**Справка за дисциплините в летен семестър на учебната 2018/2019 г. - катедра „Растениевъдство“, специалност „Семепроизводство и растителна защита“ (Seed Production and Plant Protection),**

**ОКС „Магистър“, редовно обучение**

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| Discipline „Good plant protection practices and principles of integrated pest management”, code: 7 |
| Annotation: The comprehensive application of plant protection methods and practices is at the heart of the strategy to keep the population level of the pests below the threshold of economic harm in order to preserve the ecological equilibrium in agrocenoses. The study of the course "Good Plant Protection Practices and Principles of Integrated Pest Management " aims at acquainting students with: the basic principles of Good Plant Protection and Integrated Pest Management; the strategy for their implementation; the development of integrated pest control programs; the key pests in the main polish, vegetable and fruit crops; methods to maintain the threshold of economic harm population level. The course is designed for students specializing in "Seeds production and plant protection" - Masters. During the course the students will increase their knowledge on the relationship between pests and their hosts, crop cultivation technology, integrated pest control approaches, and the possibilities of combining pest control methods with individual crops. |
| Main issues of the syllabus content:* Basic principles of plant protection.
* Integrated pest management.
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| Discipline „*AGROTECHNICS IN SEED PRODUCTION AND PLANT PROTECTION*”, code: 8 |
| Annotation: The curriculum is intended for students who receive the Master's degree. In the contracts concluded with the seed producers there is no clause defining and requiring agro-technical practices in the cultivation of seed crops, which places high requirements on the competence of the specialists who acquire the Master's degree in the specialty "Semi-production and plant protection" ". The course "Agricultural Semantics and Plant Protection" provides the opportunity for the students to acquire modern and specific agrotechnical knowledge about the specifics of the production of seeds for basic agricultural crops in the country, to successfully integrate the fight against weed vegetation in the seed production areas. The lecture course examines the basic principles of mechanized agro-technical practices in seed production and plant protection.The program aims, after learning the above mentioned knowledge, that students can use and develop science-based and efficient technologies in the production of seed material according to the specific soil and climatic conditions and cultural species, as well as to observe the basic rules for the implementation of the plant protection practices.In pursuing the objectives of this program students apply and broaden their knowledge of general agriculture, herbology, plant growing, agrochemistry, economics, mechanization, etc. |
| Main issues of the syllabus content:* Particularities in agrotechnics in seed production of cereal crops.
* Specificities in agro-technology in seed production of technical crops.
* Specificity in agrotechnics in seed production of grain-legumes.
* Agrotechnical features in seed production of basic vegetable and fodder crops.
* Basics in mechanical and chemical weed control.

Influence of ecological factors on phytotoxicity and selectivity of herbicides |

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| Discipline „Biotechnological methods in seed production and plant protection”, code: 9 |
| Annotation: The curriculum is intended for students of a Master's degree degree program in “Seed Production and Plant Protection”. The course "Biotechnological Methods in Seed Production and Plant Protection" gives students a broad knowledge on the nature and application of the rapidly developing techniques of plant biotechnology to improve the quality and disease resistance of the main agricultural crops. Students are introduced to the possibilities and solutions that biotechnology offers about increasing productivity, disease sustainability, energy supply and environmental protection as well as the risk of genetic manipulation of plants. Plant biotechnology, also called "green biotechnology", is the product of combined use of a set of tools and techniques of conventional botany, bioinformatics, microbiology, molecular genetics, biochemistry, plant physiology, and molecular biology. Green biotechnologies creating new improved crops develops in a number of interrelated areas, the most important of which are: plant cell and tissue cultures - techniques that allow the production of a whole plant from plant tissue or single plant cell and plant genetics engineering - based on a selective genetic transfer. The lecture course includes techniques that are widely used in plant breeding and agricultural practice (clonal micropropagation and viral healing, embryology, sommoconal variation); methods that work well only on part of the crop plants and continue to develop extensively for the rest (haploid and dihaploidy, cell mutagenesis and selection) as well as somatic hybridization and gene transfer. The methods of tissue and cell cultures of plants, similar to microorganisms, are considered as a safe and additional source for increasing the spectrum and volume of production of secondary active substances of medical and nutritional value. Students studing biotechnological methods in plant breeding extend their knowledge in genetics, breeding, biochemistry, plant physiology, botany and plant product quality. |
| Main issues of the syllabus content:* Biotechnological methods based on tissue and cell cultures and their application in seed production and plant protection.
* Genetic engineering in plant breeding. Creation of transgenic plants resistant to diseases and pests.
* Prospects for application and development of biotechnological methods and gene engineering in plants. Benefits and risks.
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| Discipline „CHEMICAL POLLUTANTS AND METHODS OF CONTROL”, code: 10 |
| Annotation: Food safety is a vital property that is regulated by public health. Achieving safety in food production is leading manufacturers and retailers ahead of other quality qualities. One of the hazards is defined as a chemical agent that can cause food infection or intoxication in the absence of control. The relationship between exposure and the effect of chemical hazards in food is usually complicated by cumulative low doses and the delay between exposure and the onset of symptoms. Forms of chemical contamination may arise during the production process or during the storage of food products. |
| Main issues of the syllabus content:* the main chemical pollutants in food;
* sources;
* the most significant and successfully applied methods of food quality control;
* legislation
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| Discipline „*VARIETY TESTING, RECOGNITION AND LEGAL PROTECTION OF NEW VARIETIES OF PLANTS*”, code: 11a |
| Annotation: The course "Variety testing, Recognition and Legal Protection of the New Varieties of Plants" is optional in the curriculum of the specialty "Seed Production and Plant Protection", Master's Degree. The aim of the subject is to acquaint students with the current Bulgarian and European legislation regulating the procedures for variety testing, recognition, registration and legal protection of new varieties of plants. The task of the course is to prepare the students for master's thesis, which will inevitably help them in future realization as producers and traders of seed and planting material, consultants and specialists in state and private structures. The lecture course provides for an introduction to the contents of the official varieties list, the terms and conditions for variety testing for distinctness, uniformity and stability, and biological and agronomical characteristics, recognition, registration, criteria for granting the protection of a variety and the content of such protection, the breeder's rights to the protected variety, methods of protection and variety expertise. Seminar exercises include introduction and discussion on topics concerning the legal protection of varieties as an object of intellectual and industrial property, the international legal regulation of the protection of the new plant varieties. The subject is related to the study course " Legislation on Seed Production and Plant Protection", studied in the previous semester. |
| Main issues of the syllabus content:* Contents of the official varieties list
* Terms and order for variety testing for distinctness, uniformity and stability and biological and agronomical characteristics
* Recognition and registration of varieties agricultural plants
* Requirements for granting of legal protection of variety
* Legal protection of variety
* Breeder rights on the protected variety
* Protection methods
* Variety expertise
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| Discipline „*FORECASTING AND SIGNALING FOR PLANT PROTECTION*”, code: 12 |
| Annotation: Intensive application of plant protection products, fertilizers, growth regulators, etc. chemical means is a characteristic feature of modern agriculture. The unreasonable use of plant protection products, on the one hand, runs the risk of drastic changes in agrocenoses and, on the other, unreasonable increases in the cost of production. Scientifically based forecasting and signaling of the occurrence and spread of certain pests is undoubtedly a major factor in preventing their epidemics / calymatic spread. In this context, studying the subject "Forecasting and signaling in plant protection " aims to acquaint agronomists with the methods, tools, approaches and prognostic periods in order to get a clear idea of the danger of epidemics endangering production. On the other hand, the discipline offers safe human health and environmental resources, helping to reduce unjustified financial resources and helping to create clean production. |
| Main issues of the syllabus content:* Methods, tools, approaches and prognostic periods.
* Human health and environmental resources.
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