Course Unit Descriptor

Study Programme: Agronomy

Course Unit Title: Advanced phytopharmacy

Course Unit Code: 19.AGR154

Name of Lecturer(s): prof. dr. Sanja D. Lazić, prof. dr. Slavica Vuković

Type and Level of Studies: Doctoral studies program

Course Status (compulsory/elective): Elective

Semester (winter/summer): Summer

Language of instruction: English

Mode of course unit delivery (face-to-face/distance learning): Face-to-face

Number of ECTS Allocated: 7

Prerequisites: -

Course Aims:

For students to acquire knowledge of: pesticides properties, pesticides fate in the environment, assessment of biological effects (phyto-toxicity, efficacy), possibilities of pesticide mixtures application and to cope valid and standard scientific methods

Learning Outcomes:

Acquired knowledge will contribute to improvement of capacities for scientific work in area of modern pesticide applications, in terms of providing safe food and products and environmental protection, as well as to train students for further knowledge transfer.

Syllabus:

Theory

Pesticides and soil- soil-bounded residues; Pesticides and plants – bounded residues; Pesticides and water- transport processes, transformation processes, effect on living organisms, pesticide degradation; Poisons and toxicity- mutagenicity, cancerogenicity, teratogenicity, reproductive effects, endocrine disruptors; Insecticides, fungicides and herbicides - ecotoxicity; New trends in development of pesticide formulations; Pesticides and food safety; management of obsolete pesticides. Biological effects (fungicides and zoocides in agriculture) on cultivated plants; Physical and biological compatibility of pesticide mixtures and/or mixtures of pesticides and non-pesticide compounds; Evaluation of pests sensitivity of towards pesticides (fungicides and zoocides in agriculture); Development of anti-resistance strategy; Alternatives to pesticides of high risk; biopesticides and non-pesticide compounds in phytomedicine.

Practice

Preparing pesticide formulations; Methods for detection of active ingredients content; assessment of biological effects; Phyto-toxicity detection; Basic criteria for preparation of pesticide mixtures; Evaluation of sensitivity levels of pest organisms towards pesticides (fungicides and zoocides in agriculture) –analysis and data interpretation; Roll and significance of rapid biological methods i.e. bioassays in phyto-medicine

Required Reading:

1. Шовљански Р, Лазић С.: Основи фитофармације, Пољопривредни факултет Нови Сад, 2007.
2. Виторовић, С., Милошевић, М, Основи токсикологије са елементима екотоксикологије, Универзитет у Београду, Београд, 2002.
3. MacBean, C. (Ed): The Pesticide Manual (16th ed). British Crop Protection Council, Farnham, 2012.
4. Bogdanović, D., Lazić, S., Belić, M., Nešić, Lj., Ćirić, V., Čabilovcki, R.: Uzorkovanje zemljišta i biljaka za agrohemijske i pedološke analize. Poljoprivredni fakultet Novi Sad, 2014.
5. EPPO Standards, Guidelines for the efficacy evaluation of plant protection products, Vol 1-3, 2004.
6. Copping, L.G.: The Manual of Biocontrol Agents, BCPC, UK, 2009.

Weekly Contact Hours: 4+4	**Lectures:** 4x15	**Practical work:** 4x15

Teaching Methods:

Lectures, Practical classes, Research work

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation		written exam	70
Practical work		oral exam	

Preliminary exam(s)		…….	
Seminar(s)	30		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			