

قسم وقاية النبات

يعد قسم وقاية النبات من الأقسام العلمية الهامة في مجال الإنتاج الزراعي وذلك من خلال دوره في المحافظة على المنتجات الزراعية المختلفة ، لهذا يعمل القسم على تحقيق أهدافه المتمثلة في:

- إعداد الكوادر العلمية المؤهلة على أعلى المستويات المزودة بأحدث الأساليب العلمية في مجال وقاية النبات.
- القيام بالبحوث والدراسات العلمية التي تتعلق بالمشكلات الطارئة والمزمنة في القطاع الزراعي وإيجاد الحلول المناسبة لها.
- إقامة الدورات التدريبية والإرشادية لمستويات مختلفة من العاملين في المجال الزراعي.
- المشاركة في الندوات والمؤتمرات العلمية المحلية والدولية بهدف التواصل مع التقدم العلمي السائد.
- المشاركة في الأنشطة الإرشادية من خلال وسائل الإعلام المختلفة.

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Department of Plant Protection

Course Description

Principles of Plant Protection

This course is designed to familiarize the student with the principles of plant protection. It will focus on the basic aspects of entomology and plant pathology.

Agricultural Entomology

Insects and arthropods; principles of insect control; geographical distribution, damage, life cycle and control of insect pests of horticultural and field crops.

General Entomology

Insect histology, morphology, physiology and classification; insect behavior and adaptation to environment; factors affecting population dynamics; economic insect pests.

Economic Entomology

Identification of insects; damage and symptoms on vegetables and fruit trees; life cycles; geographical distribution of insects, and control of economic insects.

General Acarology

Principles of mites and their relationship with animals and plants. Characteristics, classification, morphology and biology. General information on the habitat and methods of control will be discussed.

Insects of Field crops and Stored Products

The course involves study of the pests of field crops and stored food with special reference to their life cycles, damage caused by them and their control especially in Jordan and neighboring countries.

Medicinal and Veterinary Entomology

This course will present the students with the fundamental of medical and veterinary entomology, its aim is to provides basic information on the identification, biology, habits, medical importance and control of insects important in the health and well-being of man and animals.

Insect Classification

Principles of insect classification, identification of insect orders and families. Study of life cycle, habitats, habits, adaptations to the environment. Methods of collecting, preserving and identification of insects using taxonomic keys.

Insect Ecology

This course incorporated population ecology, and applied ecology. It deals with Elementary concepts of insect ecology, the various factors regulating abundance and distribution of insect populations, the tritrophic relationship between host plants/herbivores /natural enemies, and the applied aspects of insect ecology in plant protection.

Plant Pathology

The course is designed for students without previous exposure to plant pathology. It covers the main concepts of phytopathology with respect to disease development requirements, host–pathogen relation, ecological, and histological factors affecting the disease spread.

Plant Fungal Diseases

Study of the most important diseases of vegetables, legumes, cereals and crucifies. Diseases on grapes, olives, stone fruits and home fruits will be also covered. This includes the etiology of causal agents, symptoms and pathogenesis.

General Mycology

This course covers the study of fungal morphology, reproduction, economic importance and classification of fungi according to their structures. Examples on selected economically important fungi will be discussed.

Phytopathogenic Bacteria

The aim of this course is to give an idea to the students about the genera of phytopathogenic bacteria, their classification and identification using the recent techniques, plant diseases caused by these genera, their symptoms, epidemiology and control.

Plant Viral Diseases

Principles of virology, morphology structure, replication and spread of viruses: techniques and methods in virus isolation, purification and characterization of viruses.

Plant Nematology

This course deals with the basic principles of nematology; involving the morphology, biology, host-parasite relationship, and management of phytonematodes. This course also covers individual nematodes of significant economic importance from various nematode taxa. The laboratory part includes isolation and identification of phytonematodes

Beneficial Fungi

This course deals with the botany of mushrooms and truffles and their cultivation especially white mushroom and other agaricus species, cultivation of padi straw mushroom and shiitake. Truffles and its cultivation in France. Mushroom and truffle diseases. Mycorrhizal fungi and its use in agriculture. Identification of edible wild mushrooms and their uses.

Epidemiology of Plant Diseases

The course deals with basic principles of epidemiology, involving patterns and dynamics of epidemics, inoculum potential, dispersal of inocula, environmental factors affecting epidemics of diseases, and management strategies of diseases.

Weed Control

This course covers various aspects of weed biology and ecology, weed categories, interference and economic importance. It also provides various methods of their control.

Herbicides

This course addresses herbicides with respect to their nomenclature, categories, formulations and their chemical groups, applications and safe use. It also provides the mode of actions, resistance to herbicide, and impact on the environment.

Honeybee

Beekeeping past and present. Honeybee relatives and social life. H.bee colony, castes, morphology, anatomy, activities and communication. Colony nutrition, diseases and pests. Hive products. Beekeeping equipment.

Honeybee Products

Apiary construction, economics. Honeybee plants, pollination. Seasonal management. Reproductive system of Q,W,D.H.bee Queen production. Instrumental insemination. Honey, Royal Jelly production and marketing. Apitherapy and bee venom. Pollen, wax and propolis production

Pest Control

Introduction; groups of pesticides, toxicity; chemical structure and nomenclature, methods of application and safety regulations.

Biological Control

Biological control history, principles of biological control, parasitism, predation, uses in pest control are covered.

Modern Information Technology for Plant Protection

The course aims to introduce to the student the information flow in plant protection practice; Statistical data analysis of pest ecology; Data base technique and expert system in pest forecast and management, pesticide application and plant quarantine; Information access and analysis from Internet; Multimedia technique, computer-aid design and teaching techniques; Image processing and storing technique; 3S (geographical information system, global position system and remote sensing) techniques; and Systems analysis and simulation in pest population dynamics and integrated pest management.

Biological Disaster Forecasting

The course will introduce to the students the basic principles and methods for the forecasting of the occurring time, number and damage level of pests. By learning the course, the students will be asked to understand the contents and procedures of the crop biological disaster forecasting, grasp their basic principles and methods and have the primary capability on carrying out this work.

Methodology for Plant Protection Research

This course mainly gives instruction in the general theory, the elementary knowledge, the correlation research background and the progress of the plant protection research technology. Through laboratory exercises, students can understand the related experimental equipment. The contents of course involve with the traditional and the modern experiment methods and techniques in the plant pest and the chemical control research, which is for the purpose of promoting student's scientific thought, and the ability to solve actual problems.

Introduction to Biotechnology in Crop Protection

By completion of this course, students should understand molecular methods of disease assessment and crop protection, basic techniques of genetic manipulation, the application of biotechnology and the use of lab informatics.

Training, research and seminars

Seminar in Plant Protection Department approval

The course is intended to expose different aspects of plant protection, and proper way of using the library. Students will experience presentation of seminars in front of audience

Practical Work in Plant Protection

Identification and diagnosing crop pests (insects, diseases caused by fungi, nematodes, bacteria and viruses); practical application of pest control and integrated pest management.

Field Training in Plant Protection

Identification and diagnosing crop pests (insects, diseases caused by fungi, nematodes, bacteria and viruses); practical application of pest control and integrated pest management. (*) Minimum successful 99 credit hours and Department approval.