

**PLANT PROTECTION AND THE ENVIRONMENT (ENVIRONMENTAL ENGINEERING, Year II, Semester II)**  
**Credit value (ECTS): 4**

**Course category: mandatory**

**Course holder:**

Phd.. TĂLMACIU MIHAI

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

- The discipline of Fertilizers and Pesticides, 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)**

| <b>Course (chapters/subchapters)</b>   |
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| <b>PART I PESTICIDES</b><br>INTRODUCTION<br>1.1. General considerations on pesticides<br>Forms of pesticide conditioning   |
| <b>TOXICITY OF PESTICIDES</b><br>2.1 Classification of pesticide products by degree of toxicity<br>2.2. Pesticide residues<br>2.3. Influence of pesticide residues and residue content of plant products   |
| <b>CLASSIFICATION OF PESTICIDES BY CHEMICAL GROUP TO WHICH THEY BELONG</b><br>3.1. Inorganic pesticides<br>3.2. Synthetic organic pesticides<br>3.3. Dinitrophenol-based pesticides<br>3.4. Carbamic pesticides<br>3.5. Organophosphorus pesticides<br>3.6. Fungicide products<br>3.7. Insecticide products<br>3.8. Acaricides and soil sterilizers<br>3.9. Auxiliary products |
| <b>PART II FERTILIZERS</b><br>DEFINITION, CLASSIFICATION AND METHOD OF USE   |
| <b>NITROGEN, PHOSPHORUS, POTASSIUM FERTILIZERS</b><br>4.1. Nitrogen fertilizers<br>4.2. Phosphorus-based fertilizers<br>4.3. Potassium fertilizers   |
| <b>MICROELEMENT FERTILIZERS</b>  |
| <b>METHODS OF RATIONAL USE OF PESTICIDES AND MAIN PROVISIONS OF ENVIRONMENTAL PROTECTION REGULATIONS</b>   |
| <b>NATURAL FERTILIZERS</b><br>7.1. Manure<br>7.2. Garden soil<br>7.3. Other types of fertilizers.  |

**Practical works**

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| <p>Insecticides, acaricides and nematocides</p> <ul style="list-style-type: none"> <li>• classification</li> <li>• physical and chemical characteristics</li> <li>• identification</li> <li>• use</li> </ul>  |
| <p>Fungicide products</p> <ul style="list-style-type: none"> <li>• classification of fungicidal products</li> <li>• physical and chemical characteristics</li> <li>• identification</li> <li>• use</li> </ul>   |
| <p>fertilizers</p> <ul style="list-style-type: none"> <li>• classification of fertilizers based on nitrogen, phosphorus, potassium</li> <li>• physical and chemical characteristics</li> <li>• identification of fertilizers</li> <li>• natural fertilizers - types, doses, etc.</li> </ul> |

### **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                 | Exam: Test with various items                                    | 70%                                  |
|                        | presence   |                                      |
| Practical works        | Oral, case study, investigation, evaluation during the semesterI | 30%                                  |

### **Contact**

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