

Study Programme: PHYTOMEDICINE		
Course Unit Title: <i>BIOLOGICAL CONTAMINATION OF AGRICULTURAL PRODUCTS</i>		
Course Unit Code: 19.FT2001		
Name of Lecturer(s): Prof. Ferenc Bagi, PhD, Assoc. Prof. Aleksandra Popović, PhD		
Type and Level of Studies: UNDERGRADUATE ACADEMIC STUDIES		
Course Status (compulsory/elective): compulsory		
Semester (winter/summer): summer		
Language of instruction: Serbian/English		
Mode of course unit delivery (face-to-face/distance learning): face-to-face		
Number of ECTS Allocated: 6		
Prerequisites: Microbiology, Outlines of Entomology, Insect Systematics and Medical Entomology		
<p>Course Aims:</p> <p>Introduction to the harmfulness of contamination of agricultural products by biological contaminants, sources of biological contamination of food. Introducing the biological contaminants of food, conditions for their development and preventive measures in order to prevent the formation of harmful metabolites (mycotoxins) in agricultural products, as well as measures to eliminate pests. Possibilities of agricultural products decontamination.</p>		
<p>Learning Outcomes:</p> <p>The production of safe food and feed, without the presence of pests and mycotoxins.</p>		
<p>Syllabus:</p> <p><i>Theory</i></p> <p><u>Entomology</u>: Causes of damage of agricultural products. The economic importance and specificity of pests, assessment of loss. The most important pests of cereals, flour, grain legumes, herbs, dried fruit, nuts, meat and other dried products in stores. The most important pests of fruits and root and tuber vegetables. Lectures will include the name of the species, systematic position, economic importance, symptoms of damage, morphology and biology of insects. <u>Plant pathology</u>: Morphological, cultural characteristics of the most important mycotoxigenic fungi, genera: <i>Aspergillus</i>, <i>Fusarium</i>, <i>Alternaria</i>, <i>Penicillium</i>, <i>Claviceps</i>. Mycotoxins. Symptoms of diseases. Favorable conditions for plant tissue colonization, synthesis of harmful metabolites and possibilities of prevention and detoxifying agricultural products.</p> <p><i>Practice</i></p> <p><u>Entomology</u>: Methods for detection of pests in stores, visible and hidden pest attack. Determination of harmful insects, morphology, symptoms of damage, short biology and damages - individual examination of stuffed and preserved specimens and damage. <u>Plant pathology</u>: Practical knowledge (microscopy) and determination of toxigenic microorganisms. Morphological, cultural, molecular, toxigenic properties.</p>		
<p>Required Reading: Milićević, D. (2016): Mycotoxins in the food chain – chemical, biological and health aspect (in Serbian). Institute of Meat Hygiene and Technology, Belgrade</p> <p>Sinovec, Z.J., Resanović, R.M., Sinovec, S.M. (2006): Mycotoxins, presence, effects and prevention (in Serbian). University of Belgrade, Faculty of Veterinary Medicine</p> <p>Lević, T.J. (2008): Species of the Genus <i>Fusarium</i> (in Serbian). The Maize Research Institute, Zemun Polje</p> <p>Almaši, R., Injac, M., Almaši, Š. (2004): Harmful and beneficial organisms of pome fruits (in Serbian). Faculty of Agriculture, Novi Sad</p> <p>Štrbac, P. (2002): Stored products pests (in Serbian). Faculty of Agriculture, Novi Sad</p> <p>(Literature resources will be provided in English)</p>		
Weekly Contact Hours:	Lectures: 60	Practical work: 30
<p>Teaching Methods:</p> <p>Teaching is carried out using modern techniques. Visual - didactic methods with the use of modern teaching aids and laboratory</p>		

equipment. Practical classes - management of individual work of students and demonstrative - illustrative methods

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Active class participation		written exam	60
Practical work		oral exam	
Preliminary exam(s)	35	
Seminar(s)	5		

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.