UNIVERSITY OF NAIROBI

FACULTY OF AGRICULTURE

DEPARTMENT OF PLANT SCIENCE AND CROP PROTECTION

TRAINING OPPORTUNITIES
RESEARCH
CONSULTANCY & ADVISORY SERVICES

COLLEGE OF AGRICULTURE & VETERINARY SCIENCES
Introduction
This is one of the oldest Departments in the Faculty of Agriculture, dating back to 1970/71 when it was started with the original name as “Applied Plant Science”. The primary objective of the Department of Plant Science and

- **Crop protection** is the achievement of Millennium Development Goals of attainment of universal education and Food Security through training, research and advisory/consultancy services in crop sciences.
- **Crop Science Section** dealing with crop improvement and biotechnology, agronomic practices including crop management and environmental agronomy, climate change and management, biodiversity conservation and efficient use of resources, soil and water management, integrated soil fertility management, horticulture, floriculture and Biometry.

Crop Protection Section dealing with management of plant pests, diseases, weeds and environmental protection.

Training programmes
The Department offers training at PhD, Masters, Bachelors, Diploma, Certificate and Client tailored short courses in all aspects of plant Science and crop protection.

Doctor of Philosophy (PhD) programmes
PhD in Crop Protection (3 yrs)
PhD in Crop Science (3 yrs)
Mode of learning is through Research and Thesis. The programmes are tailored for researchers in National Agricultural Research Institutes (NARIs) like Universities, KARI, international agricultural organizations, NGOs and Public Service.

Masters programmes delivered in both ODL and full time mode

- MSc Agricultural Resource Management (2 yrs)
- MSc in Crop Protection (2 yrs)
- MSc in Agronomy (2 yrs)
- MSc in Horticulture (2 yrs)
- MSc in Seed Technology and Business Management (2 yrs)
• MSc in Plant Breeding and Biotechnology (2 yrs)
Mode of learning is through course work, research and thesis. The programmes are designed for agricultural extension workers, researchers and staff in agricultural education institutions. The MSc ARM programme is designed as a multidisciplinary approach to expand students' overall background in the basic and applied management of natural resources for agricultural development. An average of 15 students graduate with MSc degree from the Department every year.

Bachelor of Science programmes
The Department offers plant science and crop protection courses to BSc. Agriculture, BSc. Agricultural Education & Extension, BSc. Agribusiness Management and BSc. Biosystems Engineering. BSc. Horticulture will be mounted very soon. Over 50 graduates per year from the Faculty of Agriculture take Plant Science and Crop Protection options.
Postgraduate diploma in phytosanitary standards 3 years

• Postgraduates Diplomas
• Postgraduate Diploma in phytosanitary standards (3yrs)
• Postgraduate Diploma in Seed Science and Business Management(3yrs)

• Diploma programmes
• Diploma in Crop Protection (2 yr)
• Diploma in phytosanitary measures (2 yr)
This Diploma courses are designed for staff in the private sector, government and non governmental organization in the following positions: agricultural extension workers, farm managers, field technologists, technologists from agricultural education institutions, staff engaged in crop protection research, pesticide delivery service and others with special interest in agricultural and /or environmental protection. About 8 students graduate with this diploma every year.

Certificate Courses
• Agricultural Crash Training (ACT) in Floriculture
• Certificate in Phytosanitary Standards
The programme is offered through Open Distance Learning (ODL) mode in collaboration with the Department of Extra Mural Studies, Kikuyu Campus.
Admission requirements
Doctor of Philosophy programmes
Holders of Master of Science degree in Agricultural sciences (crop protection, plant pathology, horticulture, agronomy, plant breeding, genetics) or related disciplines.

Master of Science Programmes
The common regulations for the Master’s degree of the University of Nairobi and Faculty of Agriculture shall apply.

(i) A holder of a degree with at least Upper Second Class Honours in Bachelor of Science in Agriculture, Botany and Zoology, Environmental Sciences, Forestry, Horticulture or related plant sciences or Bachelor of Education with Botany and Zoology option and any other subject from the University of Nairobi or any other institution recognised by Senate.

(ii) A holder of a degree with at least Lower Second Class Honours in any of the degrees specified in (i) with 2 years of relevant experience or a postgraduate diploma in (i) from the University of Nairobi or any other institution recognised by Senate.

(iii) A holder of a pass degree with a postgraduate diploma in the above relevant discipline or its equivalent from the University of Nairobi or any other institution recognised by the Senate.
A holder of a pass degree in the disciplines specified above with at least 5 years of relevant work experience.

Diploma in Crop Protection
The following are eligible for admission to the diploma course:

(i) Holders of KCSE with mean grade of C plain and at least C- in each of Biology or Chemistry.

(ii) Holders of KCE with division II with passes in Biology and Chemistry.
iii) Holders of KACE with at least one Principal level pass and at least a subsidiary pass in Biology and Chemistry.

iv) Holders of certificate in Crop Protection, agriculture, horticulture, forestry, environmental sciences or related Plant or Biological Sciences.

v) Holders of Diploma, Higher diploma or degree in any of the fields specified in (d).

Agricultural Crash Training (ACT) in Floriculture
Basic primary education and literacy in English

Research Activities
The Department encourages and actively carries out crop research at all levels of participation including individual, corporate and collaborative research. The Ph.D. and M.Sc. thesis projects form part of the research activities in the Department. The main research areas include the following:

- Development of disease resistance in bean cultivars.
- Integrated post harvest pest management
- Screening, testing and preservation of microbial antagonists as biological control agents
- Postharvest mould mycotoxin management in food grains.
- Plant parasitic nematode management
- Root crop viral disease management
- Integrated weed management
- Leafy vegetable germplasm enhancement
- Legume breeding for improved yields, quality, pest and disease resistance
- Tissue culture and biotechnology for improved quality and disease resistance
- Postharvest physiology and technology
- Integrated Striga management in maize and sorghum
- Maize improvement – gene mapping for drought and
- Biological nitrogen fixation in food grain legumes
- Biometry and research methods low nutrient tolerance quality protein maize (QPM)
- Climate change and weather advisories
Major research milestones
- Development of early maturing disease resistant legume varieties – pigeon pea, beans, chickpea
- Clean citrus planting materials

Consultancy and advisory services
The following services are provided in the Department of Plant Science and Crop protection:

Crop pest and plant disease diagnosis.
Pesticide efficacy testing.
Methyl bromide alternatives in commercial flower and vegetable production.
Crop improvement advisory services, including greenhouse, irrigation technology and weather advisories
Short customized training (1 - 2 weeks).
These services are open to the horticultural /horticultural industry, agro-chemical companies, agricultural scientists, extension agents and farmers.

For more information contact
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