

Annotation of elective educational component «Animal gene pool preserving»

Academic discipline	Animal gene pool preserving
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Courses and semesters, when the discipline is planning to study	1 course (master degree) 1 semester
Faculties whose students are invited to study discipline	Biological-technological faculty
List of competencies and learning-related outcomes that discipline provides	<p>According to the requirements of the educational-professional program "Technology of production and processing of livestock products" applicants must acquire the ability to obtain the following competencies:</p> <p>GC 2 (general competence). Ability to conduct research at an appropriate level.</p> <p>GC 3. Ability to apply knowledge in practical situations.</p> <p>GC 4. Knowledge and understanding of the subject area and understanding of professional activity.</p> <p>GC 7. Ability to evaluate and ensure the quality of work performed.</p> <p>PC 14 (professional competence). Ability to apply basic modern fundamental knowledge of animal and poultry breeding, principles of inheritance of economically useful traits of the gene pool of farm animals and poultry.</p> <p>PC 15. The ability to use professional knowledge in the field of animal breeding and selection, to master the basic processes of genetic analysis in the latest technologies for the production and processing of livestock products.</p> <p>The result of studying the discipline is the students' acquisition of such knowledge and skills:</p> <ul style="list-style-type: none"> - follow your own improvement and master modern knowledge (to know the properties of populations, biological and genetic features of farm animals of the main species; breeding and genetic monitoring of the animal productivity potential, resistance, adaptability and study of parameters of their ontogenesis with complex one; -to combine measures to increase the level of productivity of animals and the quality of their products (theory and progressive methods of breeding work in relation to the improvement of existing and the creation of new high-productive hybrids, lines, types, crosses and breeds of farm animals; specification of breeding methods for improving the productive and breeding qualities of animals; principles of gene pool preserving of uncompetitive breeds of a limited number); - to create measures to improve selection and breeding work in animal husbandry (• to conduct research on the genetic improvement of local and endangered breeds of farm animals with the preservation of their biological identity; to know the factors and conditions of genetic stability of populations, mechanisms for solving the problem of preserving biological diversity; to know the laws of management of the selection process at the population level; to know the genetic and

	mathematical models of rural population management. animals and their use in breeding).
Description of the discipline	
Preconditions necessary for the study of discipline	Elective educational component «Animal gene pool preserving» is based on knowledge of such disciplines as "Genetics with biometrics", "Biotechnology", "Technology of animal reproduction", "Breeding of animals", studied in the previous courses of bachelor's degree, and "Organization of breeding work in animal husbandry", which is studied in the first semester of master's degree.
Maximum number of students who can study simultaneously	15 students
Lesson plans	<p>Lectures</p> <ol style="list-style-type: none"> 1. Modern classification of breeds according to groups at risk of extinction of the gene pool. 2. Methodological principles and programs for preserving the gene pool in situ and ex situ. Gene pool herds and cryobanks of animal genetic resources. 3. Justification of the organizational, economic and legal mechanism for preserving the gene pool of local and endangered breeds of agricultural animals in Ukraine. 4. Breeding processes in dairy cattle breeding of Ukraine. 5. Breeding processes in beef cattle breeding of Ukraine. 6. Principles of formation and principles of functioning of the electronic database of the state register of breeding animals. 7. World experience of interbreeding in dairy cattle breeding and its use in Ukraine. 8. Genetic examination of the origin of breeding animals. 9. Immunogenetic markers in cattle breeding. 10. Determination of hereditary anomalies. 11. Cytogenetic methods of evaluating animals. 12. Use of biotechnological methods to intensify the selection process in cattle breeding. 13. Prospects for the use of cloning in the breeding of agricultural animals. 14. Prospects for the use of biotechnological methods to increase the genetic potential of livestock productivity in Ukraine.

Lesson plans	Practical classes <ol style="list-style-type: none"> 1. Diversity of gene pool objects and their categories. 2. Species diversity, population and distribution. 3. Gene pool statuses. 4. Genetic resources of Ukrainian selection. 5. Genetic resources of foreign breeds and their use in selection process. 6. The gene pool of endangered and local breeds of domestic animals. 7. Genetic resources of animals and their resistance to diseases. 8. Basic parameters of gene pool micropropagation. 9. Organization of the gene pool bank. 10. Preservation of genetic resources of farm animals at risk. Zoos and nature reserves. 11. The organization of reserves for local and endangered breeds. 12. Programs for the protection of genetic resources of domestic animals using the in situ method. 13. Organizational-economic and legal bases for preservation of the gene pool of farm animals.
Teaching language	Ukrainian