ORGANIZATION AND TECHNOLOGY OF THE SELECTION PROCESS OF CROPS
Department of breeding and seed production named after M.D. Goncharov

Lecturer: N.S. Kozhushko, Ph.D., Professor
Semester 3
Educational-scientific level: Doctor of Philosophy
Number of credits 4
Form of control: Credit
Classroom hours: 104, Lectures-44, Practical classses-44, Consultations-16.

A general description of the subject

The purpose of teaching the subject is formation of a system of advanced theoretical knowledge about the modern organization and basic technology of breeding process of self-pollinated, cross-pollinated and vegetatively propagating field crops. The study of the discipline provides the acquisition of knowledge of the modern results of breeding research to create highly productive plant varieties, adapted to certain conditions of cultivation on the basis of the existing organization and technology of the breeding process. As a result of studying the discipline, the future scientist should know the problems of the theory and modern technology of adaptive selection and the stages of their solution. He should be able to direct the acquired knowledge in search of perspective breeding directions for the creation of fundamentally new breeding forms of plants with desirable characteristics and the development of an improved organization and innovative techniques of breeding process.

Lecture topics:

1. Breeding as a more effective means of agricultural production.
2. Achievements, tasks and directions of modern crop selection.
3. Theoretical foundations of basic breeding technology.
4. Immunological basis of field crop selection.
5. Organization of breeding of self-pollinated crops.
6. Organization of breeding of cross-pollinated crops.
7. Organization of breeding of vegetatively propagating crops.
8. Technology of breeding process and technology of field and harvesting works.
9. Methodology of evaluation of breeding material in the scheme of breeding process.
10. Scientific and methodological foundations of the technology of the grain selection process.
11. Scientific and methodological foundations of technology of breeding process of cereal crops.
12. Scientific and methodological foundation of technology of breeding process of grain legumes.
13. Scientific and methodological foundation of technology of selection process of technical oilseeds.
14. Scientific and methodological foundation of technology of breeding process of technical sugar-bearing crops.
15. Scientific and methodological foundation of technology of breeding process of technical starch crops.
16. Scientific and methodological foundation of technology of breeding process of technical spinning crops.
17. Scientific and methodological foundation of technology of breeding process of perennial legume forage grasses.
18. Scientific and methodological foundation of technology of breeding process of cereal forage grasses.

Topics of practical seminars:

1. Scheme, organization and technology of winter and spring soft wheat selection and prospects for its improvement.
2. Scheme, organization and technology of winter and spring durum wheat selection and prospects for its improvement.
3. Elements and technology of winter rye selection process, prospects for its improvement.
4. Scheme, organization and technology of winter and spring triticale selection, prospects for its improvement.
5. Elements, organization and technology of spring barley selection process, prospects for its improvement.
6. Scheme, organization and technology of oat selection, prospects for its improvement.
7. Elements, organization and technology of the maize selection process and field and harvesting operations, its prospects.
8. Modern scheme, organization and technology of buckwheat selection and its improvement.
9. Scheme, organization, technology of millet selection process, its prospects.
10. Elements and technology of pea selection, fieldwork and harvesting, its improvement.
11. Scheme, organization and technology of soybean selection process, fieldwork and harvesting, its prospects.
12. Elements of sunflower selection process, features of the technology and improvement of different nurseries creation and harvesting.
13. Modern and perspective schemes, organization and technology of winter and spring rapeseed selection, fieldwork and harvesting
14. Stages of the sugar beet selection process and features of the technology, prospects.
15. Scheme, organization and technology of potato selection, fieldwork and harvesting, its improvement.
16. The main stages and technology of hemp selection process, fieldwork and harvesting, its improvement.
17. Modern and perspective schemes, organization and technology of linen selection, fieldwork and harvesting.
18. Specificity of methodology and technology of modern selection process of perennial grasses and their improvement.