

PLANT RESISTENCE TO PESTS

Department of plant protection named after A.K. Mishnyov

Lecturer V.M. Demenko

Academic term

4

Higher Educational Level

post-graduate student (Ph.D)

Number of ECTS credits

4,0

Form of control

credit

Audit hours

88 (44 hours of lectures, 44 hours of practical classes)

A general description of the discipline

The program of the course "Plant Resistance to Pests" aims to help students to acquire professional knowledge in plant immunity to pests, to learn general characteristics and characteristics of the relationship of insect-phytophages with plants, forms and mechanisms of plant resistance to pests, selection of plants to insect-phytophages resistance. The course consists of the following parts: Phytoimmunology as a science and discipline. Mechanisms of plant resistance to pests. Plant immunity to pests. Assessment of plant resistance to pests.

Students' knowledge of the discipline and other related disciplines indicates the level of qualification of graduate students in the direction 202 "Plant Protection and Quarantine".

Lecture Topics:

The discipline "Plant resistance to pests" 2. Immunity of plants against pests, its role and place in modern intensive agriculture 3. Mechanisms of plant protection 4. Passive immunity of plants 5. Active immunity of plants 6. Immunity of plants to pests 7. The system of the plant-animal is a phytophage 8. The factors of plant resistance to phytophages 9. Anatomic and morphological features of plants as a factor of plant resistance to phytophages plant phytophages 12. Active plant responses as a factor of plant resistance to phytophages 13. Anatomic and morphological properties and resistance to pests 14. Biochemical composition of plants and resistance to pests 15. Rates of plant growth and development, plant resistance to pests 16. Biological properties of plants and resistance to pests 17. Resistance of plants to damage by pests 18. Anthropogenic factors and immunity of plants 19. Immunological basics of creation of sorts of plants resistant to pests. 20. Creation of sorts resistant to pests. 21. Immunity of plants to pests 22. Ways of increase of efficiency of sorts resistant to pests

Topics of practical classes:

1. Introduction to enzymes, toxins as mechanisms of pathogenicity of microorganisms. 2. Introduction to elicitors of the protective reactions. 3. Introduction to models of intergenic interaction in pathosystems. 4. Study of plant resistance genes. 5. Introduction to methods of identification of pests. 6. Study the populations of the most common pests. 7. Introduction to the factors that affect pest populations. 8. Study of methods of evaluation of plant resistance to pests. 9. Types of damage to plants by insects with a rodent mouthpiece. 10. Types of damage to plants by insects with prickly-sucking mouth apparatus. 11. Assessment of the resistance of corn to damage by stem butterflies. 12. Assessment of the resistance of wheat to damage by grain beetles. 13. Assessment of wheat resistance to damage by wheat thrips. 14. Assessment of the resistance of soybeans to damage by caterpillars of the sunflower thistle. 15. Assessment of pea resistance to pea damage by grain pea. 16. Assessment of the resistance of beets to damage by weevils. 17. Assessment of potato resistance to damage by Colorado potato beetle. 18. Assessment of sunflower resistance to fire damage by sunflower. 19. Assessment of the resistance of rapeseed to damage by rapeseed florida. 20. Assessment of resistance of cabbage to damage by cabbage insects. 21. Assessment of the resistance of apple trees to damage by the apple tree. 22. Assessment of currant resistance to damage by pests.