

PHYTOPHARMACY AND ECOTOXICOLOGY

(Specialization Plant protection, 1st Year of study, 1st Semester)

Credit value (ECTS): 8

Course category: Further study

Course holder: PhD. Mihai TALMACIU

Discipline objectives (course and practical works):

- Aims to make available to master's students up-to-date information on the methods and techniques of application of plant protection products to various agricultural and horticultural plants;
- The knowledge of phytopharmaceuticals and exotoxicological products is considered by the master students.

Contents (syllabus)

Course (chapters/subchapters)
Phytopharmacy Phytopharmacy and agropharmacy: definitions and object of phytopharmacy. Phytopharmacy Divisions: Pesticide Chemistry, Pesticide Use, Pesticide Circulation and Action. The importance of chemical control and trends in chemical control of diseases and pests.
General properties of pesticides. Classification of pesticides. Pesticide formulation. Doses and technique for applying pesticides.
Pesticide residues. Storage and coating of organs treated with pesticides. The biological significance of pesticides. Factors that determine the evolution of residues. Pollution elements. Soil pollution.
Availability of pesticides. Factors influencing the availability of pesticides. Bioavailability of pesticides. Types of agri-availability. Pathways through pesticides to parasitic fungi.
How pesticides work. Compatibility, synergism and antagonism of pesticide mixtures. Pesticide mixtures used to control diseases and pests in comprehensive control schemes. Recommended break intervals for pesticides used in the plant protection and maximum permissible limits (I.M.A) for pesticide residues in agri-food products and feed.

Practical works
The chemistry of pesticides and the importance of chemical control of pathogens and pests.
Forms of conditioning of pesticide products.
Risk of environmental chemicalization, environmental toxicology and toxicity.
Toxicological characteristics determined by the chemical structure of the fungicides, insecticides, mites and nematocides.
Pesticide pollution, its spread, the physical and chemical processes that cause the disappearance of pesticides, the remanence of pesticides.

Toxicity of pesticides products, mode of action and determination of optimal doses.
Determining the need for chemical treatments, the timing of their application and the recommended amounts of pesticides
Methods of application of pesticide products
Knowledge of the action of pesticides on pathogens and pests.

Bibliography

1. Perju Teodosie, Lăcătușu Matilda; Pistică C., Andriescu I., Mustață Ghe., 1989 - Entomophages and their use in the integrated protection of horticultural ecosystems. Ceres Publishing House, Bucharest
2. Filipescu C., Georgescu T., Tălmăciu M., 1989 -Practical works of Entomology. The general part. Internal use, Iasi.
3. Georgescu T., Tălmăciu M., 1994 -Protection of vine and fruit plants. Entomology course. Special part and combat technologies. Internal use, Iasi.
4. Perju T., 1995 - Agricultural entomology, component of the integrated protection of agrosystems. Ceres Publishing House, Bucharest.
5. Tălmăciu M., Georgescu T., Badeanu Marinela, 1998 - Entomology. The special part. Internal use, Iasi.
6. Talmăciu M., 2002 - Plant protection - Entomology, course, internal use. , U.S.A.M.V. Iasi.

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Course	Knowledge and understanding of the notions included in the course	70%
Seminar / lp	Practice using information sources, preparing and presenting papers	30%

Contact

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PHYTOPHARMACY AND ECOTOXICOLOGY

(Specialization Plant protection, 1st Year of study 2nd Semester)

Credit value (ECTS): 8

Course category: Further study

Course holder: Prof. univ. Dr. Mihai TALMACIU

Discipline objectives (course and practical works):

- Aims to make available to master's students up-to-date information on the methods and techniques of application of plant protection products to various agricultural and horticultural plants;
- The knowledge of phytopharmaceuticals and exotoxicological products is considered by the master students.

Contents (syllabus)

Course (chapters/subchapters)
Risk of environmental chemicalization, environmental toxicology and toxicity The toxicological characteristics determined by the chemical structure of fungicides, insecticides, acaricides. Pesticide pollution, their spread, the physical and chemical processes that cause the disappearance of pesticides, the remanence of pesticides.
Phytopharmaceuticals products used in the treatment of seeds against diseases and pests. Presentation of fungicides and insecticides used in the treatment of straw cereal seeds: wheat, barley, oats, corn, sunflower achenes, beet glomeruli, grain legume seeds: peas, beans, soybeans.
Foliar treatments for cereals. Phytopharmaceuticals used in foliar treatments for straw cereals and technical plants.
Treatments in tree fruit orchards. Phytopharmaceuticals used to control diseases and pests in tree fruit orchards. Presentation of fungicides, insecticides and acaricides used in apple, hair, plum, cherry, sour cherry and peach plantations.
Treatments in vineyards field. Phytopharmaceuticals used in vineyards field. Presentation of fungicides, insecticides and acaricides used in vineyards fields to prevent and control diseases and pests.
Treatments in vegetable crops. Phytopharmaceuticals used to prevent and control diseases and pests in vegetable crops. Presentation of the main fungicides, insecticides, acaricides and nematocides used in the crops of tomatoes, eggplants, peppers, cabbage, cauliflower, onions and cucumbers

Practical works
Pesticide residues: identification, tolerance limits, methods for their determination.
Qualitative parameters of agricultural products following the application of the pesticides

Presentation of the fungicides and the insecticides used for the treatment of straw cereal seeds: wheat, barley, oats, rye, corn, sunflower achenes, beet glomeruli and grain legumes for seeds: peas, beans and soybeans.
The presentation of fungicides in foliar treatments from cereals.
Presentation of insecticides used in foliar treatments of cereals.
Presentation of fungicides, insecticides and acaricides used in apple fruit orchards.
Presentation of fungicides, insecticides and acaricides used in vineyards field.
Presentation of fungicides, insecticides, acaricides and nematocides used in vegetable crops.

Bibliography

1. Perju Teodosie, Lăcătușu Matilda; Pisiță C., Andriescu I., Mustață Ghe., 1989 - Entomophages and their use in the integrated protection of horticultural ecosystems. Ceres Publishing House, Bucharest
2. Filipescu C., Georgescu T., Tălmăciu M., 1989 -Practical works of Entomology. The general part. Internal use, Iasi.
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6. Talmăciu M., 2002 - Plant protection - Entomology, course, internal use. , U.S.A.M.V. Iasi.
7. Boguleanu Gh. 1994- Fauna harmful to agricultural and forestry crops in Romania, Ceres Publishing House, Bucharest.

Evaluation

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Seminar / Ip	Practice using information sources, preparing and presenting papers	30%

Contact

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