

# PLANT AND ENVIRONMENTAL PROTECTION

(Specialization Environmental engineering, 2<sup>nd</sup> Year of study, 2<sup>nd</sup> Semester)

**Credit value (ECTS): 4**

**Course category: Domain-specific discipline**

**Course holder: PhD. Mihai TALMACIU**

## **Discipline objectives (course and practical works):**

- The discipline of Plant and the environment Protection, together with other specialized disciplines, contributes to the theoretical and practical training of future engineers.
- Formation of the fundamental knowledge base necessary for understanding and operating with the notions specific to the field of Environmental Engineering; At the same time, the discipline aims at students' knowledge of the main pesticide products, the classification, identification and influence of pesticide residues on plant products, as well as the characteristics of fertilizers.

## **Contents (syllabus)**

Course (chapters/subchapters)
<b>PART I PESTICIDES</b>
<b>Introduction</b> General considerations on pesticides; Forms of conditioning of pesticides
<b>Pesticide toxicity</b> Classification of pesticide products by degree of toxicity; Pesticide residues; The influence of pesticide residues and the residual content of plant products
<b>Classification of pesticide products according to the chemical group to which they belong</b> Inorganic pesticides; Synthetic organic pesticides; Pesticides based on dinitrophenols; Carbamic pesticides; Organophosphorus pesticides; Fungicidal products; Insecticides; Soil acaricides and sterilizers; Auxiliary products
<b>PART II FERTILIZERS</b>
<b>Definition, classification and use</b>
<b>Fertilizers based on nitrogen, phosphorus and potassium</b> Nitrogen fertilizers; Phosphorus based fertilizers; Potassium fertilizers
<b>Fertilizers based on microelements</b>
<b>Methods of rational use of pesticides and the main provisions of the normative acts on environmental protection</b>
<b>Natural fertilizers</b> Manure; Mraņa; Other types of fertilizers.

Practical works
<b>Insecticides, acaricides and nematocides</b> Classification; physical and chemical characteristics; identification; use
<b>Fungicide products</b> Classification of fungicidal products; physical and chemical characteristics; identification; use

**Fertilizers**

classification of fertilizers based on nitrogen, phosphorus, potassium; physical and chemical characteristics; identification of fertilizers; natural fertilizers - types, doses, etc.

**Environmental conservation strategy**

methods of rational use of pesticides; the main provisions of the normative acts regarding the environmental protection

**Bibliography**

1. Paulian F., 1981 - Insecticides and other granular pesticides, Ceres Publishing House, Bucharest.
2. Țârdea C., 1981 - Agrochemistry Course, Ion Ionescu Publishing House from Brad, Iași.
3. Nikonorow M., 1991- Pesticides in the light of environmental toxicology, Ceres Publishing House, Bucharest.
4. Perju T., 1995 - Agricultural entomology, component of the integrated protection of agroecosystems. Ceres Publishing House, Bucharest.
5. Roșca I., Oltean I., Mitrea I., Tălmăciu M., Petanec DI, Bunescu H.Șt., Istrate Rada, Tălmăciu Nela, Stan C., Micu Lavinia Mădălina, 2011 - Treatise on general and special entomology, Alpha MDN Publishing House, Buzau

**Evaluation**

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

**Contact**

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