnology, Genetics, Ecology and Freshwater ecology.

Earth Sciences

Subjects offered include: Volcanology, Sedimentary basins and environmentals, Soil physics and chemistry, Pedology, Hydrology, Coastal processes, Engineering geology, Geochemistry.

Entry standard: University entrance or equivalent.

Nigeria

Nigeria is mainly flattish terrain and consists of mangrove swamps on the coast, tropical rain forest and oil palm bush, open woodland and savannah in the centre and near-desert in the North. It has a total land area of 923,768 sq kms.

In Nigeria, as in so many countries, a major problem is how to decrease the disparity in living standards between urban and rural areas. The 70% of population who live in rural areas, many of them peasant farmers operating a large number of small-holdings with a national average of less than 1.2 hectares, have benefited little from the country's recent fast economic growth. The level of food production is barely keeping pace with population growth, mainly due to low yields, decreasing soil fertility with the limited use of fertilizer, unimproved crop varieties and breeds of livestock, lack of credit, continued use of very simple manually-operated tools and inadequate extension services.

Yet agriculture and its related activities will continue to be the mainstay of the economy in the foreseeable future because that sector will continue to furnish most employment opportunities and will have to provide most of the country's raw materials both for local industry and for export. Nigeria's future development will to a large extent continue to be dependent on increased production and improvement of its main crops - cocoa, rubber, oil palm, cotton and groundnuts - even though their foreign exchange earning role will decrease with their increased use in satisfying domestic demand.

Rural development policy therefore places continuing emphasis on ensuring adequate food supplies to keep pace with increasing population, on provision of rural infrastructure like farm service, rural roads, etc, on expanding production of export crops, on significantly increasing the production of agricultural raw materials to support domestic manufacturing industries, on creating rural employment opportunities and minimizing the tendency for inadequate and inefficient use of human resources in rural areas, and on evolving appropriate institutional and administrative apparatus to facilitate a smooth, integrated development of the agricultural potential of the country as a whole.

The Federal Government has also introduced policies to encourage private sector investment in Agriculture. Sectoral allocation of credit to agriculture by commercial banks has been raised; moratoria for loans have been revised. There is duty free importation of farm machinery and raw materials for the manufacture of livestock feeds and subsidised sale of farm inputs. There is also a comprehensive Agricultural Insurance Scheme.

At present less than half the potential agricultural land is utilized and that which is under cultivation produces less than it should for lack of skilled labour and the right equipment and techniques. The country's livestock, the bulk of which is on the savanna lands, could be considerably increased with proper management and improvement. Forest products too are under-utilized. But the required transformation of peasant production to modernized methods calls for new training and expertise, and here lie the main constraints. The agricultural extension services have been hampered by lack of sound composite training and by the limited number of extension workers, and consequently the results of agricultural research have not made

much impact on farming practices. Farmers have generally persisted in traditional methods of production. It is envisaged that with the recently announced policy of Government to involve the River Basin and Rural Development Authorities in extension, this trend will change. In fact, more and more farmers are becoming increasingly aware of the advantages of new technologies in agricultural practices. The provision of adequate numbers of appropriately trained, skilled personnel to implement projects and policies is an essential part of all rural development programmes.

Nigerian universities offer a wide range of courses related to agriculture and rural development aimed at producing high level staff for Government service and industry, and they are supported by the Schools of Agriculture and the Colleges of Technology, with a variety of lower level courses.

NIG 1 ABUBAKAR TAFAWA BALEWA UNIVERSITY

Enquiries The Registrar, Abubakar Tafawa Balewa University, PMB 0248, Bauchi, Bauchi State. Tel: 42095, 43500, 43501, 43502.

Managing agency Autonomous.

Courses **AGRICULTURE**
4-year BSc(Agr) course.
Entry standard: GCE 'A' levels or Higher School Certificate with passes in at least 2 subjects, one in biological sciences.(6 years duration for student with GCE 'O' levels or West Africa School Certificate).

NIG 2 AFRICAN REGIONAL AQUACULTURE CENTRE

Enquiries The Chief Technical Adviser, African Regional Aquaculture Centre, PMB 6165, Aluu, Port Harcourt, Rivers State.

Managing agency Autonomous.

Courses **AQUACULTURE**
1-year Post-graduate Diploma course.
Entry standard: BSc degree in Fisheries/Biology or allied subjects.

NIG 3 THE AGRICULTURAL AND RURAL MANAGEMENT TRAINING INSTITUTE (ARMTI)

Enquiries The Director, Agricultural and Rural Management Training Institute, PMB 1343, KM 18, Ilorin-Lokoja Highway, Ilorin, Kwara State, Tel: 031-221183, Telex: 33215 ARMTI NG

Managing Agency Federal Ministry of Agriculture

Courses **AGRICULTURE**
9-month course leading to Diploma in Agriculture Management.
Course covers: Principles of management, Organisational theory and policy, Human resources management, Survey design and quantitative methods, Principles of general agriculture, Principles of agricultural machinery and farm structures.
Entry standard: Appropriate degree or Higher National Diploma and 2 years work experience.

Note: The Institute organises short courses for middle and senior management and international 'Out-reach' training programmes. It also engages in research and consultancy services aimed at organisational problems which are not necessarily solved through training.

NIG 4

AHMADU BELLO UNIVERSITY

Enquiries

- (A) The Principal, College of Agriculture, Ahmadu Bello University, Bakura, PMB 2285, Sokoto State.
- (B) The Principal, College of Agriculture, Ahmadu Bello University, Kabba, Kwara State. Cable: Agriscol Kabba.
- (C) The Principal, College of Agriculture, Ahmadu Bello University, Kaduna, Kaduna State.
- (D) The Registrar, College of Agriculture, Ahmadu Bello University, Samaru, PMB 1058, Zaria. Tel: 51113/50571. Cable: Agricol, Zaria.

Managing agency Ahmadu Bello University.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jul for (D); Apr/Jun, Jul/Sep, Oct/Dec for (A), (B) and (C). 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

(A) IRRIGATION AGRONOMY

2-year course leading to Ordinary Diploma

2-year course leading to Higher Diploma

The aim of the courses is to train intermediate level manpower in extension irrigation agronomy

Entry standard:

Ordinary Diploma - West African School Certificate with passes in English language biology, chemistry, maths and one other science subject.

Higher Diploma - A good Ordinary Diploma and at least 1 year's practical experience.

(B) & (C) SUNDRY

2-year Ordinary Diploma courses in General Agriculture, Home Economics, Agricultural Mechanization, Horticulture, Range Management, Poultry Production, Animal Health and Husbandry and Irrigation Agronomy.

Entry standard: West African School Certificate or equivalent with passes in English, biology, chemistry, mathematics and one other science subject.

2-year Higher Diploma courses in General Agriculture, Farm Management, Horticulture, Crop Protection, Agricultural Mechanization, Home Economics, Animal Health and Husbandry, Poultry Production, Range Management and Irrigation Agronomy.

Entry standard: Appropriate Ordinary Diploma.

(D) SUNDRY

2-year courses leading to Ordinary Diploma in General Agriculture, Home Economics, Agricultural Mechanisation.

Entry standard: West African School Certificate with at least 5 passes to include maths, English and any three science/applied science subjects.

2-year courses leading to Higher Diploma in Agricultural Mechanisation, Home Economics, Farm Management, Crop Protection
Entry standard: Entrance examination plus good Ordinary Diploma.

4-year course leading to BSc Hons (Agr).

Optional programmes include: Agricultural Economics, Animal Production, Crop Production and Crop Protection, Rural Sociology and Agricultural Extension.

Entry standard: GCE 'O' levels, or equivalent, in chemistry, English, maths and physics.

Postgraduate courses - 2 years for MSc and 3 years for PhD - are also available.

Note The Division of Agricultural Colleges also conducts 6-month preparatory courses for long serving staff of the Ministries who have attended and passed the Farming Training Centre course, plus work experience; for holders of Grade Two Teachers Certificate and West African School Certificate with at least 3 subjects.

NIG 5 AUDU BAKO SCHOOL OF AGRICULTURE

Enquiries The Principal, Audu Bako School of Agriculture, Dantatta, PMB 3401, Kano, Kano State.

Managing agency State Government.

Courses SUNDRY
2-year Ordinary National Diploma courses in Agriculture, Forestry, and Animal Health and Husbandry.
Entry standard: West African School Certificate or equivalent.

NIG 6 BAYERO UNIVERSITY

Enquiries The Registrar, Bayero University, PMB 3011, Kano. Tel:064-601280. Cables: Unibayero, Kano. Telex: 77189 UNIBAYRO NG.

Managing agency Autonomous.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jul. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses BIOLOGICAL SCIENCES
4-year courses leading to BSc (Hons) in Biological Sciences - Biology, Botany and Zoology.
Subjects offered include: Microbiology, Conservation ecology, Pollution biology, Animal and plant ecology, Protozoology, Parasitology, Helminthology, Fisheries biology and Applied entomology.
Entry standard: At least 5 passes in West African School Certificate to include English language, maths and two other science subjects.

SUNDRY

Higher degree courses (2 years for MSc and 3 years for PhD) are available in Microbiology, Plant Pathology and Ecology, Fisheries, Entomology.

Entry standard: Appropriate Bachelor or Masters degree.

NIG 7**BORNO COLLEGE OF AGRICULTURE**

Enquiries The Principal, Borno College of Agriculture, PMB 1427, Maiduguri, Borno State.

Managing agency Borno State Government.

Courses**SUNDRY**

2-year courses leading to National Ordinary Diploma in: General Agriculture; Agricultural Mechanisation; Animal Health and Husbandry; Forestry; Home Economics.

The object of the courses is to produce agricultural extension staff capable of rendering both theoretical and practical advice to farmers.

Entry standard: West African School Certificate with credits in science subjects.

NIG 8**THE POLYTECHNIC, CALABAR**

Enquiries The Registrar, School of Agriculture, The Polytechnic, Calabar, Obio Akpa Campus, PMB 1001, Abak, Akwa Ibom State. Tel: 085-50127.

Managing agency Cross River State Government.

Courses**AGRICULTURAL ENGINEERING TECHNOLOGY**

2-year course leading to National Diploma.

Programme provides a broad educational training in engineering and agriculture with orientation towards mechanised agriculture in the rain-fed and irrigated areas.

Entry standard: West African School Certificate or equivalent with at least 4 credits to include maths, physics, English language and either chemistry or agricultural science.

ANIMAL PRODUCTION TECHNOLOGY

2-year course leading to National Diploma.

Programme is designed to produce diplomates who have a broad knowledge of practical animal husbandry and who can effectively manage all aspects of animal production.

Entry standard: West African School Certificate or equivalent with at least 4 credits to include chemistry and either biology or agricultural science and English.

NIG 9**COLLEGE OF AGRICULTURE, ANAMBRA STATE**

Enquiries The Principal, College of Agriculture, P O Box 79 Abgana, Anambra State.

Managing agency State Ministry of Agriculture.

Courses**AGRICULTURE**

2-year Ordinary National Diploma course in Agriculture and Home Economics.

Entry standard: West African School Certificate or equivalent.

2-year Higher National Diploma course in Agriculture and Home Economics.
Entry standard: OND (Agric) or equivalent.

NIG 10 COLLEGE OF AGRICULTURE, BENNE STATE

Enquiries The Principal, College of Agriculture, Yandev, PMB 181, Gboko, Benne State.

Managing agency State Government.

Courses **SUNDRY**
2-year Ordinary National Diploma courses in General Agriculture, Fisheries, Agricultural Mechanisation, Poultry Production, Animal Health & Husbandry.
Entry standard: West African School Certificate or equivalent.

2-year Higher National Diploma courses in General Agriculture, Fisheries, Agricultural Mechanisation, Poultry Production, Animal Health & Husbandry.
Entry standard: Appropriate OND or equivalent.

NIG 11 COLLEGE OF AGRICULTURE, GONGOLA STATE

Enquiries The Principal, College of Agriculture, PMB 1025, Jalingo, Gongola State.

Managing agency Gongola State Government.

Courses **SUNDRY**
2-year courses leading to National Diploma in General Agriculture; Agricultural Mechanisation; Animal Health and Husbandry; Forestry; Home Economics
The object of the courses is to train middle-level manpower for employment as superintendents and extension workers.
Entry standard: 3 credits or passes in West African School Certificate or 'O' levels, to include English language and maths.

NIG 12 COLLEGE OF AGRICULTURE AND NATURAL SCIENCE

Enquiries The Principal, College of Agriculture and Natural Science, Bendel State University, Ekpoma, Bendel State.

Managing agency Bendel State Ministry of Agriculture.

Courses **AGRICULTURE**
5-year course leading to BSc.
Entry standard: West African School Certificate with credits in 5 relevant subjects including English.

NIG 13 COLLEGE OF ANIMAL HEALTH AND HUSBANDRY

Enquiries The Principal, College of Animal Health and Husbandry, National Veterinary Research Institute, Vom. Tel: Vom 1. Cable: VETFED VOM.

Managing agency National Veterinary Research Institute.

Courses	ANIMAL HEALTH AND HUSBANDRY 2-year course leading to Ordinary Diploma. Subjects studied include: Veterinary medicine, Postmortem diagnostic techniques, Veterinary clinics, Poultry industry, Pharmacology and therapeutics, Microscopy and staining techniques, Genetics and animal breeding, Beef industry. Entry standard: West African School Certificate or 'O' levels in English language, maths, chemistry and biology 2-year course leading to Higher Diploma Subjects studied include: Animal diseases, Principles of feeding, Meat inspection, Range management, Dairy/Poultry/Pig industry, Agricultural economics, Hides and skins/leather, Beef industry. Entry standard: Ordinary Diploma in Animal Health and Husbandry plus 1 year's professional experience.
NIG 14	FEDERAL CO-OPERATIVE COLLEGE
Enquiries	The Principal, Federal Co-operative College, Oji River, PMB 17, Awgu, Enugu, Anambra State.
Managing agency	Federal Ministry of Employment, Labour and Productivity.
Courses	CO-OPERATIVE STUDIES 9-month course leading to Diploma in Co-operative Studies. The course is intended for Co-operative Inspectors already serving in the field for up to three years. Syllabus covers: Agriculture in the economy, Agricultural development, Nigerian agricultural co-operatives, Agricultural production co-operatives, Marketing and supply services, Storage management, Duties of Assistant Registrar of Agricultural Co-operatives. Entry standard 5 'O' levels plus a Certificate in Co-operative Studies and 3 years' field experience.
NIG 15	FEDERAL FISHERIES SCHOOL
Enquiries	The Principal, Federal Fisheries School, Nigerian Institute for Oceanography and Marine Research (NIOMR), PMB 12729, Victoria Island, Lagos. Tel: 617530. Cable: OCEANOGRAPH.
Managing agency	Nigerian Institute for Oceanography and Marine Research.
Courses	FISHERIES 2-year course leading to Ordinary National Diploma in General Fisheries. Entry standard: 'O' levels, or equivalent, in biology, agricultural science, chemistry, plus credits in any 2 of physics, maths, geography, general science and a pass in English language. 2-year course leading to Higher National Diploma in General Fisheries. Entry standard: Possession of Ordinary National Diploma in General Fisheries or equivalent. MARINE ENGINEERING 2-year course leading to Ordinary National Diploma in Marine Engineering.

Entry standard: 'O' levels or equivalent in physics/applied maths plus 2 credits in other science subjects and a pass in English language.

NAUTICAL SCIENCE

2-year course leading to Ordinary National Diploma in Nautical Science.

Entry standard: 'O' levels or equivalent in geography and maths plus 2 credits in any of the following: physics, general science, chemistry, biology and a pass in English language.

Regular orientation and refresher courses are also held for senior officers in the industry to update and upgrade their knowledge and skill from time to time.

NIG 16

FEDERAL FRESHWATER FISHERIES SCHOOL

Enquiries

The Principal, Federal Freshwater Fisheries School, PMB 6006, K L R I, New Bussa, Kwara State.

Managing agency

Federal Government.

Courses

FISHERIES

2-year Ordinary National Diploma course in Fisheries Management for Fisheries Assistants.

Entry standard: West African School Certificate or equivalent with credits in 4 science subjects and a pass in English language.

2-year Higher National Diploma course in Fisheries Management for Fisheries Superintendents.

Main subjects offered: Aquaculture, Fish processing technology, Fisheries management, Aquatic ecology, Gear and craft technology.

Entry standard: Pass in Fisheries Assistant course plus 1 year's work experience.

6-week induction courses are held for Fisheries Officers and Aquaculture Extension Officers.

Entry standard: Appropriate degree or equivalent.

NIG 17

FEDERAL POLYTECHNIC, IDAH

Enquiries

The Head, Food Technology Department, Federal Polytechnic, PMB 1037, Idah, Benne State.

Managing agency

Federal Ministry of Education.

Courses

FOOD TECHNOLOGY

2-year Ordinary National Diploma course.

Entry standard: West African School Certificate or equivalent.

2-year Higher National Diploma course.

Entry standard: Appropriate OND or equivalent.

NIG 18

FEDERAL SCHOOL OF AGRICULTURE

Enquiries

The Principal, Federal School of Agriculture, National Root Crops Research Institute, Umudike, PMB 7008, Umuahia, Imo State.
Tel: Umuahia 220188. Cables: AGRISCOL Umudike.

Managing agency National Root Crops Research Institute, Umudike.

Courses **AGRICULTURE**
 2-year course leading to Ordinary Diploma in General Agriculture.
 Entry standard: West African School Certificate or equivalent with pass in English language and credits in 4 science subjects to include biology and agricultural science.

2-year course leading to Higher Diploma in Agriculture.
 Subjects offered: Agricultural Extension/Farm Management; Crop Production; Animal Production; Agricultural Engineering Technology.
 Entry standard: Ordinary National Diploma plus year's post qualification experience.

2-year course leading to Higher Diploma in General Agriculture/*Home Economics
 Entry standard: Ordinary National Diploma plus 1 year's post qualification experience.

* In 1990 Home Economics will be replaced by Food Science and Technology.

NIG 19 **FEDERAL SCHOOL OF FORESTRY**

Enquiries (A) The Principal, Federal School of Forestry, PMB 2019, Jos, Plateau State.

(B) The Principal, Federal School of Forestry, PMB 5054, Ibadan, Oyo State.

Managing agency Forestry Research Institute of Nigeria.

Courses **FORESTRY**
 (A) 2-year course leading to National Diploma in Forestry.
 Subjects studied include: Silviculture, Forest management, Wildlife management, Soil science.
 Entry standard: Ordinary Diploma in Forestry or equivalent.

(B) 2-year course leading to Ordinary Diploma in General Forestry.
 Entry standard: West African School Certificate with passes in English and maths and credits in biology and 3 other science subjects.

2-year course leading to Higher Diploma in General Forestry.
 Entry standard: Pass in Ordinary Diploma or equivalent.

NIG 20 **FEDERAL SCHOOL OF WILDLIFE MANAGEMENT**

Enquiries The Principal, Federal School of Wildlife Management, PMB 268, New Bussa, Kwara State.

Managing agency Federal Government.

Courses **FORESTRY**
 2-year Ordinary National Diploma course.
 Entry standard: West African School Certificate or equivalent.

Nigeria

NIG 21 FEDERAL SOIL CONSERVATION SCHOOL

Enquiries The Principal, Federal Soil Conservation School, PMB 2035, Kuru via Jos, Plateau State.

Managing agency Federal Government.

Courses **AGRICULTURE**
2-year Ordinary National Diploma course.
Entry standard: West African School Certificate or equivalent.

2-year Higher National Diploma course.
Entry standard: Appropriate OND or equivalent.

NIG 22 FEDERAL UNIVERSITY OF AGRICULTURE

Enquiries The Principal, Federal University of Agriculture, University of Jos, PMB 2373, Makurdi, Nigeria.

Courses **ANIMAL PRODUCTION**
4-5 year course leading to Bachelor of Agriculture (Animal Production).
Course is designed to provide training in basic agriculture generally with specialisation later in all aspects of animal production and management.
Entry standard: 5 credits in West African School Certificate to include biology and chemistry or 'A' levels or equivalent in chemistry and biology, botany or zoology.

CROP PRODUCTION
4-5 year course leading to Bachelor of Agriculture (Crop Production).
The programme is designed to provide a broad-based theoretical and practical training in agriculture, and later with specialisation in aspects of crop production and management.
Entry standard: 5 credits in West African School Certificate to include biology and chemistry with passes in physics, maths and English language or 'A' levels or equivalent in chemistry, biology, botany or zoology.

FOOD SCIENCE AND TECHNOLOGY
4-5 year course leading to BSc.
The course is designed to teach the student to understand and appreciate the physical, biological and chemical changes that occur in foods during harvesting, preservation, storage and processing.
Entry standard: 5 credits in West African School Certificate to include biology and chemistry with passes in physics, maths and English language, or 'A' levels or equivalent in chemistry, biology, botany or zoology.

NIG 23 FEDERAL UNIVERSITY OF TECHNOLOGY

Enquiries (A) The Director of Administration, Federal University of Technology, PMB 0248, Bauchi, Bauchi State.
Tel: 077-42092. Cable: Tekvarsity, Bauchi.

(B) The Director of Administration, Federal University of Technology, PMB 1526, Owerri, Imo State.
Tel: (083) 230974. Cable: Federal Unitech, Owerri.

Managing agency Autonomous.

General details 1) 2 terms: Sep/Feb, Mar/Jul. 2) Residential accommodation is available.

Courses **SUNDRY**
 (A) 4-5 year courses leading to BSc(Agr) in **Animal Production and Crop Production**.
 The main objective of the courses is to educate the students in the basic principles of animal and plant sciences and the application of the principles to the production, processing, preservation and marketing of animal and plant products in the environmental and social system of Nigeria.
 Entry standard: 5 'O' levels or equivalent to include English language and maths, and 'A' levels in at least 2 subjects in biological sciences and chemistry.

(B) 5-year courses leading to Bachelor of Agricultural Technology in:
Agricultural Economics and Extension
 Subjects studied include Agricultural production economics, Agricultural extension and community development, Economics of agricultural co-operation.

Animal Production
 Subjects studied include Animal health, Poultry production, Farm practice, Pasture management and utilisation, Animal nutrition.

Crop Production
 Subjects studied include Entomology, Pasture management and utilisation, Soil microbiology, Tree crops, Fibre and sugar crops.

Entry standard: 5'O' level credits to include maths, biology, chemistry and a pass in physics.

NIG 24 IMO STATE COLLEGE OF AGRICULTURE

Enquiries The Principal, Imo State College of Agriculture, PMB 1472, Owerri, Imo State.

Managing agency State Government.

Courses **SUNDRY**
 2-year Ordinary National Diploma courses in **Agriculture, Fisheries, Forestry and Home Economics**.
 Entry standard: West African School Certificate or equivalent.

2-year Higher National Diploma courses in **Agriculture, Fisheries, Forestry, and Home Economics**.
 Entry standard: Appropriate OND or equivalent.

NIG 25 INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE

Enquiries The Director, International Institute of Tropical Agriculture, Oyo Road, PMB 5320, Ibadan, Oyo State. Tel:400300-400314.
 Telex: TDS IBA NG 20311 (Box 015).

Managing agency International Board of Trustees.

Nigeria

Courses

FARMING SYSTEMS

The Institute provides research programmes on farming systems in humid and subhumid tropical zones. Topics include Grain Legume Improvement, Maize Research, Rice Research, Root and Tuber Improvement, Resource and Crop Management.

Entry standard: Mainly for students with diploma or degree in Agriculture or appropriate subject.

SUNDRY

Short group training courses are held in Soil and Plant Analysis, Improved Weed Management, Genebank Management, Seed Technology, Alley Farming, Tropical Root Crops Research and Production, Food Crops Utilisation and Nutrition, Cowpea and Soybean Research and Production.

Entry standard: Mainly for students with diploma or degree in Agriculture or appropriate subject.

NIG 26

KADUNA POLYTECHNIC

Enquiries

The Head of Department, Department of Irrigation and Agricultural Mechanization, Kaduna Polytechnic, PMB 2021, Kaduna.

Tel: 211551/582/673/744/835. Cable: TECHPOLY KADUNA.

Managing agency

Board of Management.

Courses

AGRICULTURAL ENGINEERING

2-year courses leading to National Diploma in Irrigation Engineering and Agricultural Mechanisation.

The course is designed to produce technical manpower to carry out investigations, construction, supervision, operation and maintenance in agricultural engineering projects.

Entry standard: 4 credits in appropriate science subjects including maths, and a pass in English.

2-year courses leading to Higher National Diploma in Irrigation Engineering and Agricultural Mechanisation.

The course is designed to produce the appropriate higher level technical manpower required for the execution and management of agricultural engineering projects.

Entry standard: Appropriate National Diploma.

NIG 27

KATSINA POLYTECHNIC

Enquiries

The Head, Department of Agriculture and Irrigation Engineering, Katsina Polytechnic, PMB 2052, Katsina.

Managing agency

State Government.

Courses

AGRICULTURE

2-year course leading to National Diploma.

Subjects studied include: Crop production, Animal production, Soil science, Agricultural economics, Farm management, Crop protection, Farm mechanisation, Horticulture, Agricultural biology and Agricultural extension

Entry standard: WASC/GCE or equivalent with four approved credits and a pass in maths.

NIG 28 KWARA STATE POLYTECHNIC, ILORIN.

Enquiries The Principal, Kwara State Polytechnic PMB 1375, Ilorin.
Cable: KWARATECH ILORIN.

Managing agency Kwara State Government.

Courses **SUNDRY**
2-year courses leading to National Diploma,
and Higher National Diploma in:
Agriculture, Agricultural Engineering and Water Resources,
Fisheries Technology, Food Science and Technology.
Entry standard: National Diploma - 4 'O' levels or equivalent to
include biology/agricultural science, chemistry and any two of
geography, maths, economics and English language.
Higher National Diploma - Minimum of lower credit pass at National
Diploma level plus at least 1 year's work experience in the field
of specialisation.

NIG 29 LAGOS STATE COLLEGE OF SCIENCE AND TECHNOLOGY

Enquiries (A) The Principal, School of Agriculture, Lagos State College of
Science and Technology, Agege, Lagos.

 (B) The Principal, Department of Fisheries, School of
Agriculture, Lagos State College of Science and Technology,
Ikorodu, Lagos State.

Managing agency State Government.

Courses **SUNDRY**
2-year Ordinary National Diploma courses in **Agriculture, Forestry,**
Fisheries and Home Economics.
Entry standard: West African School Certificate or equivalent.

2-year Higher National Diploma courses in **Agriculture, Forestry,**
Fisheries and Home Economics.
Entry standard: Appropriate OND or equivalent.

NIG 30 OBAFEMI AWOLOWO UNIVERSITY

Enquiries (A) The Registrar, Obafemi Awolowo University, Ile-Ife, Oyo
State. Tel: Ile-Ife 2291. Cable: Ifevarsity, Ile-Ife.

 (B) The Director, Institute of Agricultural Research and
Training, University of Ife, Moor Plantation, PMB 5029,
Ibadan. Tel: 412861 (PBX) 3 lines.
Cable: INSTAGRIC, IBADAN.

Managing agency Largely autonomous.

General details 1) 2 terms: Sep/Feb, Feb/Jul. 2) Residential accommodation is
available. 3) Students from abroad are accepted.

Courses (A) **SUNDRY**
3-4 Bachelor Degree courses in **Agricultural Economics,**
Agricultural Extension, Agriculture, Agronomy, Animal Science,
Biology, Botany, Agricultural Engineering, Food
Science/Technology, Microbiology, Plant Science, Soil Science, and
Zoology.

Entry standard: Minimum 3 GCE 'O' levels plus 2 science subjects at 'A' level.

2-year Higher Degree courses (MSc and PhD) in Agricultural Economics, Agricultural Extension, Agriculture Agronomy, Animal Science, Biology, Botany, Agricultural Engineering, Microbiology, Plant Science, Hydrobiology, Soil Science and Zoology.
Entry standard: Appropriate Honours degree.

(B) AGRICULTURE

2-year course leading to Ordinary Diploma
2-year course leading to Higher Diploma with options in Mechanisation, Landscape Horticulture, General Agriculture.

ANIMAL HEALTH AND HUSBANDRY

2-year courses leading to Ordinary Diploma and Higher Diploma.

Entry standard: For Ordinary Diploma courses - West African School Certificate or 'O' level passes in English and 4 other subjects to include biology/agricultural science and one from physics, chemistry, maths, geography or economics.
For Higher Diploma - Ordinary Diploma and 1 year's post qualification field experience.

NIG 31 RIVERS STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY

Enquiries The Registrar, Rivers State University of Science and Technology, Private Mail Bag 5080, Port Harcourt, Rivers State. Tel: 335823, 335808. Cable: Riverstech, Port Harcourt.

Managing agency Autonomous.

General details 1) 2 terms between September and July. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
4-year courses leading to B Tech in: Agricultural Engineering, Food Science and Technology.
4-year courses leading to BSc in: Fisheries, Agricultural Economics, Animal Science, Crop Science, Forestry
Entry standard: University matriculation.

Postgraduate programmes also available in Fisheries, Animal Science, Food Science and Technology, Crop Science.
Entry standard: Appropriate first degree.

NIG 32 SCHOOL OF AGRICULTURE

Enquiries The Principal, School of Agriculture, Anwai, Bendel State.

Managing agency State Ministry of Agriculture.

Courses **SUNDRY**
2-year Certificate courses in Agriculture, Fisheries, Forestry and Home Economics.
Entry standard: Secondary education or equivalent.

2-year Higher National Diploma courses in Agriculture, Fisheries and Home Economics.

Entry standard: Appropriate OND or equivalent.

NIG 33

SCHOOL OF AGRICULTURE

Enquiries

The Principal, School of Agriculture, PMB 102, Obubra, Cross River State. Cable: Agriscol Obubra.

Managing agency

Cross River State Government.

Courses

AGRICULTURE

2-year course leading to Ordinary National Diploma.

Entry standard: West African School Certificate with pass in English language and credits in 2 approved science subjects.

2-year course leading to Higher National Diploma.

Entry standard: OND in Agriculture plus 1 year's experience.

ANIMAL HUSBANDRY

2-year course leading to Ordinary National Diploma in Animal Science.

Entry standard: West African School Certificate with pass in English language and credits in 2 approved science subjects.

FISHERIES

2-year course leading to Ordinary National Diploma.

Entry standard: West African School Certificate with pass in English language and credits in 2 approved science subjects.

FORESTRY

2-year course leading to Ordinary National Diploma.

Entry standard: West African School Certificate with pass in English language and credits in 2 approved science subjects.

NIG 34

SCHOOL OF MEDICAL LABORATORY TECHNOLOGY (SCIENCES)

Enquiries

The Principal, School of Medical Laboratory Technology, National Veterinary Research Institute, Vom, Plateau State, Nigeria.
Tel: 073 80990/80991 Ext.38. Telegrams: VETFED.

Managing Agency

National Veterinary Research Institute.

Courses

VETERINARY SCIENCE

4-year course leading to Associate Diploma of the Institute of Medical Laboratory Technology of Nigeria.

The course offers specialisation in Bacteriology, Parasitology, Virology.

Entry standard: West African School Certificate or 'O' levels in English language, maths, chemistry, biology or physics.

1-year course leading to Fellowship of the Institute of Medical Laboratory Technology of Nigeria.

Entry standard: Possession of Associateship of IMLT of Nigeria.

Nigeria

NIG 35 THE POLYTECHNIC OF SOKOTO STATE

Enquiries The Head, Department of Agriculture and Irrigation Engineering, The Polytechnic of Sokoto State, PMB 1034, Birnin-Kebbi, Sokoto, Sokoto State.

Managing agency State Ministry of Education.

Courses **AGRICULTURE**
2-year Ordinary National Diploma course.
Entry standard: West African School Certificate or equivalent.

2-year Higher National Diploma course.
Entry standard: Appropriate OND or equivalent.

NIG 36 UNIVERSITY OF AGRICULTURE, ABEOKUTA

Enquiries The Registrar, University of Agriculture,
PMB 2240, Abeokuta, Ogun State. Tel: (039) 230847,
(039) 200170-177

Managing agency Autonomous

Courses **AGRICULTURE**
4-5 year courses leading to Bachelor of Agriculture with options in: Crop Production & Protection; Animal Science & Livestock Production; Soil Science & Agricultural Mechanisation; Agricultural Economics & Farm Management; Agricultural Extension & Rural Development.

Entry standard: 5 'O' levels or equivalent to include English language, chemistry, maths and 2 other science subjects, or appropriate 'A' level passes.

SUNDRY
4-5 year courses leading to BSc in: Agricultural Meteorology and Water Resources Management

4-5 year courses leading to Bachelor degree in: Food Technology; Fisheries & Wildlife; Forestry; Environmental Management & Toxicology.

Entry standard: 5 'O' levels or equivalent to include English language, chemistry, maths and 2 other science subjects, or appropriate 'A' level passes.

NIG 37 UNIVERSITY OF AGRICULTURE, MAKURDI

Enquiries The Registrar, University of Agriculture, Private Mail Bag 2373, Makurdi. Tel No. (044) 33202, 33205, 33488.

Managing Agency Automonous

Courses **AGRICULTURE**
4-5 year course leading to B.Agr.
Students will take instructions in various agricultural and related sciences such as crop science and production, animal science and production, soil science, agricultural economics,

agricultural extension, agricultural cooperatives, home science, food science and technology, forestry and fisheries, among other basic or introductory sciences.

FOOD SCIENCE AND TECHNOLOGY

4-5 year course leading to BSc.

Food Science and Technology is designed to offer education and training to the student in food science, food processing and preservation, food engineering and other related sciences.

Entry standard: West African School Certificate or GCE 'O' Level with credit in Chemistry, Biology or Agricultural Science, Mathematics, English Language and any other science subject. Or GCE 'A' Level passes in Chemistry, Biology or Agricultural Science.

NIG 38

UNIVERSITY OF BENIN

Enquiries

The Registrar, Faculty of Agriculture, University of Benin, Private Bag 1154, Benin City. Tel: (052) 200250-89.
Cables: UNIBEN, Nigeria.

Managing agency Autonomous.

General details 1) 2 terms: Oct/Feb, Mar/Jul. 2) Residential accommodation is available.

Courses

AGRICULTURE

5-year course leading to Bachelor of Agriculture with options in Crop Production, Soil Science, Animal Production, Agricultural Economics and Farm Management, Agricultural Extension and Rural Sociology.

Entry standard: 5 'O' levels or equivalent to include English language, chemistry, maths and 2 other science subjects.

FISHERIES

5-year course leading to Bachelor of Agriculture (Fisheries)

Subjects studied include: Aquatic invertebrates, Fish nutrition, Water pollution, Marine biology and oceanography, Shellfisheries, Agribusiness management and finance.

Entry standard: 5 'O' levels or equivalent to include English language, chemistry, maths and 2 other science subjects.

FORESTRY

5-year course leading to Bachelor of Agriculture (Forestry).

Subjects studied include: Forest management and economics, Forest genetics and tree breeding, Remote sensing and photogrammetry, Forest pests and diseases, Forest engineering.

Entry standard: 5 'O' levels or equivalent to include English language, chemistry, maths and 2 other science subjects.

NIG 39

UNIVERSITY OF IBADAN

Enquiries

The Registrar, University of Ibadan, Faculty of Agriculture & Forestry, Ibadan, Oyo State. Tel: Ibadan 400550. Telex: Campus 31128 NG.

Managing agency Largely autonomous.

Nigeria

- General details** 1) 2 terms: Oct/Jan, Feb/Jul. 2) Residential accommodation is available. 3) Students from abroad are accepted.
- Courses** **SUNDRY**
4-5 year courses leading to BSc in:
Agricultural Economics, Agricultural Extension, Agricultural Biology, Soil Science, Crop Science, Animal Science, Agricultural Biochemistry and Nutrition, Forestry, Wildlife, Fisheries.
Entry standard: 'O' levels in English, maths, chemistry and 3 other science subjects or 'A' level chemistry and 2 other science subjects.
Postgraduate degree programmes - MSc, MPhil and PhD - are also available in above subjects.

NIG 40 UNIVERSITY OF MAIDUGURI

- Enquiries** The Registrar, University of Maiduguri, PMB 1069, Maiduguri, Borno State. Tel: Maiduguri (076) 232537, 232607.
Cables: University, Maiduguri.

- Managing agency** Autonomous.

- General details** 1) 2 terms: Oct/Feb, Mar/Jun. 2) Residential accommodation is available.

- Courses** **AGRICULTURE**
4-year course leading to BSc. with options in Agricultural Economics, Agricultural Extension, Crop Protection, Crop Science, Horticulture, Soil Science.
Entry standard: Appropriate 'A' level passes.
- AGRICULTURAL ENGINEERING**
4-year course leading to BSc.
Subjects offered include: Farm machinery/maintenance, Irrigation and drainage engineering, Groundwater/surface technology, Agrohydrological analysis and control of droughts.
Entry standard: Appropriate 'A' level passes.
- ANIMAL SCIENCE**
4-year course leading to BSc.
Subjects offered include: Animal biochemistry, Nutrition and metabolism, Economics of livestock management and marketing, Environmental physiology, Poultry production, Ruminant nutrition, Draft animal production, Pasture and rangeland management, Agricultural law.
Entry standard: Appropriate 'A' level passes.
- FOOD SCIENCE AND TECHNOLOGY**
4-year course leading to BSc.
Subjects offered include: Food enzymes and applications, Storage and processing of roots and tubers, Food plant sanitation, Food product development.
Entry standard: Appropriate 'A' level passes.
Postgraduate courses are available leading to MSc in Agricultural Engineering, Animal Science, Crop Science, Soil Science.

NIG 41

UNIVERSITY OF NIGERIA

- Enquiries** The Registrar, University of Nigeria, Nsukka, Anambra State.
Tel: 042-771911. Telex: 51496 U LIONS NG. Cables: NIGERSITY.
- Managing agency** Largely autonomous.
- General details** 1) 3 terms: Sep/Dec, Jan/Mar, Apr/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.
- Courses** **SUNDRY**
5-year courses leading to B.Agr with specialisation in Agricultural Economics, Agricultural Extension, Animal Science, Crop Production, Crop Protection, Horticulture, Soil Science.
Entry standard: University entrance examination plus School Certificate with 5 credits or equivalent.
- Higher Degree programmes leading to MSc and PhD are available in Animal Science, Crop Science, Agricultural Extension, Agricultural Economics, Food Science and Technology, Soil Science.
- Postgraduate Diploma courses are available in Co-operative Studies and Farm Management.
Entry standard: Appropriate first degree.
- VETERINARY MEDICINE**
5-6 year course leading to DVM.
Subjects offered include: Veterinary anatomy, Clinical parasitology, Public health, Small/Large animal medicine, Veterinary obstetrics, Veterinary radiology, Avian medicine.
Entry standard: University entrance examination.
- MSc and PhD programmes are available in Veterinary Physiology, Pharmacology, Surgery and Radiology, Gynaecology and Obstetrics, Veterinary Medicine.
Entry standard: Appropriate first degree.

NIG 42

UNIVERSITY OF SOKOTO

- Enquiries** The Registrar, University of Sokoto, PMB 2346, Sokoto, Sokoto State. Tel: Sokoto (060) 232134, 232058. Telex: 73134 Unisok.
- Managing agency** Autonomous.
- General details** 1) 2 terms: Nov/Mar, Jun/Oct. 2) Residential accommodation is available.
- Courses** **SUNDRY**
3-year Bachelor Degree courses in Soil Science, Fisheries, Food Science/Technology, Crop Science, Animal Science, Agriculture, Agricultural Extension, and Agricultural Economics.
Entry standard: Minimum 3 GCE 'O' levels plus 2 science subjects at 'A' level.

Papua New Guinea

Papua New Guinea comprises the eastern sector of the island of New Guinea together with many large and small islands. It has a land area of 462,000 sq.km. and a population of a little more than three million. It lies wholly within the inner tropics (latitudes 1 to 12 degrees south) and has a generally wet tropical climate with rainfall in most parts above 2000mm annually, although limited areas have seasonal rainfall down to about 1100mm. More than one third of the population live in the central highlands at altitudes mostly above 1500 m.

The people are predominately rural, mostly living in small villages of usually less than 100 people. However, there are several towns with modern facilities, of which the largest is the capital, Port Moresby, with a population of about 150,000.

AGRICULTURE

Papua New Guinea's agriculture is based on a traditional subsistence gardening system with shifting cultivation of sweet potato, banana, taro, yams and a wide range of minor supplementary food crops. Sago and coconuts are also important food plants. Pigs and chickens are the main livestock and fishing is very important on the coast and large rivers. Surplus garden produce, sugar, beef, pork, poultry and fish are the main foods marketed internally. Agricultural products are also very important in earning export income, the most valuable being coffee, cocoa, coconut products, palm oil, tea and rubber; plus fish and prawns. Overall, village smallholders are the largest producers, although there is also a significant estate sector.

DEPARTMENT OF AGRICULTURE AND LIVESTOCK

The Department of Agriculture and Livestock (DAL) is responsible for all central government activity relating to agriculture and livestock. Responsibility for primary industry services is also shared with nineteen provincial governments which operate the field extension services.

The main functional areas of DAL are indicated by its Divisions, which are :

Export Crops Project, Preparation Food Management, Agricultural Research, Agricultural Protection, Education Policy and Planning and Training Finance & Administration.

In the field of education, there has been a renewed interest in the teaching of agriculture in primary schools. The Departments of Education and Primary Industry have combined to prepare an "Agricultural Life" syllabus and this is being utilized by a number of schools on a pilot basis. There is also a strong emphasis placed on farming subjects at secondary school level.

Young people who are not able to continue in formal further education beyond primary level are catered for by Vocational Training Centres, dedicated to providing practical training in activities that generate employment opportunities. There are now nearly 100 Vocational Training Centres throughout the country, the majority in rural areas, and each centre develops programmes linked to the needs of the community it serves. Centres also often become involved in small scale development projects - by providing training in rice, coconut or coffee cultivation, for instance, they

are virtually ensuring that these crops will be grown locally. Such development projects are the result of co-operation and co-ordination between the various Government departments.

Mission activity is widespread and in rural areas is invariably linked to agricultural development.

In agricultural extension, research into the effectiveness and political impact of the present service has resulted in a growing awareness of the need for structural reform and for more effective training programmes especially those having bias towards business management and commercial skills. One such programme is the PMTP, a Programme of Management Training for Producers on small and medium scale cash crop enterprises. The PMTP trains owners, managers, directors and agricultural support services personnel to play a greater part in the economy of the country.

PNG 1 HIGHLANDS AGRICULTURAL COLLEGE

Enquiries The Principal, Highlands Agricultural College, P O Box 312, Mount Hagen. Tel: 551247/551243. Telex: HAC NE52097.

Managing agency Department of Primary Industry.

Courses **AGRICULTURE**
The college offers a wide range of courses in the agricultural technological and managerial sphere which vary in length from two weeks to a full academic year, depending on the type of training required. Courses are offered in the following subjects: Introductory Management, Middle Management, Coffee/Cocoa/Coconut Technology, Management Skills, Agricultural Finance Management, Farm Management, Rubber/Chilli/Cardamon Technology, Soil Management, Wildlife Management, Rural Engineering, Oil Palm Technology, Horticulture, Farm Machinery, Fisheries, Livestock Programmes, Vegetable Production, Farm Building Construction, Pest Eradication.

PNG 2 PAPUA NEW GUINEA FORESTRY COLLEGE

Enquiries The Registrar, Papua New Guinea Forestry College, P O Box 92, Bulolo. Tel: 445226/445236.

Managing agency Department of Primary Industry.

Courses **FORESTRY**
3-year course leading to Diploma.
Subjects studied include: Botany, Forest entomology, Forest pathology, Geology and soils, Wildlife, Ecology, Fire protection, Forest engineering, Mensuration, Silviculture, Survey, Wood science, Finance and economics.
Entry standard: Successful completion of Grade 12 with majors in maths, science and English.

PNG 3 PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY

Enquiries The Registrar, Papua New Guinea University of Technology, Private Mail Bag Service, Lae. Tel: 454499. Telex: NE42428. Fax: 42 4069. Cable: UNITECH, LAE.

Papua New Guinea

Managing agency Autonomous.

General details 1) 2 terms: Feb/Jun, Jul/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **AGRICULTURE**
4-year course leading to BSc.
Subjects studied include: Animal breeding, Crop production, Pasture agronomy, Agricultural ecology, Weed science, Animal nutrition, Farm management.
Entry standard: Grade 12 School Certificate level or equivalent.

1-year postgraduate Diploma course.
Subjects offered include: Animal management/breeding/nutrition, Crop management, Agricultural economics, Plant nutrition, Crop protection, Farm management, Farm machinery, Irrigation, soil and water conservation.
Entry standard: Appropriate first degree.

PNG 4 **VUDAL AGRICULTURAL COLLEGE**

Enquiries The Principal, Vudal Agricultural College, Post Office, Keravat ENBP. Tel: 921444, 921049. Cable: Agric Vudal.

Managing agency Department of Primary Industry.

Courses **AGRICULTURE**
3-year course leading to Diploma in Tropical Agriculture.
Subjects studied include: Crops, Livestock, Rural engineering, Management studies and General studies.
Entry standard: Minimum Grade 10 or equivalent with credit passes in English, maths and science.

St Kitts and Nevis

St Christopher and Nevis are a part of the Leeward Islands in the Eastern Caribbean. The islands have a total land area of 269 sq kms.

In addition to sugar-cane a wide variety of food crops is grown and attempts are being made to produce surpluses for export - as with peanuts, for instance. Cotton and copra production are also significant. The drive for more food production includes expansion of in-shore fishing with Government help.

Agricultural training at technicians level is available to students at the Eastern Caribbean Institute for Agriculture and Forestry in Trinidad, the Jamaica School of Agriculture and the Guyana School of Agriculture.

The number of 'agro-teachers' is being increased. Several trainees for posts in agricultural services are at the Jamaica School of Agriculture and at the University of the West Indies, St Augustine Campus in Trinidad. The island has an active 4 H Movement.

St Lucia

St Lucia, situated in the Caribbean Sea, is mountainous, volcanic in formation, with hot sulphurous springs, fertile and intersected mainly by many short rivers. It has a total land area of 616 sq kms.

Agriculture is St Lucia's main industry, providing employment for the majority of its inhabitants and accounting for nearly 80% of the State's export earnings. It is largely a monocrop economy based on bananas but copra production has increased in recent years and is now also an important item. Efforts are being made to diversify to other crops for local consumption and to produce "exotica" (avocado pears, mangoes, aubergines, etc) for the export market.

Agriculture is the cornerstone of the Government's development strategy. This includes modernization of the Land Tenure system and the creation of an agricultural corporation bringing into production large tracts of cultivatable land now lying idle. Part of the up-dating process is an improvement of the terms on which loans are made available from the Agricultural Bank. In support of this the Government is enlarging its agricultural extension services, especially in the banana field, and in a further effort to extend the banana industry.

The Government's immediate objectives are to achieve a reasonable and sustainable level of self-sufficiency in food, to increase banana production and rehabilitate the coconut industry, to develop export crops for foreign exchange, and to produce sufficient raw materials to supply a viable agro-industrial sector for both the domestic and export markets.

Hitherto, farming has not been taught in primary or secondary schools but Government has announced the restructure of the school curricula to make them more meaningful and applicable to the requirements of the State. Some specialist courses in agriculture are, however, available through the Morne Technical College.

STL 1

ST LUCIA COLLEGE OF AGRICULTURE

Enquiries

The Principal, St Lucia College of Agriculture, Union Agricultural Station, Ministry of Agriculture, Castries.

Managing agency

Ministry of Agriculture.

Courses

AGRICULTURE

1-2 year course leading to Diploma.

Subjects offered include: Forestry, Crop production, Animal production, Agricultural chemistry/soil science, Agricultural zoology, Agricultural botany, Farm machinery, Records and accounts, Farm Management, Extension and rural sociology, Veterinary science, Ecology, Co-operatives, Fisheries.

Entry standard: 5 GCE 'O' levels or equivalent.

St Vincent & the Grenadines

St Vincent and the Grenadines comprises the main island of Vincent and islets of the Northern Grenadines. It is volcanic in origin, mountainous, well-watered and densely wooded. It has a total land area of 388 sq kms.

The production of bananas continues to be the mainstay of St Vincent's economy. There has been marked improvement in fruit quality over the last five years due to the introduction of field packaging of fruits. Production of arrowroot has declined because of inadequate overseas markets. Sugar was reintroduced in 1982 but is presently experiencing problems mainly at the processing level.

Agricultural diversification is proceeding apace, the latest crops being introduced are onions, hill-side rice and asparagus. Carrots were introduced in the late sixties with production rising to over one million pounds in 1976. There has been a decline since then due to nematode infestations. Production is rising again with the adoption of crop rotation systems to reduce the nematode population. Tobacco production was introduced in the early seventies and the acreage planted to this crop is steadily increasing. There has been an expansion in the production of the traditional crops - peanuts, root crops, fresh fruit and vegetables.

A Beef Project has been approved for the production of beef on a feed lot system. When this gets on stream the island will become more self-sufficient in primary meat products.

Manufacturing has a significant position in the national economy. There is at present a flour factory and a livestock feed factory. A beer factory will shortly be commissioned. A complex dairy/juice manufacturing plant has been established, producing reconstituted milk and several fruit juices.

Tourism also plays an important part as a foreign exchange earner. Each year some 115,000 visitors come to enjoy the warm climate and the beautiful beaches of St Vincent and the Grenadines.

Seychelles

Seychelles is an archipelago of over 100 islands in the western Indian Ocean. It has steeply mountainous granitic islands, and an outlying coral line group of flat coral islands. It has a total land area of 280 sq kms.

Agriculture in Seychelles has been characterised by a failure to keep pace with the growth in the demand for food, by difficulties in adjusting to changing patterns of food consumption and by a declining contribution to export earnings. Rice, all of which is imported, is now the most important source of food energy. Agriculture has not contributed a surplus investment in other sectors of the economy. This situation must, to a large extent, be explained by the historical development of agriculture in Seychelles and by the many and varied constraints that confront the sector.

Also as an island country, Seychelles has a long tradition in fishing. Fish constitutes a staple ingredient of the population's diet and the export of fish has grown to become the nation's second most important source of foreign exchange. The fisheries sector has in the past, however, been confronted with various problems and constraints, together reflected in a declining volume of fish landings. Government policy for the sector has been elaborated in a Fishery Management and Development Strategy. The Government attaches the greatest possible importance to this Strategy and sees the Plan period as the spring-board for its implementation. The execution of the Fishery Management and Development Strategy will bring about the transformation of the sector and ensure that it is able to fully contribute to processes of national development.

Constraints and opportunities have been examined in considerable detail by the Government preparing the Development Plan 1985-89. It has decided that four goals should be afforded overriding importance during the Plan period: (i) to guarantee an adequate supply of food at reasonable prices to the people of Seychelles; (ii) to substitute imported food through the revitalization and transformation of traditional crops and the establishment of new crops; (iii) to attract workers to the agricultural sector by raising the status of agricultural work through technical and management training, partial mechanization and increased income through greater production and realistic prices; and (iv) to increase Seychelles foreign exchange through the revitalization and transformation of traditional crops and the introduction of new tropical crops in demand on the world market.

Over the past decade other sectors of the economy have drawn labour from agriculture. Moreover, the labour force in the sector is ageing and urgent measures are needed to encourage young people to take up farming. Agricultural development has also been constrained by the lack of trained personnel at both management and technical levels. The Government is already addressing these problems through the educational system.

The agricultural sector is one of the focal points of the restructured education. There is at present no university level agricultural education. Agricultural education at intermediate level is offered by the Seychelles Polytechnic and by several agricultural centres of the National Youth Service (NYS). The NYS will continue to play a key role in education for farming through its combination of classroom teaching and practical involvement in

production through the co-operatives and community work in the second year of the course. The NYS can be expected to lead to a much wider knowledge of techniques of farming than has so far been the case. Through exposure to agriculture and the other main forms of employment, the NYS identifies those with the ability and inclination to continue in farming.

Those with an orientation towards agriculture will proceed to further education in the Polytechnic, while others begin to work in the agricultural sector as members of State farms. The Polytechnic includes an agricultural department, its intake being those NYS members who have shown an interest in agricultural training and who have been selected to continue their education. The curriculum emphasizes modern methods of agricultural production.

Sierra Leone

Sierra Leone has a hilly coastline and is mountainous inland. It has a total land area of 71,740 sq kms. Agriculture is the key industry in the economy of Sierra Leone. It contributes to one third of the Gross Domestic Products and 40% of the value of exports. Of the nation's population about 75% are members of rural households.

With the anticipated decline of mineral resources, the need to emphasize agriculture in a development strategy for Sierra Leone becomes urgent, especially when the industry performs several important functions in the economy, ie the production of food for the population, the production of export crops to earn foreign exchange, the generation of government revenue through export taxes, the production of raw materials for agro-based industries and, more especially, the provision of a livelihood for most of the population.

Training of local technical staff (Agro-Technicians) is undertaken by the Ministry of Agriculture and Natural Resources at Makali and Mange. These Training Centres provide six-month practical courses for 100 technicians each year.

The country is divided into agricultural extension regions, each of which is further sub-divided into circles. The regional office is manned by a Principal Agricultural Officer assisted by a Senior Agricultural Officer, Agricultural Engineer and a Senior Inspector of Produce who supervise, co-ordinate and follow-up circle programmes of work. The technical staff of a circle consist of an Agricultural Officer supported by Agricultural Superintendents and several graded Agricultural Instructors. Staff functions include the sale and distribution of improved planting cultivars; local planting materials and agro-chemicals; agricultural extension activities involving the agronomy of crops; planning and supervising of mechanical cultivation of rice; marketing advice and crop protection services.

Agricultural education and training is provided at Njala University College by degree and certificate programmes; Milton Margai Teachers' College, Bo Teachers' College and Makeni Teachers' College train teachers of agriculture for the lower forms of the secondary schools, whilst Bunumbu Teachers' College trains agricultural teachers for the rural primary schools.

Research into crop and animal husbandry is undertaken by Njala University College, the Rice Research Station at Rokupr, Teko Veterinary Station, the Animal Husbandry Station at Musaia, the Forestry Training School at Bambawo, the Cocoa and Coffee Research Station at Kpuwabu and Pendembu, and the newly established ACRE Project (Adaptive Crop Research and Extension). These establishments conduct food research on farms and are in contact with other research institutions all over the world.

SIE 1

UNIVERSITY OF SIERRA LEONE

- Enquiries (A) The Registrar, Fourah Bay College, P O Box 87, Freetown.
Tel: 23258. Cable: Fourabay.
- (B) The Senior Assistant Secretary, Njala University College,
Private Mail Bag, Freetown. Cable: NJALUN, Sierra Leone.

Managing agency Autonomous.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses (A) SUNDRY
2-year courses leading to BSc (Hons) in:
Botany
Subjects studied include Advanced anatomy, Experimental ecology, Limnology and marine biology, Palaeobotany, Plant pathology.
Zoology
Subjects offered include Insect physiology and systematics, Statistics, Vertebrate palaeontology, Freshwater and marine fishes, Advance marine biology, Advanced parasitology, Animal population, Advanced genetics.
Entry standard: University matriculation.

AQUATIC BIOLOGY/FISHERIES

3-year course leading to Diploma in Aquatic Biology and Fisheries.

In the final year students can specialise in either Marine Fishery Biology or Inland Fishery Biology.

Entry standard: School Certificate with 4 credits to include biology and maths.

Note: Courses are also held leading to MSc in Aquatic Biology and Fisheries.

(B) AGRICULTURE

3-4 year course leading to BSc (Agr)

4-5 year course leading to BSc (Hons).

Entry standard: 5 'O' levels to include English language and at least 3 pure science subjects.

HOME ECONOMICS

3-4 year courses leading to BSc in Home Economics Education and Home Economics General.

The purpose of the courses is to train Community Development Workers.

Entry standard: 5 'O' levels to include English language and at least 2 science subjects.

Singapore

Singapore, comprising Singapore Island and some 54 islets, is mainly a low-lying island with a central plateau. It has a total land area of 581 sq kms.

Due to limited land resources, agriculture in Singapore is restricted mainly to intensive vegetable growing and animal husbandry. In fisheries, focus is on intensive fish culture and the rearing of aquarium fish. R & D work carried out by the Primary Production Department is geared towards high-tech farming to service the commercial and high-tech farms being developed in the Agrotechnology Parks. The emphasis is to ensure efficient utilization of limited farm land, while at the same time allowing imports to meet increasing domestic demand for the relevant food items.

SNG 1 AQUACULTURE UNIT

Enquiries The Head, Marine Aquaculture Section, Primary Production Department, 300 Nicoll Drive, Changi Point, Singapore 1749. Tel: 5452124. Telefax: 5427696

Managing agency Ministry of National Development.

Courses FISHERIES
2-3 weeks working attachment for training in techniques of netcage fish culture, including cage construction and management.
Entry standard: BSc in Fisheries or equivalent with working experience.

SNG 2 CENTRAL VETERINARY DIAGNOSTIC LABORATORY

Enquiries The Administrator, Central Veterinary Laboratory, City Veterinary Centre Complex, 40 Kampong Java Road, Singapore 0922. Tel: 2511203. Telefax: 2524898.

Managing agency Ministry of National Development.

General details 1) Term starts in June. 2) No residential accommodation.
3) Mainly for students from the Colombo Plan countries.

Courses VETERINARY STUDIES
2-month Training course in Veterinary Diagnostic Techniques.
Entry standard: A degree with working experience in a veterinary laboratory.

SNG 3 PIG AND POULTRY RESEARCH AND TRAINING INSTITUTE

Enquiries The Head, Pig and Poultry Research and Training Institute, Sembawang Field Experimental Station, 17 km Sembawang Road, Singapore 2776. Tel: 2570421. Telefax: 7581561.

Managing agency Ministry of National Development.

General details 1) Course can start with 3-6 months' notice. 2) No residential accommodation. 3) Mainly for students from the Colombo Plan countries.

Courses	POULTRY HUSBANDRY 8-week practical attachment training in intensive poultry husbandry. Entry standard: A diploma in Veterinary Science or Animal Husbandry plus working experience.
SNG 4	SEMBAWANG FIELD EXPERIMENTAL STATION
Enquiries	The Head, Agriculture Division, Sembawang Field Experimental Station, 17 km Sembawang Road, Singapore 2776. Tel: 2570421. Telefax: 7581561
Managing agency	Ministry of National Development.
General details	1) Terms commence in March or August. 2) No residential accommodation. 3) Mainly for students from the Colombo Plan countries.
Courses	FARMING 10-week course of practical training in Mushroom Cultivation Techniques promoting the use of agro-waste material for mushroom production in developing countries. Entry standard: A degree or diploma in Agricultural Science with work experience.

Solomon Islands

Solomon Islands form an archipelago lying in the Melanesian region of the Pacific Ocean. It consists of a double row of islands, which are mountainous, and covered with dense rain forest. It has a total land area of 28,446 sq kms.

Copra remains the most important cash crop in the Solomon Islands and in excess of 70% of the tonnage exported is produced by smallholders. Cattle projects, which peaked in 1978, have eased back in numbers with smallholders holding the greater proportion of stock at some 37%. Some diversification in livestock is currently in hand through the distribution of small farm animals such as goats and ducks. Cocoa production has increased strongly, though from a small base, with increasing involvement of smallholders. Oil palms and rice are cultivated in one Province on a commercial basis with the participation of the Solomon Islands Government. Interest in crop diversification, based on potential markets for other crops, exists in an effort to expand the country's production base. The major subsistence crops are sweet potato, taro, yams and bananas.

Agricultural training is aimed at increasing the proficiency of both agricultural staff and farmers in the various aspects of cash cropping, subsistence agriculture and farm management skills.

As far as formal education is concerned, primary education - over six or seven years - is largely conducted in village schools and thus is never greatly removed from the agriculture going on around them. The national secondary schools, of which there are eight, tend to separate children from their homes. They attempt to include some agricultural theory and practice in their courses. The twelve provincial secondary schools, where teaching is given to form 3 level, provide, nearer the scholars' homes, a type of education and training more closely allied to local community needs. Tertiary level training is conducted mostly overseas. About 50 students are engaged in agricultural courses in Papua New Guinea, Fiji and Australia. The Solomon Islands College of Higher Education has been established and, in due course, will offer certificates in agriculture at the yet to be instituted School of Natural Resources.

The Agriculture Division of the Ministry of Industries, Commerce and National Development runs 70 or so short courses each year for farmers and staff. Courses are offered in a range of agricultural crops - cocoa, coconuts, root crops/vegetables, also cattle and small farm animals as well as in subjects ranging over farm management, extension methods, pest/disease control and the use of fertilisers/chemicals. The Division also runs a one year course for form 5 school leavers who are hoping to take up formal agricultural studies. This takes the form of practical attachments to various sections of the Agriculture Division as well as the commercial agricultural sector.

Seconded to each of the seven Provinces is a senior field officer supported by a number of technically qualified staff with at least a certificate in agriculture. The number varies in relation to the population and physical make up of the Province. In support there is a slightly greater number of extension assistants who have no formal training. A more recent move, particularly in areas of specific agricultural expansion, has been the partial replacement of the latter by demonstrators - form 5 leavers - who are given

on-the-job training in specific crops before taking up employment in the Provinces. These demonstrators may have an opportunity, after some years of service, to take up formal certificate level training.

Sri Lanka has a total land area of 65,610 sq kms. The Agricultural Production in the country is characterised by its dualistic nature with a plantation sector producing tea, rubber and coconut on one hand and the domestic agriculture sector comprising mainly of the food crops, livestock fisheries etc. Almost 52 percent of the Sri Lanka's economically active labour force is engaged in agriculture.

Rice receives high emphasis in the domestic agriculture sector with production incentives such as fertilizer subsidy, guaranteed price, crop insurance coverage, agricultural credit facilities and better agricultural extension coverage. The country is fast reaching self-sufficiency in its rice requirements. Simultaneously, other subsidiary food crops are now receiving attention and the cultivation of these crops are promoted as a means of crop diversification and improving the farmers income.

In the domestic Agriculture sector, the Agrarian Services Committee forms the village level institution servicing the Agrarian community through which all the services are channelled. The Agrarian Services Committees have elected farmer representatives and appointed Government Officers servicing these committees. With the introduction of free market policies in 1977, the Government emphasis has switched on to the promotion of investment through the private sector. Through these policies, some of the land which was hitherto underutilized has been put into productive use through joint venture projects both with local and foreign investors.

The Mahaweli Development Programme which is being completed is the largest ever development programme undertaken in Sri Lanka. In this programme about 300,000 acres of land were brought under assured irrigation thereby improving the productivity and the cropping intensity of these lands.

Generation of Hydro Electric Power is another substantial contribution from this programme. Large numbers of farm families have been settled in the newly developed areas. Attempts are now being made to promote Agro-industries to utilise the agricultural output in the Mahaweli areas.

The State provides subsidies to the growers of fruits and minor export crops which cater to both the local and the foreign markets. Increasing emphasis is being placed on the development of a well co-ordinated horticultural programme.

Home gardening is also promoted islandwide as a means of part-time employment and also to meet the nutritional needs at a lesser cost. Efforts on farm mechanization are directed towards improving the productivity without replacing the labour.

Agriculture has become a popular subject at the secondary schools and higher levels. The Department of Agriculture provides training to farmers through 19 district training centres and the three Agriculture schools provide vocational training to youth in Agriculture. In addition four Universities in the country offer undergraduate courses in agriculture.

SRL 1 BATTICALOA UNIVERSITY COLLEGE

Enquiries The Dean, Faculty of Agriculture, Batticaloa University College,
Eastern University, Chenkalady. Tel: 065-2473.

Managing agency Autonomous.

Courses **AGRICULTURE**
4-year course leading to BSc (Agr).
Subjects studied include: Crop production, Agricultural
biology, Agricultural chemistry, Animal science, Agricultural
engineering, Agricultural economics.
Entry standard GCE 'A' levels.

SRL 2 FARM MECHANIZATION TRAINING CENTRE

Enquiries The Project Manager, Farm Mechanization Training Centre,
Anuradhapura. Tel: 025-2437 (Anuradhapura).

Managing agency Ministry of Agriculture, Development and Research.

Courses **FARM MECHANIZATION**
Short courses (up to 3 weeks) in Tractor Training, Plant Protection
Equipment Training, Machinery Training.
Courses comprise field/workshop practicals and demonstrations
and are intended for officers from government departments,
students and farmers.

The Centre also organises extension programmes and advisory
services to small workshop owners.

SRL 3 HARDY TECHNICAL COLLEGE

Enquiries The Principal, Hardy Technical College, Ampara. Tel:063-2056.

Managing Agency Ministry of Higher Education

Courses **AGRICULTURE**
2-year course leading to National Diploma.
Entry standard: 6 'O' levels to include pure maths, physics and
language with credit passes in at least 3 subjects.

SRL 4 SRI LANKA FISHERIES TRAINING INSTITUTE

Enquiries The Principal, Sri Lanka Fisheries Training Institute, Crow Island,
Mattakkuliya, Colombo-15. Tel: 590749. Cable: PRINCYFISH.

Managing agency Ministry of Fisheries.

Courses **FISHERY**
3-10 month courses for Postgraduate Diploma in Fisheries
Management; Foundation Level Certificate in Fisheries Management;
Advanced National Certificate in Marine Fishing.
Entry standard: Appropriate entry qualifications with minimum GCE
'O' level.

Note: Mid-level Fisheries courses are conducted at Regional
Fisheries Training Centres situated at Negombo, Tangalle,
Batticaloa and Jaffna.

SRL 5 SRI LANKA SCHOOL OF AGRICULTURE

Enquiries The Principal, Sri Lanka School of Agriculture, Kundasale.
Tel: 08-21513.

Managing agency Ministry of Agriculture, Development and Research.

Courses **AGRICULTURE**
2-year course leading to Diploma in Agriculture.
Entry standard: GCE 'O' levels in science subjects.

SRL 6 SRI LANKA SCHOOL OF ANIMAL HUSBANDRY

Enquiries The Director, Sri Lanka School of Animal Husbandry, Welisara,
Ragama. Tel: 538-340.

Managing agency State Department of Animal Production and Health.

Courses **ANIMAL HUSBANDRY**
2-year course leading to Diploma.
Subjects studied include: Comparative anatomy, Physiology,
Nutrition, Pasture and fodder, Milk and meat production,
Mutton production, Pork and bacon production, Egg and broiler
production, Animal restraint, Veterinary first aid, Animal
health, Public health, Soils and weather, Crops, Agricultural
engineering.
Entry standard: 'A' levels in 3 science subjects.

SRL 7 TEA RESEARCH INSTITUTE OF SRI LANKA

Enquiries The Director, Tea Research Institute of Sri Lanka, St Coombs,
Talawakelle. Tel: Talawakelle 244, Cable: RESEARCH T'KELE.

Managing agency Sri Lanka Tea Board.

Courses **SUNDRY**
The Institute offers facilities for basic scientific research as
well as applied research in Agricultural Chemistry, Agronomy,
Entomology, Nematology, Plant Biochemistry, Plant Breeding, Plant
Pathology, Plant Physiology, Plant Propagation and the Technology
and Biochemistry of the manufacture of tea.

SRL 8 UNIVERSITY OF PERADENIYA

Enquiries The Dean, Faculty of Agriculture, University of Peradeniya,
Peradeniya. Tel: 08 -88041 Cables: University, Peradeniya.

Managing agency Autonomous.

Courses **SUNDRY**
4-year courses leading to BSc (Agr).
Optional subjects in the final year include Crop science, Animal
science, Agricultural biology, Agricultural chemistry, Agricultural
economics, Agricultural engineering.
Entry standard: A Diploma in Agriculture or Animal Production; 2
'A' levels in approved science subjects.

FARMING SYSTEMS

1-2 year postgraduate course leading to Diploma in Farming Systems.

Syllabus covers: Agricultural systems in general, Sri Lankan farming systems, Research and development.

Entry standard: Appropriate first degree.

FOOD AND NUTRITION

1-year postgraduate course leading to Diploma in Food and Nutrition Policy Planning.

Syllabus covers: Food and nutrition economics, Basic human nutrition, Health and sanitation, Food production, Harvesting and storage, Planning and management of food and nutrition programmes.

Entry standard: Appropriate first degree.

SUNDRY

The Postgraduate Institute of Agriculture offers facilities for postgraduate training and research leading to MSc (Agric) 1-2 years; M. Phil 3-4 years; PhD 2-5 years. Subjects available: Agricultural biology, Agricultural economics and extension, Agricultural engineering, Animal science, Crop science, Food science and technology, Soil science.

SRL 9

UNIVERSITY OF RUHUNA

Enquiries

The Director, University of Ruhuna, Kamburupitiya, Sri Lanka.
Tel: (041) 2300.

Managing agency

University of Sri Lanka.

General details

1) Courses between October and July (3 terms of 10 weeks each).

Courses

AGRICULTURE

4-year course leading to BSc (Agr).

Subjects studied include: Animal science, Agricultural engineering, Agricultural botany, Entomology, Crop production, Agricultural chemistry, Genetics and plant breeding, Plant pathology, Biometry, Agricultural economics, Agricultural extension, Farm management.

Entry standard: Pass in 4 approved GCE subjects.

Swaziland

Swaziland has a total land area of 17,363 sq kms. It is mountainous and has three well-defined areas; the highveld in the west is mostly over 1200 metres and best used for afforestation, the middleveld at an average altitude of 700 metres is suitable for mixed farming because of its good soils and plentiful rain, and the lowveld is mainly cattle-raising country except in the east where fertile soils enable irrigation crops to be produced. Four major rivers provide good potential for agricultural growth through irrigation. Agriculture plays the key role in the economy, providing about 71% of the people with their livelihood. Commercial agriculture and forestry account for 25% of GDP and some 60% of exports.

However, living standards among the Swazi majority depending on subsistence farming have not grown as fast as for the minority employed in modern economic developments. Most Swazi families cultivate small plots of land, their main crops being maize and groundnuts.

The Government aims to improve living standards through Rural Development Programmes to ensure that land is more efficiently used, and it has designated 18 special rural development areas. On this land new and better methods of producing maize, cotton, tobacco and vegetables are being introduced together with improved methods of cattle management for beef and dairy production. Commercial agriculture mainly concentrates on sugar, pineapple, citrus fruits and forestry which together provide over half the total exports.

From the training aspect the current policy is to provide training facilities simultaneously with the development projects which are being carried out. Agricultural education at university and intermediate levels are offered by the University of Swaziland; and vocational training at the grassroots level is provided by several training centres. The Department of Establishment and Training sponsors both students and civil servants for training in Swaziland and abroad. Good use is also made of offers by national and international aid agencies.

The Ministry of Agriculture has two main departments, Agriculture and Veterinary, providing services and carrying out extension activities to train farmers and staff at all levels in a wide range of subjects concerning crop and animal production.

SWA 1

MANANGA AGRICULTURAL MANAGEMENT CENTRE

Enquiries

The Principal, Mananga Agricultural Management Centre, P O Box 20, Mhlume. Tel: 31133, 31134. Telex: 2320 WD.

Managing agency

Commonwealth Development Corporation.

Courses

AGRICULTURAL MANAGEMENT

11-week course in Management Development for middle managers from all parts of the agricultural sector in developing countries.
5-week programme designed to bring together General Managers, Directors and other senior staff in the agricultural sector in developing countries for the purpose of critically examining the challenges which face them at work and sharing their experiences.

4-6 week specialized courses in Operation Management for Extension Supervisors; in Credit for Development for middle managers of Agricultural Credit Agencies; and in Management of Agricultural Research.

Entry standard: Agricultural Diploma or Degree with work experience.

Note: A limited number of grants are made available for the courses by Commonwealth Fund for Technical Co-operation, British Council, and European Development Fund.

Short courses of up to 9 weeks duration are conducted in: Management Development, Food Policy Management, Rural Credit Management, Management of Irrigation Project, Computers in Management, Management of Rural Development, Agricultural Project Analysis and Management, Senior Managers' course.

Courses are designed for middle and senior managers with at least 3 years' experience in management, holding a diploma/certificate in the subject area.

SWA 2 UNIVERSITY OF SWAZILAND

Enquiries The Dean, Faculty of Agriculture, University of Swaziland, Luyengo Campus, P O Luyengo, Swaziland. Tel: Malkerns 83021/2.

Managing agency Autonomous.

General details 1) 2 terms: Aug/Dec, Jan/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
2-year Diploma courses in Agriculture, Agriculture Education, and Animal Health and Management.
Entry standard: GCE 'O' level standard or equivalent.

AGRICULTURE

4-year BSc (Agr) course.
Entry standard: GCE 'O' level with passes in English, mathematics and a science or equivalent.

Note: Considerable support is received from the Swedish International Development Authority, through Funds in Trust arrangement with FAO, and from the Governments of New Zealand and Britain.

Tanzania was formed by a union of mainland Tanganyika with islands of Zanzibar and Pemba. It has a total land area of 945,087 sq kms.

Agriculture is the backbone of the Tanzanian economy and will continue to be so for a long time. Much of the agriculture is on smallholdings, the majority of the population being outside the wage employment sector, relying on peasant agriculture for their living. The rural development policy is therefore aimed at expanding agricultural output by improving the skills of village farmers. Important changes in rural organization have included the establishment of a few large, publicly owned, usually mechanized, farms and the creation of Ujamaa villages, where individual smallholders are brought together for co-operation. Such villages are intended to become economic, social and political entities running their own schools and working together for improvements in their own living conditions.

The livestock industry in Tanzania has enormous potential for improved production, by the increased productivity of existing animals and by enlarging the overall number of animals. Livestock has a key role to play in the implementation of the national 'Food Strategy' and the ability to convert low quality feeds into high quality fats and proteins for human consumption must be exploited to the full. With a modest improvement in the management of the national herd, especially in the areas of feeding, disease control and breeding, increased production could be obtained to cope with the rapid rise in internal demand for livestock products and, with major investments in land clearing and the development of infrastructure, the livestock sector could, in the longer term, become an important foreign exchange earner.

The social and economic development of the country in general, and its people in particular, hinges on the development of agricultural and agro-based production. Hence a well defined and documented agricultural and livestock was formulated for the agricultural sector in 1983 to achieve its objectives.

The two main objectives of the education for rural development policy are to make schools an integral part of the community, bearing in mind that their standard of living will depend mainly on the level of productivity they attain in rural activity. This has meant the retraining of teachers, and has led to an attempt to make all schools economic as well as social and educational communities. Most schools now have farms or workshops attached to them, some farms being run on a co-operative basis. Thus agriculture is now part of primary and secondary teacher training, and some colleges of national education have specialist agricultural courses, training teachers for secondary schools with a particular agricultural bias.

The Government has recognised the need to train farmers and has established several Training Centres where farmers can take short training courses in agriculturally related skills. The emphasis is on practical, rather than theoretical training. These short courses are followed up with visits by the extension staff.

The Ministry of Agriculture has expanded training facilities for field assistants. At diploma level, about eight training institutes provide 2-year full-time courses as well as in-service training. Agricultural education at university level is offered by Sokoine University of Agriculture.

TAN 1 COLLEGE OF AFRICAN WILDLIFE MANAGEMENT, MWEKA

Enquiries The Principal, College of African Wildlife Management,
P O Box 3031, Moshi. Tel: Kibosho 18. Cables: Gameschool Moshi.

Managing agency Ministry of Natural Resources and Tourism.

Courses WILDLIFE MANAGEMENT

2-3 year course leading to Diploma.

The purpose of the course is to train wildlife officers to the level of warden.

Entry standard: 2 'A' level passes in science subjects.

1-year course leading to postgraduate Diploma.

The course provides the principles of wildlife management techniques and practical wildlife management to university graduates from other fields.

Entry standard: Appropriate first degree.

TAN 2 THE CO-OPERATIVE COLLEGE

Enquiries The Principal, The Co-operative College Moshi, Sokoine Road,
P O Box 474, Moshi. Tel: Moshi 2228/9, 3220/1.
Cables: ELIMU Moshi.

Managing agency Board of Governors.

Courses CO-OPERATIVE DEVELOPMENT

2-year course with specialisations leading to Diploma in Co-operative Accounting, Diploma in Co-operative Development and Diploma in Co-operative Management.

The course is intended for middle level staff.

Entry standard: First or second class certificate from the College or equivalent, plus 2 years' working experience.

3-year course with specialisations as above leading to Advanced Diploma.

Course is intended for senior staff.

Entry standard: First or second class certificate or Diploma.

1-year course leading to postgraduate Diploma in:

Co-operative Business Management

Elective subjects include International co-operative development, Co-operative business planning, Integrated management systems, Pricing and pricing policy, Socio-economic theories and practice of co-operation, Transport management for co-operatives.

Co-operative Development Policy

Elective subjects include Co-operative and development policy, Co-operative education, training and extension methods, Economic policy and planning, Project planning and evaluation, International comparative co-operative legislation.

Entry standard : Advanced Diploma or Bachelor degree or equivalent.

TAN 3 EASTERN AND SOUTHERN AFRICAN MANAGEMENT INSTITUTE

Enquiries The Registrar, ESAMI, PO Box 3030, Arusha, Tanzania.
Tel.Arusha 2881/5. Telegrams: PERFORMANCE; Telex 42076 EACOMI.

Managing Agency Board of Governors

Courses **SUNDRY**
ESAMI organises short management training courses, workshops, seminars or symposia for organisations within its member States in Eastern and Southern Africa. The training programmes are designed for top and senior management executives in government and industry to update their knowledge and skills.

TAN 4 INTERNATIONAL CO-OPERATIVE ALLIANCE

Enquiries The Director, International Co-operative Alliance (ICA), Regional Office for East, Central and Southern Africa, P O Box 946, Moshi.
Tel: 4706, 4708. Telex: 43000 COBOT or 43119 TARIMO.
Cable: INTERALLIA, MOSHI.

Managing agency International Co-operative Alliance, Geneva.

Courses **CO-OPERATIVE DEVELOPMENT**
3-month course leading to postgraduate Diploma in Co-operative Development Policy.
Subjects studied include Co-operative development, Economics of co-operation, Co-operative management.
Entry standard: Appropriate degree plus a minimum of 3 years' working experience.

TAN 5 KUNDUCHI MARINE FISHERIES RESEARCH AND TRAINING INSTITUTE.

Enquiries The Principal, Kunduchi Marine Fisheries Research and Training Institute, P O Box 60091, Dar es Salaam. Tel: 47011/2/3
Cables: CHUO UVUVI.

Managing agency Ministry of Lands, Natural Resources and Tourism.

Courses **FISHERIES**
2-year course leading to Diploma.
Course covers Fisheries biology, Fish processing, Marine engineering, Nautical science, Fisheries management.
Entry standard: East African Certificate of Education or equivalent with principal pass in physics, chemistry or biology.

TAN 6 MINISTRY OF AGRICULTURE TRAINING INSTITUTE (MATI)

Enquiries (A) The Principal, MATI-Mlingano, PO Box 5051, Tanga.
Tel.: Ngomeni-12. Cable: Kilichuo-Tanga.

(B) The Principal, HORTI Tengeru, PO Box 1253, Arusha.
Tel.Duluti 94. Cable: Kilichuo HORTI. Tengeru.

(C) The Principal, MATI-Nyegezi, P O Box 1400, Mwanza.

Managing agency Ministry of Agriculture and Livestock Development.

Courses

(A) AGRO-MECHANISATION

2-year course leading to Diploma in Agro-mechanisation.

Subjects studied include: Farm machinery, Soil and water management, Farm structures, Farm economics, Workshop organisation and management, Political economy and public administration.

Entry standard: Higher secondary level or certificate holder with 3 years' work experience.

FARM MANAGEMENT

2-year course leading to Diploma.

Subjects studied include: Farm planning, Farm machinery, Individual crops and pastures, Animal production, Conservation, irrigation and drainage.

Entry standard: Higher secondary level or certificate holder with 3 years' work experience.

(B) HORTICULTURE

2-year Diploma course.

Entry standard: Higher secondary level or certificate holder with 3 years' work experience.

(C) SUNDRY

2-year courses leading to Diploma in:

Irrigation

Course covers Irrigation methods, Crop protection, Surveying, Pump maintenance and irrigation structures.

Agromechanisation

Course covers Operation and maintenance of farm machinery, Management of farm workshops/craft centres, Construction of farm buildings.

Land Use Planning

Students are trained primarily as extension workers in order to be able to advise farmers, villagers and government bodies.

Entry standard: Science 'A' levels and/or Certificate in Agriculture.

TAN 7

OLMOTONYI FORESTRY TRAINING INSTITUTE

Enquiries

The Principal, Olmotonyi Forestry Training Institute, P O Box 943, Arusha. Tel: 057-3441. Cables: Juamisitu Arusha.

Managing agency

Ministry of Lands, Natural Resources and Tourism.

Courses

FORESTRY

2-year course leading to pre-service Diploma in Forestry.

Entry standard: 'A' level passes in approved science subjects.

13-month course leading to in-service Diploma.

Entry standard: Certificate in Forestry and at least 3 years' field service.

TAN 8

SOKOINE UNIVERSITY OF AGRICULTURE

Enquiries

The Registrar, Sokoine University of Agriculture, P O Box 3000, Morogoro. Tel: 2511, 2236. Telex: 55308 UNIVMOG.

Tanzania

Managing agency Autonomous.

General details 1) 4 terms: Jan/Mar, Mar/May, Jun/Aug, Aug/Dec. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
3-4 year Bachelor Degree courses in Agriculture, Forestry, Veterinary Science and Agricultural Engineering.
Entry standard: GCE 'A' level with at least 2 science subjects or equivalent.

2-year Higher Degree courses in Agriculture, Agricultural Economics, Agricultural Engineering, and Veterinary Medicine.
Entry standard: Appropriate first degree.

3-year PhD courses in Agriculture, Agricultural Economics, Agricultural Engineering and Veterinary Medicine.
Entry standard: Appropriate Master's degree.

TAN 9 UYOLE AGRICULTURAL CENTRE

Enquiries The Principal, The Uyole Agricultural Centre Training Institute, P O Box 400, Mbeye. Tel: Mbeye 2116. Cable: AGRICENTRE MBEYE.

Managing agency Board of Directors.

General details 1) 3 terms: Jul/Oct, Nov/Feb, Mar/May. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **FOOD PRODUCTION AND NUTRITION**
2-year course leading to Diploma in Food Production and Nutrition
Subjects studied include Human nutrition, Food science, Home management, Food processing and storage, Farm management, Public administration.
Crop Production
Subjects studied include Surveying and land use planning, Soil and water management, Farm structures, Farm water supply, Farm management, Public administration.

Entry standard: Certificate in Agriculture or 'A' level passes in biology and chemistry.

ANIMAL PRODUCTION
2-year course leading to Diploma in Animal Production
Subjects studied include Animal health, Artificial insemination, Dairy cattle/Beef cattle husbandry, Farm management, Soil science, Surveying and land use, Soil and water conservation, Farm machinery.

Poultry Production
Subjects studied include Poultry health and disease, Poultry and rabbit production, Hatchery management, Public administration, Farm management, Farm structures.

Entry standard: Certificate in Agriculture or 'A' level passes in biology and chemistry.

Tonga

Tonga comprises 169 islands and islets in the south-west Pacific. Eastern islands are of coral formation, islands to the west are volcanic with some active volcanoes. It has a total land area of 699 sq kms.

Agriculture is the basis of the economy in Tonga. Potential exists for substantially greater agricultural output. Soils are generally fertile and the climate is conducive to agricultural production during most of the year. Over 51% of the labour force is employed in agriculture, forestry, and fishing. These are predominantly small farmers growing their own food and producing a few cash crops. Agricultural products make up the country's major exports - copra, bananas and desiccated coconut, together providing over 90% of the value exports.

Fish and marine animals have always been important staple food. Local demand for fish was satisfied by the catch from the inner-reef areas, lagoons and barrier reefs of the island groups. Since late 1979 there has been a marked improvement in the performance of the artisanal small-scale fisheries with the introduction of larger (9-12m) fishing boats, ice plants, cold storage facilities and improved supplies of fishing equipment.

The 1980/85 Development Plan gave high priority to the expansion and diversification of agriculture and the establishment of training facilities. Agricultural policy aims at the development and application of improved crop, animal husbandry and processing techniques, and the improvement of general standards of agricultural knowledge through formal and informal methods. A well-trained team of agricultural staff is essential to ensure that knowledge gained by research is transmitted to the farming community, and to assist in the adoption of new techniques.

The Department of Agriculture provides advisory services and training through its extension staff. It organizes courses for farmers on topics such as banana production and provides training in subjects such as beekeeping, maintenance of motor boat engines for fishing boat owners, care of livestock, coconut re-planting, and so on. The home economics section provides training for women in villages on the growing and preparation of vegetables. The extension service uses radio as well as publications and publicity.

Staff training provided by the Department of Agriculture includes in-service programmes at the Government Farm in Tongatapu (which also provides practical training in livestock management for farmers); courses for veterinary staff and livestock assistants; reafforestation schemes; refresher courses for staff of the Coconut Re-planting Scheme; and practical instruction in extension methods. Some staff members received overseas training. Technical staff training will continue to be given high priority. Some staff are being trained at the Fiji Technology Institute to provide on-floor training in heavy and light mechanical repairs.

Trinidad & Tobago

Trinidad and Tobago consists of the main island of Trinidad and the small island of Tobago which lie in the Caribbean Sea. It has three mountain ranges which cross Trinidad, flat central plain and undulating southern plain, one-fifth of the islands consists of forest. It has a total land area of 5,128 sq kms.

The primary objective of the agricultural policy of Trinidad and Tobago for the eighties is the expansion of the domestic food supply in order to increase self reliance and enhance food security. The target is not only that the country should meet the demand for food, but also that the level of food imports should be reduced. Subsidiary objectives include the rationalization of traditional export agriculture in the light of declining markets and prices and the stimulation of non-traditional exports, ie cut flowers, tropical foliage plants, fruits, forestry and fisheries products.

Given an increase in agricultural development, attention has been given to improving the skills of the farming and rural population. To meet the increasing manpower requirements for a technologically oriented agricultural sector, the Extension Services Division of the Ministry of Agriculture, Lands and Food Production, has been reorganized and expanded to include an Information and Training Section, which operates a Farmer Training Centre - the focus of training for farmers is an improved technology and management as related to the farming business. Additionally, relevant training at the professional, sub-professional and technical levels is provided at the University of the West Indies, John S Donaldson Technical Institute, Eastern Caribbean Institute of Agriculture and Forestry, Caribbean Fisheries Training and Development Institute, Trade Centres, Youth Camps and the Management Development Centre.

Meanwhile, the system of vocational and technical training has been restructured to fit modern economic and social requirements. The secondary school system now provides for a range of training at the 14-18 year level in agricultural science and agriculture-related topics.

TRT 1

CARIBBEAN AGRICULTURAL RESEARCH AND DEVELOPMENT INSTITUTE (CARDI)

Enquiries

The Executive-Director, Caribbean Agricultural Research and Development Institute, University Campus, St Augustine.
Tel: 662-5511. Cable: STOMATA.

Managing agency

Standing Committee, Ministers of Agriculture in CARICOM, through a Board of Directors.

Courses

SUNDRY

Workshops, seminars and short courses are conducted or co-ordinated by CARDI. Postgraduate student supervision is offered and training courses for farmers are arranged. In addition there are training facilities for graduates from other Institutes by attachment.

TRT 2 CARIBBEAN FOOD AND NUTRITION INSTITUTE

Enquiries The Head, Caribbean Food and Nutrition Institute, Trinidad Centre, University of the West Indies Campus, St Augustine. Tel: 6631544.

Managing agency Autonomous.

Courses **SUNDRY**
To serve the governments and people of the Caribbean region and act as a catalyst among persons and organisations, training in Nutrition, dissemination of information, advisory services and production of education materials.

TRT 3 EASTERN CARIBBEAN INSTITUTE OF AGRICULTURE AND FORESTRY

Enquiries The Director, Eastern Caribbean Institute of Agriculture and Forestry, Centeno, Via Arima P O, Trinidad, WI.
Tel: 1-809-646-2650/2566.

Managing agency Ministry of Agriculture, Lands and Food Production.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jul.
2) Residential accommodation is available.
3) Students mainly from the Caribbean region are accepted.

Courses **AGRICULTURE**
2-year course leading to Diploma.
Subjects offered include: Animal health and diseases, Beef cattle production, Cocoa and coffee production, Crop protection, Dairy husbandry, Extension methods and rural development, Farm business management, Farm machinery, Pasture management.
Entry standard: 5 'O' levels or equivalent to include English language, maths and a science subject.

FORESTRY
2-year course leading to Diploma.
Subjects offered include: Silvicultural systems, Forest management, Wildlife management, Watershed management, Forest engineering, Forest utilisation, Forest ecology and pathology.
Entry standard: 5 'O' levels or equivalent to include English language, maths and a science subject.

TRT 4 UNIVERSITY OF THE WEST INDIES, ST AUGUSTINE CAMPUS

Enquiries The Registrar, University of the West Indies, or The Dean, Faculty of Agriculture, St Augustine, Trinidad, WI. Tel: 66-31334
Cable: 'Stomata' Port of Spain.

Managing agency The University of the West Indies.

General details 1) 3 terms: Oct/Dec, Jan/Mar, Apr/Jun. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

AGRICULTURE

3-year course leading to BSc.

Subjects studied include: Crop production, Plant pathology and weed science, Animal production, Farm machinery and mechanisation, Crop utilisation, Economics of agricultural enterprise and marketing, Agricultural extension, plus 8 elective units.

Entry standard: University matriculation.

AGRONOMY

3-year course leading to BSc.

Subjects offered include: Crop production, Farm machinery and mechanisation, Crop utilisation, Crop pathology, Soil water relations, Tropical tree crop production, Soil management, Tropical vegetable and field crop production, Crop pests, diseases and weeds, plus 6 elective units.

Entry standard: University matriculation.

CROP PROTECTION

1-year postgraduate course leading to MSc.

Elective courses are Plant pathology, Applied entomology, Weed science.

Entry standard: Appropriate first degree.

Tuvalu consists of nine remote atolls in the south-west Pacific. It has a total land area of 28 sq kms. Agriculture is a subsistence pursuit and produce sold for cash - including copra, the only export product - is surplus from subsistence requirements. Agriculture accounts for just under 10% of Gross National Product (1979), and it is the major money earner for people in the outer islands - 70% of the population. Constraints affecting agriculture include extremely harsh environmental factors like soil poverty and salt laden winds, and fragmented ownership of land holdings.

The Government of Tuvalu considers training its manpower plus the population at large as a priority in its development policy. As far as agriculture and rural development are concerned, both overseas and in-service training are encouraged. Training covers a variety of topics - gardening, coconut-replanting, animal husbandry, planning and formulation of island development projects, extension methods and techniques and youth development. In almost all cases funding of in-service training courses is provided by donor countries.

Degree, diploma and certificate training in agriculture are all being catered for through overseas institutions, particularly at the University of the South Pacific School of Agriculture. It has been the practice for high school leavers to be awarded scholarships to pursue degree and diploma courses. However the Agriculture Department normally sends its staff, particularly at the agricultural trainee level, on certificate courses. Senior and intermediate staff are also allowed to undertake refresher courses whenever an opportunity arises. Besides these formal training courses, agricultural staff are also given opportunities to attend regional and international conferences, seminars and workshops on agriculture as an additional source of training.

Uganda

Uganda is landlocked and has freshwater lakes. Its terrain ranges from semi-desert in the north-east to tropical rain forest in the south and south-east and mountain ranges in the east and the west. It has a total land area of 236,036 sq kms.

Agriculture will continue to be the backbone of the economy of Uganda for a very long time to come. The need to meet the food requirements of the country and to earn the much needed foreign exchange is ever present, and the government is aware of its obligations.

Training is an essential factor in government efforts everywhere. The requirements in terms of quality and quantity of trained manpower are always increasing. In view of this, efforts have been made to increase the capacity of training institutions and step up the intake. The establishment of Busitema National College of Agricultural Mechanization contributes towards meeting the requirements for skilled manpower on the farm and in the agro-industries.

Besides the formal training provided to produce staff to man government services, farmer training is also carried out at District Farm Institutes. These are residential institutes where courses lasting up to a week are organized for farmers. The District Farm Institutes are also used for refresher training courses for field staff.

Agricultural vocational training is provided by numerous training centres, operating at grassroots level. Agriculture is now a major subject in the curriculum of the schools. It is being offered as a subject in GCE 'O' level and it is expected to be taken at 'A' level. Agricultural education at intermediate level is being taught by the agricultural colleges, while the degree level is offered by Makerere University.

UGA 1 ARAPAI AGRICULTURAL COLLEGE

Enquiries The Principal, Arapai Agricultural College, P O Box 203, Soroti.
Tel: 140 (Soroti). Cable: AGRICOLA SOROTI.

Managing agency Ministry of Agriculture and Forestry.

Courses **AGRICULTURE**
2-year course leading to National Diploma.
Entry standard: National Certificate in Agriculture or equivalent, followed by at least 2 years' experience.

FARM MANAGEMENT
2-year course leading to National Diploma.
The course is for serving Agricultural Assistants who have worked for two years in the field.

UGA 2 BUKALASA AGRICULTURAL COLLEGE

Enquiries The Principal, Bukalasa Agricultural College, P O Box 174, Wobulensi. Tel: 20 Wobulensi. Cable: AGRICOLA WOBULENSI.

Managing agency Ministry of Agriculture and Forestry.

- Courses** **AGRICULTURE**
2-year course leading to Diploma.
Entry standard: GCE 'O' levels in biology, physics, chemistry and maths; or 'A' level in biology or chemistry, physics and maths.
- UGA 3** **BUSITEMA NATIONAL COLLEGE OF AGRICULTURAL MECHANIZATION**
- Enquiries** The Principal, Busitema National College of Agricultural Mechanization, P O Box 236, Tororo. Tel: 644 Tororo.
Cable: AGRICOLA TORORO.
- Managing agency** Ministry of Agriculture and Forestry.
- Courses** **AGRICULTURAL MECHANISATION**
2-year in-service course leading to Diploma in Agricultural Mechanisation.
The course is mainly for diplomates in General Agriculture.
Entry standard: National Certificate in General Agriculture with at least 2 years' field experience.
- UGA 4** **MAKERERE UNIVERSITY**
- Enquiries** The Registrar, Makerere University, P O Box 7062, Kampala.
Tel: Kampala 42471, 56931, 45385. Cables: Makunika.
- Managing agency** Largely autonomous.
- General details** 1) 4 terms: Oct/Dec, Jan/Mar, Apr/Jun, Jun/Aug. 2) Residential accommodation is available. 3) Students from abroad are accepted.
- Courses** **SUNDRY**
3-year Bachelor Degree courses in Agriculture, Forestry, Rural Economics, and 4 years for Veterinary Medicine.
Entry standard: Higher School Certificate or equivalent.

Higher Degree courses (18 months for MSc, and 2 years for PhD) in Agriculture, Forestry, Rural Economics; only MSc Degree course available in Veterinary Medicine.
Entry standard: Appropriate Honours degree.
- UGA 5** **NYABYEYA FORESTRY COLLEGE**
- Enquiries** The Principal, Nyabyeya Forestry College, Private Bag, Masindi.
- Managing agency** Ministry of Agriculture and Forestry.
- Courses** **FORESTRY**
2-year Diploma course.
Entry standard: Forest Ranger's Certificate or GCE 'A' level.
- UGA 6** **UGANDA CO-OPERATIVE COLLEGE**
- Enquiries** The Principal, Uganda Co-operative College, P O Box 10, Kigumba.
Cable: EDUCOOP MASINDI.
- Managing agency** Government of Uganda.

Uganda

Courses

CO-OPERATIVE STUDIES

2-year In-service course leading to Diploma in Co-operative Business Administration.

Entry standard: GCE 'O' levels and 1 GCE 'A' level, followed by at least 3 years' experience.

UGA 7

VETERINARY TRAINING INSTITUTE

Enquiries

The Principal, Veterinary Training Institute, P O Box 112, Entebbe. Tel: 20229/20192 (Entebbe). Cable: VETED.

Managing agency

Ministry of Animal Industry and Fisheries.

Courses

SUNDRY

1-year Diploma courses in Animal Husbandry, covering animal production and industry, including disease control in dairy, beef, pig, poultry and goat production; in Dairy Husbandry covering animal production and industry; Dairy Production including elementary dairy technology; and Ranch Management, covering all aspects of ranch management including animal production and industry.

Entry standard: Holders of Veterinary Assistants' Certificate with 2 years' satisfactory service.

Vanuatu

Vanuatu is an irregular Y-shaped island chain in the south-west Pacific. It comprises 12 main islands which are mountainous, and of coral and volcanic origin and some volcanoes being still active. It is well-watered and densely forested with narrow coastal strips of cultivated land. It has a total land area of 11,880 sq kms.

Agricultural policy in Vanuatu is implemented through the Department of Agriculture, Livestock and Forestry, within the Ministry of Agriculture, Forestry and Fisheries. The main objective of the Department is to encourage balanced development of the smallholder and plantation sectors by means of: promoting self-sufficiency where economic in food, fuel and building materials at the farm, island and national levels; improving nutrition of the people; increasing income and security of producers by diversification away from reliance on copra alone; maintaining the country's relatively pest and disease-free status; and ensuring the balanced utilization and conservation of the country's natural resources.

Agriculture is taught as a core subject in all secondary schools. Because of the importance of agriculture in Vanuatu, many find that their work is directly related to this industry. Others go on to study agriculture at Universities abroad.

Besides the formal Agricultural Education programmes, there are a variety of short courses offered by the Department of Agriculture and by the two French research stations. IRCC concentrates on cocoa and coffee, IRHO has been classified as a regional research centre for coconuts. The staff are willing to organise specific short courses in all aspects of production or research of these crops. Farmers, researchers, and representatives of other governments are welcome to contact these two centres for possible instruction. Interested people should contact either the director of IRHO or IRCC in Luganville, Santo, Vanuatu for details.

Western Samoa

Western Samoa comprises nine islands lying in the south-west Pacific Ocean. It is surrounded by coral reefs, and is volcanic in origin with rugged mountain ranges. It has a total land area of 2,842 sq kms.

The economy of Western Samoa is heavily dependent upon agriculture. Bananas, coconuts and cocoa are the primary agricultural crops though emphasis has been placed on diversification of agriculture and livestock development. The current agricultural development plan gives great attention to increasing primary production, especially of the basic crops, and derivatives such as copra, both for domestic use and export. With this will go integrated development in forestry, fisheries and new crops, as well as in the livestock industry.

Problems such as under-employment and the need for village development loom large in the agriculture sector, much of which is on a subsistence basis. The plan recognises that a major national goal must be to mobilize and use fully the country's human and natural resources, but this can only be done through training and education.

It is planned to make greater efforts to convey the results of research to farmers through an improved extension service. The Department of Agriculture plans to strengthen all its extension and communications sections, including those of the Fisheries Division.

At present, agricultural education at diploma level is provided through the South Pacific Regional College of Tropical Agriculture at Alafua, closely integrated with the University of the South Pacific.

With the start of the Agricultural Information Network by the Institute for Research, Extension and Training in Agriculture (IRETA), extension training utilising IRETA's resources has developed to a very high standard. The teaching of agriculture in secondary schools has also been expanded. Most of the graduates of the school of Agriculture find full-time employment within the Department thus raising its skilled manpower resources.

WES 1

UNIVERSITY OF THE SOUTH PACIFIC

Enquiries

(A) The Head, School of Agriculture, University of the South Pacific, Alafua Campus, Private Bag, Apia. Tel: 21671. Telex: 251 SX.

(B) The Director, Institute for Research, Extension and Training in Agriculture, University of the South Pacific, Private Bag, Apia.

Managing agency University of the South Pacific, Fiji.

General details 1) 2 terms: Feb/Jun, Jul/Nov. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses

(A) AGRICULTURE

2-year courses leading to Diploma in Tropical Agriculture and Diploma in Agribusiness.

Entry standard: New Zealand School Certificate or equivalent with passes in English, maths and 2 science subjects.

3-year course leading Bachelor of Agriculture.

Subjects offered include: Farm business management, Agricultural marketing, Soil fertility and plant nutrition, Agricultural marketing, Soil fertility and plant nutrition, Agricultural extension and programme development, Experimental design and analysis. Pest and disease management, Advance crop science, Animal genetics, breeding and health.

Entry standard: Pass in New Zealand university entrance or equivalent.

2-year course leading to M. Agr. and 3-year course leading to PhD also available.

Entry standard: Appropriate first degree.

(B) SUNDRY

The Institute offers short non-formal training courses of 1-3 weeks' duration on aspects of Extension Communication and Technical Agricultural subjects at its residential Training Centre at Alafua. Annual programme available from the Director.

Zambia is landlocked and is mostly high plateau consisting of bush and savannah. It has a total land area of 752,614 sq kms.

The Fourth National Development Plan (1986) emphasized the need for agriculturally based exports and the improvement of living standards of the rural poor. Developing agriculture in rural industries will improve the income generating capacity of the rural people. In view of the recent experiences of drought conditions, irrigation development will receive greater attention. It is clear that with the declining copper prices and the weakening of the Kwacha, economic stability will be possible only by full exploitation of the agricultural potential. The main feature of the Plan is to transform agriculture so that not only will Zambia be self-sufficient in food production and produce enough for export, but agriculture will gradually replace copper as the main source of foreign exchange earnings.

The policies of decentralization are already in operation. This enables greater participation by the local people in the decision making process. The Co-operative movement has already been re-organized with the establishment of the Zambia Co-operative Federation and the formation of a Ministry of Co-operatives, so it is hoped that more primary co-operative societies will be formed and the Co-operative Unions will operate as profit making organizations. With these changes the production of more maize, sorghum, millet, sunflower, groundnuts, cotton, tobacco, sugar-cane and soya beans is anticipated. This would result in a more diversified rural economy. A more balanced growth of the rural sector will be called for, in order to make rural areas more attractive. This will include the improvement of rural health, water supplies, educational facilities, communication and transportation and the establishment of agro-industries to provide additional employment opportunities. As agriculture grows so does the need to improve the rural infrastructure. It is hoped also that more food storage facilities will be constructed in order to reduce the high demand of transportation facilities before the onset of the rains.

In addition to introducing agricultural science and production units in all schools, the Natural Resources Development College has now been affiliated to the University of Zambia. This ensures that the high standards of agricultural manpower are maintained, and that university teachers become more acquainted with the manpower needs of the Ministry of Agriculture and Water Development. Training at agricultural certificate level has been doubled with the establishment of the Zambia College of Agriculture at Mpika.

Now that it is necessary to involve women in development, the Ministry has decided to provide specific programmes that are targeted towards rural women and female heads of households. These programmes will enable such women to have ready access to rural credit and other agricultural requisites. The Ministry has recently adopted a World Bank sponsored study on restructuring the Agricultural Research and Extension Sector. This will provide proper incentives so that qualified and experienced researchers and extension workers can be retained in the service.

ZAM 1

NATURAL RESOURCES DEVELOPMENT COLLEGE

Enquiries

The Principal, Natural Resources Development College,
P O Box 3100099, Lusaka.

Managing agency

Ministry of Agriculture and Water Development.

Courses

AGRICULTURE

3-year course leading to Diploma in Agriculture majoring in:

Crop Science

Subjects studied include Farm management, Animal production,
Evaluation and improvement of soils, Field crop production,
Crop protection.

Business Management

Subjects studied include Economic development, Farm
management, Accounting and financial management, Marketing and
co-operatives, Animal production, Field crop production, Crop
protection.

Animal Science

Subjects studied include Farm management, Animal production,
Animal health, Field crop production.

Entry standard: 5 'O' levels to include maths and 2 science
subjects.

AGRICULTURAL EDUCATION.

3-year course leading to Diploma.

Subjects studied include: Curriculum and methods,
Psychological foundations of education, Problems and role of
education in a developing country.

Entry standard: 5 'O' levels to include maths and 2 science
subjects.

AGRICULTURAL ENGINEERING

3-year course leading to Diploma.

Subjects studied include: Farm structures, Farm machinery,
Applied engineering science, Animal production, Irrigation,
Pumps and pumping.

Entry standard: 5 'O' levels to include maths and 2 science
subjects.

NUTRITION

3-year course leading to Diploma.

Subjects studied include: Animal production, Agricultural
extension, Food science and management, Dietetics, Maternal
and child health, Nutrition and health education.

Entry standard: 5 'O' levels to include maths and 2 science
subjects.

WATER ENGINEERING

3-year course leading to Diploma.

Subjects studied include: Electrification, Hydraulic
structures, Hydrology, Civil engineering, Surveying,
Irrigation, Pumps and pumping.

Entry standard: 5 'O' levels to include maths and 2 science
subjects.

ZAM 2 PAN-AFRICAN INSTITUTE FOR DEVELOPMENT, EAST AND SOUTHERN AFRICA

Enquiries The Secretary-General, Pan-African Institute for Development, East and Southern Africa, PO Box 80448, Kabwe, Zambia.

Managing agency Autonomous.

Courses **RURAL DEVELOPMENT**
1-year Diploma course in Integrated Rural Development held at Du Sautoy College which aims to develop the attitudes, skills and knowledge of middle level development agents; ensure continuity by establishing communication channels between local, regional and central units; work effectively within national development plans, improve the ability of participants to handle problems of an integrated approach to development.

The programme emphasises the need for an integrated approach. In addition to basic instruction by lectures and discussions, it involves field studies at village, zone and departmental level and, in the final stages, concentrates on agricultural development and economic planning, community and social development, or co-operative development and management.

Entry standard: Sponsored by industry, a parastatal, or a voluntary agency, which undertakes to re-employ; students should be aged between 25 and 35; full secondary education, and a diploma in a field related to rural development. Experience, but lower formal qualifications, may be considered.

Note: The Institute has five regional institutes and its work is carried out through four major projects; the English-speaking Du Sautoy College which offers a one-year multi-disciplinary course; the French-speaking Ecole de Cadres which offers a two-year multi-disciplinary development course; the Centre of Applied Research which undertakes research and evaluation of programmes closely related to the training patterns of both colleges; the Centre of Project Management which uses seminars and short courses to train senior African staff in the design and management of development programmes. Others are ITPD Afrique de l'Ouest, Upper Volta; and PAID Eastern and Southern Africa at Kabwe, Zambia.

Short courses, seminars and training workshops are mounted by PAID for host-governments based on expressed needs. The aim of these programmes is to increase the knowledge of the integrated approach to rural development and to reach development agents and governments who might not otherwise be exposed to this approach.

ZAM 3 UNIVERSITY OF ZAMBIA

Enquiries The Registrar, University of Zambia, School of Agricultural Science, P O Box 32379, Lusaka. Tel: 213221. Telex: ZA 44370. Cables: UNZA

Managing agency Largely autonomous.

Courses

AGRICULTURAL SCIENCE

5-year course leading to BSc (Agr).

Subjects offered include: Crop science, Animal science, Rural economy and extension education, Agricultural engineering, Soil science.

Entry standard: 5 'O' levels or equivalent to include English language, maths, chemistry and physics, biology or agricultural science.

AGRONOMY

2-year course leading to MSc with specialisations in Plant

Breeding, Crop Production, Crop Protection, Soil Chemistry and Fertility, Soil Physics, Land Evaluation.

Entry standard: Appropriate first degree.

ANIMAL SCIENCE

2-year course leading to MSc.

Students may specialise in Animal Nutrition or Genetics and Animal Breeding.

Entry standard: Appropriate first degree.

ZAM 4**ZAMBIA CENTRE FOR HORTICULTURAL TRAINING**

Enquiries

The Principal, Zambia Centre for Horticultural Training,
P O Box 260525, Kalulushi. Tel: 7333007.

Managing agency

Department of Agriculture.

Courses

HORTICULTURE

20-week Basic course.

Entry standard: Certificate in Agriculture.

20-week Advanced course.

Entry standard: Diploma in Agriculture.

Zimbabwe is landlocked and its topographical features include populous central plateau of High Veld running south-west to north-east and Low Veld along the river valleys. It has a total land area of 390,580 sq kms.

Agriculture plays a strategic and dominant role in the social and economic development of Zimbabwe. It has provided a significant proportion of the food requirements for a rapidly growing population, often with a surplus for export. It is an important foreign exchange earner. More than 70% of the population earns its livelihood from the land.

Commercial agriculture is by far the largest contributor to formal wage employment. The commercial sector agriculture has an advanced agricultural technology, highly adapted by research and experience to the special requirements of these regions; a long-resident commercial farming population and excellent marketing and technical services combine with a favourable price support policy to produce high yields of grain crops, cotton, tobacco, sugar-cane, tea, coffee, fruit and vegetables. Large areas are, however, too dry for intensive arable production and are used mainly for extensive ranching of high-grade cattle.

The communal areas are predominantly occupied by small semi-subsistence farms on which food crop production is a major concern, together with small stock and cattle keeping on communal grazing areas. There are substantial differences in the production systems between different regions of the country, particularly between the pastoral systems of the Matabele in the South-West and the predominantly crop-based agricultural system of Mashonaland. It would be incorrect to categorize the communal areas in any general sense as "traditional" in their farming systems. Ploughing by draught-oxen is almost universal and production of hybrid maize has been common for a number of years, while fertilizers and insecticides are widely utilised. It is in these areas that great gains can still be achieved by providing credit for various inputs and intensified extension services.

The main responsibility for the agricultural industry rests with the Ministry of Agriculture. The Ministry liaises with a number of agencies for broader programmes of agricultural development.

In addition the Ministry is responsible for a number of statutory Boards including the Agricultural Marketing Authority, Agricultural Finance Corporation and Tobacco Marketing Board.

Agriculture has been given high priority in development plans in which the Zimbabwe Government seeks to achieve the following objectives in agriculture: an acceptable and fair distribution of land ownership and use; a greater degree of economic security and welfare for the rural population; an increase in both land and labour productivity in all systems of agriculture; substantial increase in employment to engage a rapidly growing labour force; achievement and maintenance of food self-sufficiency and regional security; extension of the role of agriculture as a major foreign exchange earner and source of inputs for industry; integration of the commercial and peasant agricultural sectors into a national agricultural system; conservation of land and environment for future generations; promotion of local markets and inter-regional

trade, and development of human resources in rural areas to the full potential. Strategies have been developed to fulfil these objectives. Implementation and execution of agricultural programmes at levels envisaged to fulfil government objectives will require a significantly larger supply of additional skilled manpower.

In Zimbabwe there are three levels of formal Agricultural Extension: degree and post-degree level at the University of Zimbabwe; diploma level at the Agricultural Colleges and certificate level at the Agricultural Institutes.

ZIM 1 CHIBERO COLLEGE OF AGRICULTURE

Enquiries The Principal, Chibero College of Agriculture, Private Bag 901, Norton.

Managing agency Ministry of Agriculture.

Courses **AGRICULTURE**
3-year course leading to National Diploma.
The course consists of one year on a farm and two years resident at college.
Entry standard: 5 'O' levels with distinctions in English language, maths and science.

ZIM 2 GWEBI AGRICULTURAL COLLEGE

Enquiries The Principal, Gwebi Agricultural College, Private Bag 376B, Harare.

Managing agency Ministry of Agriculture.

Courses **AGRICULTURE**
2-year course leading to National Diploma.
Syllabus includes: Animal husbandry, Field husbandry, Agricultural engineering, Farm management and land use planning.
Entry standard: 5 'O' level credit passes to include English language, maths and a science subject, plus at least 10 months' farm experience.

ZIM 3 UNIVERSITY OF ZIMBABWE

Enquiries The Registrar, University of Zimbabwe, P O Box MP167, Mt Pleasant, Harare. Tel: 303211. Telex: 4-152ZW.

Managing agency Autonomous.

General details 1) 3 terms: Mar/May, Jun/Aug, Sep/Dec. 2) Residential accommodation is available. 3) Students from abroad are accepted.

Courses **SUNDRY**
3-year BSc (Agr) courses in Agricultural Economics, Animal Science, Crop Science, and Soil Science.
Entry standard: 5 GCE 'O' levels including 2 science subjects at 'A' level.

Zimbabwe

Higher Degree courses (2 years for MPhil, and 3 years for PhD) in Agricultural Economics, Soil Science, Crop Science, and Animal Science.

Entry standard: Appropriate Honours degree for MPhil degree course.

ZIM 4

ZIMBABWE COLLEGE OF FORESTRY

Enquiries

The Principal, Zimbabwe College of Forestry, P O Box 660, Mutare.
Tel: (Mutare) 64328/64351. Telex:8053 FITC ZW.

Managing agency

Zimbabwe Forestry Commission.

Courses

FORESTRY

2.5-year course leading to Diploma.

Students begin the course with six months' practical experience in forestry on a forest estate; this is followed by two years at the College of Forestry where the subjects covered are: Forest botany, Forest engineering, Forest mensuration, Nursery practice, Business management, Silviculture, Climate and hydrology, Harvesting, Forest management, Forest extension, Forest legislation.

Entry standard: GCE 'O' levels in English language, maths, science and two other subjects.

International Institutions

INT 1 CAB INTERNATIONAL INSTITUTE

- Enquiries
- (A) The Director, CAB International Institute of Entomology, 56 Queen's Gate, London SW7 5JR. Tel: (01) 584 0067/8; Cable: ENTINFO London SW7; Telex: 265871 (MONREF G) and quote CAU 006.
 - (B) The Director, CAB International Institute of Biological Control, Silwood Park, Ascot, Berks, SL5 7PY. Tel: (0990) 28426/28108; Telex: 265871 (MONREF G) and quote CAU 015.
 - (C) The Director, CAB International Institute of Parasitology, 395a Hatfield Road, St. Albans, Herts., AL4 0XU. Tel: (0727) 33151; Telex: 847964 (COMAGG G) and quote CAU 011.
 - (D) The Director, CAB International Mycological Institute, Ferry Lane, Kew, Surrey, TW9 3AF. Tel: (01) 940 4086; Telex: 847964 (COMAGG G) and quote CAU 009.

Courses SUNDRY

The CAB (Commonwealth Agricultural Bureaux) provide a unique range of services which include Research projects, Consultancy, Training courses, Publications and Information. Subjects covered include Entomology, Parasitology and Pest Control and are available in the UK and overseas, particularly in Commonwealth countries.

Training courses are short (usually from 5-7 weeks) and entry standards vary from practical experience to appropriate degrees.

INT 2 FOOD AND AGRICULTURE ORGANIZATION((FAO) OF THE UNITED NATIONS

Enquiries The Director, Human Resources, Institutions and Agrarian Reform Division, FAO, Via delle Terme di Caracalla, 00100 Rome, Italy. Tel: 57971. Telex: 610181 FAO 1. Cables: FOODAGRI ROME.

Managing agency Autonomous.

Courses SUNDRY

Typical FAO training activities conducted in recent years include:

Seminars:

Agricultural marketing policies; Fertilizer marketing;
Agrometeorology and crop protection;
Increased food production through low-cost food crops technology;
Plant registration and seed certification; Hybrid seed production;
Grain storage; Fisheries policy and planning
Forestry extension.

Training courses:

Agricultural planning; Agricultural extension planning and strategy development; Seed extension; Efficient and safe use of pesticides; Soil management; Remote sensing; Dairying; Animal health; Artificial insemination.

Workshops:

Designing rural development policies; Farm management; Nutrition in agricultural training; Seed quality control; Fish technology and quality control; Planning aquaculture research.

Entry standard: Seminars, workshops, group training, etc. are intended for qualified and experienced trainees who are selected usually by the member countries in consultation with FAO.

Note: FAO is part of the United Nations. Its regular activities include the organisation of numerous workshops, consultations with groups of experts, Government consultation meetings, regional conferences, and meetings of committees and commissions annually. In addition it organises training courses, seminars, and other group training activities in all parts of the world. At least 1,000 such training activities are conducted annually.

- INT 3 **FAO REGIONAL DAIRY DEVELOPMENT AND TRAINING CENTRE FOR ASIA AND THE PACIFIC (RDDTCAP)**
- Enquiries The Director, RDDTCAP, University of the Philippines, Los Banos, 3720 College, Laguna, Philippines. Tel: 2202.
Cable: DATRIN COLLEGE, Laguna.
- Managing agency The Food and Agriculture Organizations of the United Nations, Rome, Italy.
- Courses **DAIRYING**
3.5-month Regional Training courses in Extension and Co-operatives, Dairy Financing, Dairy Farm Economics, Fodder and Forage Production, Animal Health, Dairy Cattle Breeding, Reproduction, Lactation, Artificial Insemination, Nutrition and Feeding, Dairy Husbandry, Milk Collection, Quality Control (dairy chemistry and dairy microbiology), Hydraulics and Pumping Compressors, Milk Plant Engineering, Marketing, Milk Plant Management, Milk Hygiene, Milk Production, Milk Products Manufacture, and Maintenance Milk Processing.
Entry standard: At least 2 years' vocational training.
- Note: Regional courses are held twice a year, starting in February and September. Scholarships are awarded by DANIDA Trust Funds operated by FAO.
- National courses are conducted at the request of Governments in fields which they regard as necessary for further development. The course outline can be similar to that of regional courses, mostly in Dairy Husbandry or Milk Technology.
- INT 4 **INTERNATIONAL AGRICULTURAL CENTRE**
- Enquiries The Director, International Agricultural Centre, Lawickse Allee 11, P O Box 88, 6700 AB Wageningen, The Netherlands.
Tel: 08370-90111. Telex: 45388. Cables: INTAS.
Fax: (O)8370-18552.
- Managing agency Autonomous.

- Courses** **SUNDRY**
- 1-3.5 month international courses in Dairy Cattle Husbandry, Applied Plant Breeding, Potato Production, Storage and Seed Technology, Rural Extension, Plant Protection, Vegetable Growing, Land Drainage, Seed Technology and Community Forestry.
Entry standard: Appropriate first degree.
- Note: In addition ad hoc courses are conducted in selected subjects on request, eg. Dairy Farm Management, Fertilizer Use Extension, etc. Tailor-made contract training on request.
- INT 5** **INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES**
- Enquiries** The Executive Secretary, International Board for Plant Genetic Resources, c/o FAO, Via delle Terme di Caracalla, 00100 Rome, Italy. Tel: (39-6) 57971, Telex: 843-610181 FAO I, Fax: (39-6) 5146172. Cables: FOODAGRI Rome.
- Managing agency** Consultative Group on International Agricultural Research (CGIAR).
- Courses** **SUNDRY**
- Numerous short courses in all parts of the world dealing with aspects of Crop Genetic Conservation. Also 1-year postgraduate course at Department of Plant Biology, University of Birmingham, (see BRI 46).
Entry standard: Usually graduates, occasionally high-school graduates.
- INT 6** **INTERNATIONAL CENTRE FOR ADVANCED MEDITERRANEAN AGRONOMIC STUDIES**
- Enquiries** The Secretary-General, International Centre for Advanced Mediterranean Agronomic Studies, Secretariat, 11 rue Newton, 75116 Paris, France.
- Managing agency** Governing Council.
- Courses** **SUNDRY**
- Courses aim to provide a supplementary technical, economic and social education for graduates of the higher schools, and faculties of agriculture in Mediterranean countries at postgraduate level; examine the international problems posed by rural, development and regional planning; and contribute to the development of a spirit of international co-operation among future agronomists and economists in Mediterranean countries.
- Note: The Centre comprises three institutes: Mediterranean Agronomic Institute of Bari, Italy; Mediterranean Agronomic Institute of Montpellier, France and Mediterranean Agronomic Institute of Zaragoza, Spain.
- INT 7** **INTERNATIONAL CENTRE FOR AGRICULTURAL EDUCATION (CIEA)**
- Enquiries** The President, International Centre for Agricultural Education (CIEA), Mattenhofstrasse 5, CH-3003, Berne, Switzerland. Tel: 31/6126 19, Telex: 913 162 blw ch, Cable: CIEAGR-Berne
- Managing agency** Autonomous.

International Institutions

- Courses** **AGRICULTURE**
The Centre organises international courses on vocational education and teaching in agriculture.
- INT 8** **INTERNATIONAL INSTITUTE FOR AERIAL SURVEY AND EARTH SCIENCES**
- Enquiries** The Student Registration Officer, International Institute for Aerial Survey and Earth Sciences, 350 Boulevard 1945, P O Box 6, 7500AA, Enschede, The Netherlands. Tel: 053-320330. Telex: 44525. Cables: AERSUR Enschede.
- Managing agency** Autonomous.
- General details** 1) Courses start in September. 2) Students from abroad are accepted.
- Courses** **SUNDRY**
11-14 months Postgraduate and MSc Degree courses in Soil Survey, Forest Survey, and Rural and Land Ecology Survey, using aerial photographs and other remote sensing techniques.
Entry standard: Appropriate BSc degree and practical experience.
- INT 9** **INTERNATIONAL LIVESTOCK CENTRE FOR AFRICA**
- Enquiries** The Training Officer, International Livestock Centre for Africa (ILCA), P O Box 5689, Addis Ababa, Ethiopia. Telex: 21207. Cables: ILCAF, Addis Ababa, Ethiopia.
- Managing agency** Autonomous, but responsible to Consultative Group on International Agricultural Research (CGIAR).
- Courses** **SUNDRY**
Each year ILCA organises from 8 to 10 group training courses, in French or in English, for African scientists in sub-Saharan Africa. Course topics are mainly on animal science and related disciplines and include; Animal nutrition and forage analysis, Veterinary epidemiology and economics, Management of agricultural information, Design and analysis of livestock development projects, Forage evaluation research techniques, Methods for measuring livestock productivity, Small ruminant production techniques, Livestock policy analysis, Range ecology research analysis/techniques, Rural dairy technology, Livestock systems research. Courses last 2-4 weeks.
- INT 10** **INTERNATIONAL RICE RESEARCH INSTITUTE**
- Enquiries** The Director, International Rice Research Institute, Los Banos, Laguna, Philippines.
- Managing agency** Autonomous.
- Courses** **SUNDRY**
6-month course in Rice Production including science of rice growing, field practice and acquisition of skills in rice production;

4-month course in **Multiple Cropping** including demonstration of the food production potential of a tropical environment under modern scientific management, knowledge and practical skills necessary to operate successful multiple cropping systems involving rice and some other food crops.

Entry standard: Staff members of research or educational institutions concerned with rice. Must be recommended by employer and hold a BSc degree or equivalent.

Note: Training programmes are supplemented by research related to rice culture, in particular: Agronomy, Plant Breeding and Genetics, Soil Chemistry, Soil Microbiology, Plant Pathology, Entomology, Plant Physiology, Cereal Chemistry and Bio-Chemistry, Agricultural Engineering, Agricultural Economics, Statistics, Multiple Cropping.

A limited number of scholarship awards are available from the Institute and other agencies.

INT 11 INTERNATIONAL SERVICE FOR NATIONAL AGRICULTURAL RESEARCH

Enquiries The Director-General, International Service for National Agricultural Research, P O Box 93375, 2509 AJ, The Hague, The Netherlands. Tel: (070) 472991. Telex: 33746.

Managing agency Autonomous.

Courses **SUNDRY**
Courses aim to assist national governments in agricultural research. Training and communication programmes are organized in co-operation with developing countries.

INT 12 SOUTH-EAST ASIAN REGIONAL CENTRE FOR GRADUATE STUDY AND RESEARCH IN AGRICULTURE (SEARCA)

Enquiries The Director, South-East Asian Regional Centre for Graduate Study and Research in Agriculture, (SEARCA), College, Laguna, Philippines 3720. Tel: 693-9917.

Managing agency Autonomous, but responsible to the South-East Asian Ministers of Education Organization (SEAMEO).

Courses **SUNDRY**
The Centre provides support for advanced studies leading to MSc and PhD degrees in Agriculture, Forestry, Fisheries and related fields, being offered by the University of the Philippines at Los Banos and other leading agricultural universities in south-east Asia.

The Centre runs a series of 2-4 week training programmes for specialists, teachers, farm leaders, rural women and students in areas such as Integrated Rural Development, Technology Transfer Management, Credit and Co-operatives, Agribusiness Management, Post-harvest Technology, Research Management, Agricultural Documentation, Training Methods and Techniques, etc.

Entry standard: Appropriate first degree for both graduate courses and short-term training programmes. Participants must be officially nominated by the Ministry of Education of the SEAMEO member countries.

Note: The Centre awards 100 SEAMEO scholarships per year.

INT 13 SOUTH PACIFIC COMMISSION

Enquiries Community Education Training Centre, South Pacific Commission,
Post Box D5, Noumea Cedex, New Caledonia. Tel: 26-20-00.
Telex: SOPACOM 3139 NM. Cables: SOUTH PACOM NOUMEA.
Fax: 687 263818

Managing agency Autonomous.

Courses **SUNDRY**
The Community Education Training Centre trains village-level community workers in the Pacific region. It focuses primarily on women and their role in improving family and village living. 10-month training courses are held annually.

The Mobile Training Unit provides refresher training to CETC graduates and other community workers, both male and female. Courses last from 4-10 weeks and are held at the request of the host government.
CETC also functions as a research and resource centre.
Entry standard: No formal academic qualifications are required.

INT 14 WAGENINGEN AGRICULTURAL UNIVERSITY

Enquiries International Education Office, Wageningen Agricultural University,
P O Box 453, 6700 AL Wageningen, The Netherlands.
Tel: 318370-82680. Telex: 45854.

Managing agency Autonomous.

Courses **AGRICULTURAL MANAGEMENT**
2-year course leading to MSc in Management of Agricultural Knowledge Systems. The course aims at integrating the production, transfer and utilisation of knowledge in the context of rural development and agricultural extension.

ANIMAL PRODUCTION AND AQUACULTURE
2-year course leading to MSc - a course on the technical, ecological and socio-economic aspects of animal production and of aquaculture.

CROP SCIENCES
2-year course leading to MSc.
The course covers crop ecology, crop protection and plant breeding.

SOIL SCIENCE AND WATER MANAGEMENT
2-year course leading to MSc.
A science-based but problem-oriented course in the field of natural resources. It includes 3 specialisations: Land Evaluation and Agropedology; Soil Fertility and Soil and Plant Analysis; Water Management: Agrohydrology, Drainage and Irrigation.

TROPICAL FORESTRY
2-year course leading to MSc.
A course on the ecological, technical and socio-economic aspects of tropical forestry. It provides advanced knowledge and stimulates analytical skills and attitudes.

MSc courses in Biotechnology and Food Science and Hygiene are in preparation.

Entry standard: For all MSc courses an appropriate first degree and 2 years' work experience.

Postgraduates can be admitted to a PhD programme in any of the various subjects covered by the university.

The Commonwealth Secretariat

The Commonwealth Secretariat serves all member countries of the Commonwealth. It is the main agency for consultation and the exchange of information among them and is responsible for several programmes of co-operation.

The Secretariat has divisions or programmes namely International Affairs, Economics Affairs, Food Production and Rural Development, Legal, Science Council (CSC), Information, Administration, and the Human Resources Development Group (HRDG) has brought together six separate programmes (Education, Management Development, Fellowship and Training, Medical, Women and Development and Youth) whose primary purpose is to assist member countries in the development of human resources and multi-disciplinary activity, with greater emphasis on operational training projects in the field.

The Commonwealth Fund for Technical Co-operation (CFTC) is the Commonwealth's multilateral funding agency which provides technical assistance to developing member countries. It supplies short and long-term experts, helps countries to build up their expertise through training, finances studies, assists countries in export development and gives special advice to governments on legal, economic, fiscal and statistical matters. Member countries make voluntary contributions to the CFTC and share in its management. The CFTC works through the General Technical Assistance Programme providing experts and advisers, the Technical Assistance Group (its in-house consultancy), the Industrial Development Unit and the Export Market Development Programme.

International Affairs assists consultation among member governments on international and Commonwealth matters of common interest. In association with host governments, it organises the biennial meetings of Heads of Government and Senior Officials, and periodic meetings of Heads of Government of the Asia/Pacific region. The Division services committees and special groups set up by Heads of Government such as the Commonwealth Committee on Southern Africa, and the Committee of Foreign Ministers on Southern Africa, established by Heads of Government at their summit in Vancouver in 1987 to "provide high level impetus and guidance in furtherance of the objectives of the Okanagan Statement and Programme of Action on Southern Africa". The Division includes a Human Rights Unit set up in 1985 to promote public and official awareness of human rights issues. The Secretariat has had observer status at the UN since 1976 with the Division maintaining a presence in New York for each General Assembly. In the context of the Division's work in the area of countering the political/economic vulnerability of Small States, the International Affairs Division also administers, through locally recruited staff, the Joint Commonwealth Office for Commonwealth Permanent Missions to the United Nations.

The Economic Affairs Division (EAD) is the focal point for Secretariat activities in the economic sphere. It organises and services the regular meetings of Commonwealth Ministers of Finance, and of Labour and Employment, and assists in servicing the biennial meetings of Heads of Government. It engages in research and analysis on economic issues of interest to member governments; organises seminars and conferences of government officials and experts; and publishes regular bulletins on commodities, international development policies, capital markets, regional co-operation and on basic statistics of small countries. The Division initiated a major programme of technical assistance to enable developing Commonwealth countries to participate in the Uruguay Round of Multilateral Trade Negotiations (begun in 1986). The Division also services expert groups on economic issues commissioned by Commonwealth Heads of Government or Ministers.

Legal. Law ministers and Attorneys-General discuss matters of common interest and avenues for co-operation at regular meetings. The Legal Division keeps governments informed of relevant developments in the countries within the Commonwealth through the quarterly Commonwealth Law Bulletin. Legislative drafting, law reform, taxation policy, and co-operation in extradition and the reciprocal enforcement of judgements have been among the areas of recent activity.

Information. The Secretariat seeks to make more people aware of the nature, activities and value of the Commonwealth. It does so through a wide range of publications, (including a bi-monthly magazine, Commonwealth Currents), feature articles for newspapers, a radio and television service and press liaison with the media in all member countries.

The Division responds to requests for information from interested individuals and institutions throughout the Commonwealth. It also assists in media training and in promoting media activities especially in developing countries. Through the Commonwealth Day poster published in March each year and distributed free of charge to schools, the Division seeks to reach younger citizens in member countries.

The Commonwealth Science Council (CSC), an autonomous body within the Commonwealth Secretariat is responsible for the enhancement of scientific and technological capacity of member countries through the application of science and technology for development in the Commonwealth. Its programmes focus on energy, renewable natural resources, mineral resources, agriculture, environment planning, industrial support, science policy and organisation, and rapidly advancing fields of applied science and technology.

The agriculture programme focuses on three major areas: agroforestry and soil amelioration, integrated crop protection for small farms and post-harvest treatment of fruits and roots.

The main fields of interest for the biological resources programme are biological diversity and genetic resources indigenous to Commonwealth countries for their national utilization and conservation.

Tropical forest ecology, rural technology and renewable energy resources and also areas of interest.

The Education Programme arranges conferences and training workshops, undertakes short advisory consultancies, publishes studies on specific issues of concern and promotes co-operation in areas identified by Education Ministers: its current focus is mainly on higher education, science and mathematics education, distance education, educational development in small states and education and work. The programme of education and work focuses on curriculum guidelines on entrepreneurial skills development which might have some bearing on rural development through the upgrading of agricultural skills.

The Management Development Programme financed by the CFTC, assists governments in the development of managerial skills, particularly at senior level in government and parastatals. The Programme aims to improve capabilities in the skills of public administration and public enterprise management, including management of agricultural enterprise and institutions. The emphasis is on strengthening existing national and regional training institutions. Since developing countries can benefit immensely from experiences of similar developing countries, exchange of ideas between senior personnel from several countries is encouraged through seminars, workshops and training courses.

The Fellowships and Training Programme financed by the CFTC, provides awards to enable students and trainees nominated by governments, inter-governmental and regional organizations to undertake study or training programmes, both formal and

non-formal, in the developing countries of the Commonwealth. Approximately 3000 awards are made each year. Usually 15% of these are in the agricultural sector, including forestry, veterinary medicine and fisheries.

Training is not normally supported in the more developed countries, but exceptions have been made, for example, in the case of some short, specialized courses mounted in Britain by the Institutes of CAB International. Awards are also made for training attachments and study visits and for participation in seminars and workshops with a high training content; approximately 200 awards, covering all sectors, are made for this purpose each year. The contribution the Programme makes to manpower training and development in agriculture will depend in future, as in the past, on the degree of priority that governments attach to this sector compared to others when formulating their requests for CFTC awards.

The Health Programme is guided by the three-yearly meetings of Commonwealth Health Ministers and assists governments to promote human resource development and to strengthen their health service infrastructure through a recent initiative - the Commonwealth Health Development Programme. The Health Programme supports the work of regional health organizations, undertakes studies and provides advisory services at the request of governments. Since the nutritional status of a community is an important determinant of its health status, the Programme is naturally interested in the implications of malnutrition which is widespread in many countries of the Commonwealth.

The Women and Development Programme (W&D) was set up in 1980. It acts as a focal point for identifying the needs and priorities of Commonwealth women and ensures that these are reflected in all Secretariat programmes. It is working to advance the interests of women through training programmes, research and exchange of experience.

The Commonwealth Youth Programme (CYP) supports the efforts of governments to involve young people in activities serving national goals. It operates three regional centres serving Africa, Asia and the Pacific and the Caribbean. These provide training for youth leaders and officials engaged in community development. The CYP also offers an information service and advises governments on youth policy development and programme implementation.

General Technical Assistance Division (GTA). Agriculture remains one of the key sectors where GTA experts have been provided. About 14% of the almost 300 projects in Commonwealth countries under the GTA programme in 1987/88 were in the agricultural and rural development sector. The areas of work include agricultural engineering, economics, statistics, and research, project preparation, farm management, agronomy, fisheries, horticulture, forestry, irrigation, animal husbandry, veterinary and crop storage. The projects were carried out by experts assigned for periods ranging from a few weeks to two or three years. The majority of CFTC experts come from developing countries of the Commonwealth.

The Technical Assistance Group (TAG) is the Commonwealth Secretariat's consultancy service on call to help governments solve pressing problems in critical areas by responding rapidly to requests for urgent, often confidential, policy advice. As a part of CFTC, its small inter-disciplinary staff are equipped with a broad spectrum of expertise, mainly in development economics, law, fiscal policy, taxation, and computer systems. Their projects fall mainly into the areas of natural resources development, maritime boundary negotiations and macro-economic policies and financial management (including debt management). The staff are called upon to advise Commonwealth governments on negotiations with multi-nationals on projects in a number of sectors including forestry, fisheries and the sugar industry.

The Industrial Development Unit (IDU) of the CFTC assists Commonwealth developing countries in the development and implementation of industrial projects. During 1987/88 over 190 projects were assisted chiefly in the food processing, agricultural inputs, light engineering and mineral resource based sectors. Assistance provided included investment planning and project design, entrepreneurial development,

technology transfer, the sourcing of industrial finance, and the rehabilitation and upgrading of industrial enterprises predominantly in Commonwealth countries in Africa, small island and disadvantaged countries in other regions, and for organisations for development in southern Africa, and small island countries in the Pacific and the Caribbean regions.

Export Market Development Division (EMD) funded by the CFTC, helps member countries to develop export markets for their primary products and manufactured goods. Basically its approach is to assist in improving infrastructure facilities for exporters, to develop and adapt products for export, to undertake market studies, to arrange buyer-seller meets, trade missions and contact promotion programmes and training in market analysis and export marketing policy. In the last few years the Division has assisted several Caribbean and Pacific countries where agricultural production is the mainstay of export trade. Dominica, for example, has been assisted by an investigation of the opportunities for increasing its agricultural exports to the Canadian market. For the Bahamas, export production and marketing operations within the Ministry of Agriculture, Fisheries and Local Government were evaluated, while a market survey on agricultural products undertaken on behalf of the Government of St. Lucia was followed up by the appointment of an agricultural marketing adviser. In Vanuatu one study focused on the export market potential for treated coconut logs and coconut timber products, while another assessed market prospects for Vanuatu beef in nearby Asian and Pacific markets. In Papua New Guinea an adviser has assisted the Government in the marketing of forestry products.

Publications FOOD PRODUCTION AND RURAL DEVELOPMENT DIVISION

Ministers' Meetings

Report of the meeting of Commonwealth Ministers of Agriculture, Food and Rural Development, Bangladesh, 1981.

Report of the meeting of Commonwealth Agriculture and Food Ministers, Rome, 1981.

Report of the Meeting of Commonwealth Agriculture and Food Ministers, Rome, 1983.

Report of the Meeting of Commonwealth Agriculture and Food Ministers, Rome, 1985.

Report of the Meeting of Commonwealth Agriculture and Food Ministers, Rome, 1987.

Appropriate Technology

Report of a regional appropriate technology co-ordinators meeting, Zambia, 1979.

Rural technology in the Commonwealth, Directory of Organizations, 1980, £1.50.

Report of a regional workshop on farm machinery testing procedures, Kenya, 1981.

Report of a second regional workshop on farm machinery testing procedures, Malawi, 1982.

Guide to technology transfer in East, Central and Southern Africa, 1981, £2.25.

Summary and conclusions of a South Pacific rural technology workshop, Fiji, 1981.

Commonwealth training workshop on conservation farming, Maha, Illuppallama and Colombo, Sri Lanka, 1983.

Report on rural technology projects workshop for South Pacific region, Tonga, 1984.

Systems, techniques and tools for conservation farming, 1984, £2.50.

Workshop on dryland farming systems for East, Central and Southern Africa, Kenya, 1985.

Fisheries Development

The development and management of the living resources within the EEZ, 1980.

An overview of fisheries in the Commonwealth, 1982.

Report of the training workshop for managers of Fish Receiving, Marketing and Distribution Centres for the South Pacific region, Fiji, 1984.

Training course on EEZ management for countries of the Caribbean: a report by Participants. Jamaica, 1984.

Village level aquaculture development in Africa, 1985, £7.50

Training course on EEZ management for Africa and Indian Ocean: a report by Participants. Kenya, 1985.

Report of the meeting of Commonwealth senior fisheries officials, Rome, 1987.

Training programme for aquaculture extensionists in Commonwealth Africa: Part I. Report of training course for East and Southern Africa, Kenya 1987.

Training programme for aquaculture extensionists in Commonwealth Africa: Part II. Report of the training course for West Africa, Nigeria, 1988.

Report of the meeting of Commonwealth senior fisheries officials, Rome, 1989

Livestock Development

Livestock information technology training manual, Guyana, 1989

Report of the middle level livestock management training in the Caribbean, Guyana 1989

Project Planning and Management

Report of a workshop on irrigation management, India, 1978.

Agricultural project management training in the Caribbean, report of a regional workshop, 1981.

Training for agricultural project management: papers from a workshop, Sri Lanka, 1979.

Training course for agricultural irrigation managers for East, Central and Southern Africa, Swaziland, 1985.

Report of the consultation on agricultural management, The Gambia, 1985.

Production of Post-Harvest Losses and Storage

Report of a regional grain conservation seminar, Zambia, 1978.

Careful storage of yams (guide), 1980.

How to build a low-cost maize crib (guide) 1980.

Workshop on post-harvest losses for small farmers, India, 1982.

Workshop on post-harvest losses and food storage, South Pacific, 1983.

Rural Development

Beekeeping in rural development; the unexploited potential in the tropics, with special reference to the Commonwealth, 1979, £2.50.

Report of the workshop on poverty-focused rural development and small farmer credit, Bangladesh, 1982.

Agricultural research and development in the Asia-Pacific Commonwealth, 1982.

Workshop on agricultural extension for small farmers, Malaysia, 1982.

Report of the Commonwealth training workshop on rural credit, Zimbabwe, 1984.

Report of the Commonwealth expert consultation on rural institutions, India, 1985.

Conservation and Land Use

Consolidation of agricultural holdings in India: a case study of Uttar Pradesh, 1982.

Report of the training workshop on consolidation of land holdings, New Delhi, India, 1983.

Report on training workshop on land use planning in the tropics, Bangladesh and India, 1984.

Conservation for sustainable development, 1987.

Report of the Commonwealth consultation in the SADCC region on integrating conservation into farming system, Malawi, 1988.

Integrating conservation into farming system. An outline for a training workshop, Malawi, 1988.

Integrating conservation into farming system. Land use planning for smallholder farmers, 1988.

Workshop on Agricultural Credit Systems and input management for smallholder farmer in Africa, Kenya 1988.

Study on the scope of Commonwealth action on soil erosion, desertification and drought-related problems: An analysis of the problem with recommendation for action, 1988.

Report of the Commonwealth workshop on tackling soil erosion desertification and drought related problems, India, 1989.

Consultative meeting on promoting conservation for sustainable agriculture development in the Sudano-Sahelian region of Africa, The Gambia, 1989.

National Food Policy/Strategy

Commonwealth consultative meeting on food pricing and marketing policy, London, 1983.

Africa agriculture: building for the future, 1985.

Report of the Commonwealth workshop on policies and programmes for small farmers in the Caribbean, Grenada, 1986.

Colloquium on agricultural policy in Commonwealth Africa, Zimbabwe, 1986.

Report of the workshop on agricultural policy planning, Mauritius, 1986.

Report of the Commonwealth workshop on food supply information systems in Africa, India, 1986.

Report of the Commonwealth workshop for small farmer development, Bangladesh, 1987.

Report of the workshop on food supply information systems in Africa, Kenya, 1989.

Training Directories

Training for agricultural development: A Directory of Commonwealth Resources, 3rd edition, 1989. £12.50.

Priced publications include postage by surface mail; airmail rates are quoted on request. The prices shown are for cheques drawn in pounds sterling on a United Kingdom branch of a bank. Non-sterling cheques and Eurocheques are subject to bank charges of £9.00. Please make your remittance payable to Commonwealth Secretariat and send to:

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Marlborough House
Pall Mall
London SW1Y 5HX
Britain

Select Bibliography

GENERAL

- The Commonwealth Factbook.
48-page illustrated booklet outlining the facts and figures about Commonwealth countries. Commonwealth Secretariat 1987.
- Training for Agricultural Development - Directory of Commonwealth Resources, 2nd edition. Commonwealth Secretariat 1985.
- Research Opportunities in Commonwealth Developing Countries.
235-page illustrated register for academic staff and graduate students who wish to undertake research in a Commonwealth developing country. The Association of Commonwealth Universities (ACU) 1984.
- Commonwealth Universities' Yearbook, 64th edition. ACU 1988.
- Handbook of Agricultural Education, Association of Indian Universities 1986.
- Yearbook of International Organizations, 1984/85, edited by Union of International Associations
- A Yearbook of the Commonwealth, 1983, Foreign and Commonwealth Office
- The World of Learning 1984/85, 35th edition, Europa Publications Limited
- Training Courses Available in Developing ESCAP Countries, 1979, Economic and Social Commission for Asia and the Pacific

GUIDE FOR GRANTS Commonwealth Scholarship and Fellowship Plan: 23rd Annual Report 1981-84. ACU and Commonwealth Secretariat £1.75

- Commonwealth African Directory of Aid Agencies, Commonwealth Foundation 1979
- Commonwealth Asian and South Pacific Directory of Aid Agencies. Commonwealth Foundation 1981
- Commonwealth Caribbean Directory of Aid Agencies. Commonwealth Foundation 1978
- Financial Aid for First Degree Study at Commonwealth Universities 1988-90.
Lists different kinds of financial aid available to Commonwealth students who wish to study for a first degree at a Commonwealth University outside their own country. Describes awards that are part of multi-national schemes; awards offered by governments or other bodies in certain countries to their own nationals for study abroad, awards for students from abroad, offered by the government, universities or other bodies in the country of tenure; financial aid for refugee students; and student loan schemes. ACU £3.50.
- Scholarships Guide for Commonwealth Post-graduate Students 1987-89.

Describes separate schemes of scholarships, grants, assistantships and other forms of financial assistance open to graduates of Commonwealth Universities who wish to undertake post-graduate (including post-doctoral) study or research at a Commonwealth University outside their own country. ACU £11.50.

Awards for Commonwealth University Academic Staff 1988-90. Describes 700 separate schemes for fellowships, visiting professorships and lectureships, travel grants, etc open to the academic staff of universities in Commonwealth countries who wish to carry out research, make study visits or teach for a while at a University in a Commonwealth Country other than their own. ACU £12.50.

Netherlands Fellowships Programme of Development Cooperation. Within the framework of this programme, the Dutch government grants fellowships to nationals from a great number of developing countries.

Candidates for a fellowship must be nominated by their employer, and formal employment should be continued during the fellowship period. As a rule the candidate's government is required to state its formal support, except in the case of certain development-oriented non-government organisations (NGO's). For information on the eligibility of your country for these fellowships and on the application procedure, please contact the nearest Netherlands Embassy.

European Development Fund of the European Communities. Available to citizens of the Commonwealth countries. Applications have to be submitted through the appropriate government channels in the candidate's country. Information can be obtained at the Delegation of the Commission of the European Communities in the candidate's country.

The Grants Register 1983-85, Editors Craig A Lerner and Roland. Primarily intended for students at or above graduate level and for all who require further professional or advanced vocational training. Aims to provide information on awards for nationals of the USA, Canada, Britain, Ireland, Australia, New Zealand and the developing countries. However, as many of the awards listed are international, the book is also useful to students from other countries who seek exchange opportunities or international scholarships.

Directory of Research Grants (DRG) 1984, Editor William K Wilson. DRG is a publication for scholars, grant administrators, faculty members, and any person or organization looking for support for research or educational projects. More than 2000 grant programmes are listed under subject headings and all necessary details are given including average amount awarded.

Note: When requesting information it is advisable to enclose a self-addressed envelope or label on which you should also quote the Programme number.

Index to Subjects of Study

Courses are arranged in alphabetical order and are listed under the country's code (see Index of Institutions).

Most colleges offer courses in biological sciences, but these subjects are only shown where the institution is not offering agricultural subjects.

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N

Natural Resources Management
AUS 6 15 17 31
BRI 28
CAN 9

Nautical Science
NIG 15

Nematology
BRI 52
IND 37
SRL 7

Nursery Practices
BRI 22

Nursery Production and Management
AUS 27

Nutrition
AUS 6 21
BRI 54 56 57 60 75
CAN 15 31
IND 2
SRL 8
TAN 9

TRT 2
ZAM 1
INT 2

Nutritional Sciences
CAN 12

P

Parasitology
BRI 52 78
CAN 15 31
IND 5
INT 1

Pest Management
AUS 18
BAN 3
BRI 28
CAN 9
INT 1

Pharmacology
see Veterinary Pharmacology

Pig Production
see Animal Production

Plant Breeding and Genetics
AUS 15
BAN 4
BRI 44
IND 2 5 9 11 14 35 36 46 47 58 66 67 70 74 77 83 84
SRL 7
INT 4 10

Plant Ecology
CAN 34

Plant Nutrition
AUS 31

Plant Pathology
(see also Mycology and Plant Pathology)
AUS 18 29 31
BAN 4
BRI 51 70
CAN 31
IND 1 2 4 5 6 11 14 35 47 48 51 54 56 57 58 70 74 77
NIG 6
SRL 7
INT 10

Plant Physiology
AUS 3 16 18
IND 5 9 14 37 66 67

Plant Protection
AUS 13

CAN 17
INT 4

Plant Science
CAN 6 10 12 17 29
NIG 30

Plantation Management
BRI 36

Pomology
IND 74

Postharvest Technology
AUS 13
INT 12

Poultry Husbandry
BRI 13
IND 44
SNG 3

Poultry Production
IND 68 77
NIG 4 10
TAN 9

Poultry Science
BAN 4
BRI 81
CAN 10 34
IND 5 14 24 44 77 80

R

Ranch Management
KEN 2
UGA 7

Range Management
KEN 2
NIG 4

Recreational Land Management
BRI 18

Regional Planning for Developing Countries
BRI 50

Resource Management
NEZ 1

Resources Development
CAN 28 31

Rice Production
BAN 8
IND 82
INT 10

Ruminant Science
BRI 81

Rural Development
AUS 15
BAN 1 10
BOT 2
BRI 21 50 55 67
CAN 16
GRE 1
IND 29 62
MAY 3
NIG 36
ZAM 2
INT 2 12

Rural Economics
CAN 6
UGA 4

Rural Engineering
BRI 36
CAN 33

Rural Extension
INT 4

Rural Journalism
AUS 29

Rural Science
BRI 71

Rural Services
IND 8

Rural Sociology
NIG 4 38

Rural Studies
AUS 13 14
BRI 34 54 61
IND 8 53

S

Science and the Environment
BRI 19

Seed Technology
BRI 71
IND 2
NIG 25
INT 4

Sericulture
IND 21

Sheep and Wool Production
IND 22

Soil Microbiology
AUS 31
INT 10

Soil and Plant Analysis
NIG 25

Soil Science
AUS 3 6 15 18 20
BAN 4 11
BRI 44 56 59
CAN 6 10 31 34
GHA 8 9
IND 2 5 6 9 11 14 35 36 37 47 58 67 70 77 83 84
NEZ 3
NIG 30 36 38 39 40 41 42
SRL 8
ZIM 3
INT 14

Soil Survey and Land Use
IND 59
INT 8

Soil and Water Conservation
IND 1 2 14 23 43 77

Soil and Water Engineering
KEN 2

Soil and Water Management
AUS 13
BRI 81
INT 2 14

Soils and Irrigations
BAN 2

Stock and Meat Inspection
AUS 13

Sugar Technology
IND 63
MAU 1

Sugarcane Production/Technology
IND 42 75

T

Tea Research
SRL 7

Tobacco Production
IND 25

Tropical Agriculture
BRI 59
PNG 4
WES 1

Tropical Animal Production
AUS 15
BRI 71

Tropical Crop Science
AUS 15

Tropical Crop Storage
BRI 28

Tropical Ecology
AUS 12

Tropical Forestry
INT 14

Tropical Horticultural Science
AUS 15
BRI 54

Tropical Horticulture
GHA 9

Tropical Pasture Science
AUS 15

Tropical Sericulture
see Sericulture

Turfgrass Management Technology
CAN 1

U

Urban Horticulture
AUS 9

Urban Parks Management
AUS 13

V

Vegetable Crops
IND 35 36 83
INT 4

Vegetable Science
IND 58

Veterinary Anaesthesiology
CAN 34

Veterinary Anatomy
IND 7 35 56 67 77

Veterinary Bacteriology
IND 44 67
NIG 34

Veterinary Epidemiology
CAN 32
IND 44
INT 9

Veterinary Gynaecology and Obstetrics
IND 7 11 14 35 44 67 70
NIG 41

Veterinary Immunology
IND 44

Veterinary Medicine
AUS 30
BAN 4
CAN 28 32 34
IND 5 7 14 44 67
KEN 8
MAY 2
NIG 41
TAN 8
UGA 4

Veterinary Microbiology
BRI 60
CAN 28 34
IND 7 11 35 37 77

Veterinary Nursing
BRI 3

Veterinary Parasitology
IND 7 11 35 67 70
NIG 34

Veterinary Pathology
IND 7 14 47 67 70 77

Veterinary Pharmacology
IND 14 35 67
NIG 41

Veterinary Physiology
IND 7 11 35 44 67
NIG 41

Veterinary Public Health
IND 11 35 44 67 70

Veterinary Science
AUS 8 12
BRI 49 53 54 77
CAN 32 34

IND 2 5 7 10 11 14 15 32 33 35 36 47 50 51 56
65 67 68 69 74 76

NIG 34
TAN 8

Veterinary Studies
GHA 10
KEN 3
SNG 2

Veterinary Surgery
BAN 4
CAN 34
IND 7 11 14 35 44 67
NIG 41

Veterinary Virology
IND 44 67
NIG 34

W

Water Engineering
BRI 21
ZAM 1

Water Management
see Irrigation and Water Management

Water Resources Development
IND 43

Weed Ecology and Control
AUS 31
NIG 25

Wildlife Biology
CAN 28 31

Wildlife Management
NIG 39
TAN 1

Wine Marketing
AUS 17

Wool and Pastoral Sciences
AUS 7

Wool Technology
NEZ 1

Z

Zoology
AUS 3 11
MAY 3
NIG 30
SIE 1