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Educational institution
"Vitebsk Order" Badge of Honor "State academy of veterinary medicine"

PROGRAM

educational agricultural practice

for 1st year students of NISPO
Faculty of Veterinary Medicine
by specialty:
1 – 74 03 02 Veterinary medicine

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Considered and recommended for approval:
Department of Anatomy of the Educational Institution "Vitebsk Order of the Badge of Honor" State Academy of Veterinary Medicine (Minutes No. 1 dated January 31, 2014);
Department of Feed Production of the Educational Institution "Vitebsk Order of the Badge of Honor" State Academy of Veterinary Medicine (Minutes No. 18 dated March 10, 2014);
Department of Genetics and Breeding of Agricultural Animals named after Professor O.A. Ivanova of the educational institution "Vitebsk Order of the Badge of Honor" State Academy of Veterinary Medicine (protocol No. 6 dated April 16, 2014);
Department of Private Animal Husbandry of the Educational Institution "Vitebsk Order of the Badge of Honor" State Academy of Veterinary Medicine (protocol No. 8 dated March 28, 2014).

Approved and recommended for approval:
Council of the Faculty of Veterinary Medicine of the Educational Institution "Vitebsk Order of the Badge of Honor" State Academy of Veterinary Medicine" (Minutes No. 8 dated May 23, 2014).

EXPLANATORY NOTE

Introduction

Educational agricultural practice will allow to consolidate and expand the knowledge, skills and practical skills obtained by students in the lecture laboratory and practical course on systematics, morphology, plant ecology, the basics of zootechnics, as well as on breeding farm animals, animal anatomy .

Practice in each of the disciplines begins with a preliminary acquaintance of students with the tasks, the program, the features of the place of practice, safety precautions, the rules for collecting material and the internal routine in the group for the period of work.

Educational agricultural practice of 1st year students of NISPO is the most important stage of the educational process for the preparation of highly qualified veterinarians. Its main goal is to consolidate the theoretical knowledge gained throughout the academic year. The program of educational agricultural practice was drawn up in accordance with the educational standard OSVO 1-74 03 02 - 2013. The practice is aimed at consolidating the knowledge and skills acquired in the learning process under production conditions, mastering the skills for solving social and professional problems, production technologies.

GOALS AND OBJECTIVES OF AGRICULTURAL PRACTICE The purpose of the educational practice in animal anatomy:

consolidation of the theoretical knowledge gained by students and the acquisition of skills and abilities to find and identify all anatomical formations on living animals.

Tasks of educational practice in animal anatomy:

- **teach students to identify areas of the body by bone and skin landmarks;**
- **to help students acquire the skills to determine the projections of co-stei of the skeleton and joints on the skin;**
- **teach students to determine the contours of muscle groups and individual muscles on live animals;**
- **to teach students to determine the location of internal organs by points of the skeleton and cutanotopy.**

The purpose of educational agricultural practice for breeding farm animals – consolidation and deepening of knowledge gained in the process of theoretical training in the basics of zootechnics, expanding the scope of knowledge on assessing the exterior and constitution of animals, working with production and zootechnical documentation, studying the breed composition and breeding methods of animals.

Tasks of educational agricultural practice for breeding farm animals:

- **to form students' practical skills in the assessment methodology exterior and constitution of farm animals;**
- **develop the ability to determine the breed of farm animals;**
- **to acquire skills in filling out and processing the main forms of pro-production-zootechnical and breeding records;**
- **master practical skills in compiling pedigrees votnyh and estimates them by origin;**
- **to familiarize students with the methods of breeding agricultural animals.**

The purpose of educational agricultural practice on the basics of animal science: master the most important aspects of zootechnics and industrial life breeding, to gain professional skills in determining the color and age of cattle and horses, the quality of the skins of rabbits and animals; to acquaint students with technologies for the production of livestock products; prepare students for a deeper assimilation of theoretical knowledge.

Tasks of educational agricultural practice on the basics of zootechnics:

- **development of safety precautions when working with animals;**
- **obtaining primary professional skills and abilities by definition the division of color and age in cattle and horses, the quality of the skins of rabbits and animals;**
- **Acquaintance with the technologies of production of livestock products.**

The purpose of educational agricultural practice for fodder production: consolidate and expand knowledge, skills and practical skills, semi-taught by students in a lecture and practical course on the morphology and biological characteristics of fodder plants, and modern technologies for the cultivation of fodder crops and forage harvesting.

Tasks of educational agricultural practice for fodder production:

- **consolidate practical skills in morphological definition plants;**
- **get acquainted with the effective use of soil-climatic conditions in agriculture;**
- **to study the main elements of the cultivation technology of modern varieties of fodder crops;**
- **to master progressive technologies of fodder harvesting;**
- **master the organization of pasture territory for cattle.**

REQUIREMENTS FOR THE COMPETENCE OF A SPECIALIST
WHEN PASSING
TRAINING AGRICULTURAL PRACTICE

Requirements for the academic competencies of a specialist
AK-1. Be able to apply basic scientific and theoretical knowledge to solve theoretical and practical problems.
AK-2. Own system and comparative analysis. AK-3. Possess research skills.
AK-4. Know how to work independently.
AK-5. Be able to generate new ideas (be creative). AK-6. Have an interdisciplinary approach to problem solving. AK-7. Have skills related to the use of technical devices, information management and computer work.
AK-8. Possess oral and written communication skills. AK-9. Be able to improve their skills during their professional activities.

AK-10. Own the method of recognition of pathological processes. AK-13. To be able to correctly apply zoohygienic requirements at livestock breeding enterprises for keeping, feeding and caring for animals, herd reproduction, and obtaining high-quality products.

Requirements for the social and personal competencies of a specialist **SLK-1. Possess the qualities of citizenship. SLK-2. Be capable of social interaction. SLK-3. Possess the ability for interpersonal communication. SLK-4. Learn health care skills.**

SLK-5. Be capable of criticism and self-criticism.
SLK-6. Be able to work in a team.
SLK-7. Be able to find the right solutions in extreme conditions.

SLK-8. Have life support skills in conditions of long stay in remote settlements, extreme conditions.
SLK-9. Possess the skills to solve production problems in the conditions of market relations.
SLK-10. To be able to quickly find the right solutions in the conditions of the emergence of contagious and non-contagious diseases.
Requirements for the professional competencies of a specialist
The specialist must be able to:
PC-1. Treat animals humanely, record and kill them during therapeutic, prophylactic, diagnostic and other measures.

PC-10. Maintain professional accounting and reporting documentation and, in general, veterinary office work (journals, acts, protocols for the disposal of animals, etc.).
PC-13. Supervise the observance of zoohygienic, veterinary and sanitary rules on keeping, feeding and caring for animals, herd reproduction, obtaining high-quality products, etc. on livestock farms.

PC-16. Use physiotherapeutic agents, medicinal plants for therapeutic and prophylactic purposes.
PC-19. Promote knowledge on veterinary medicine among the population and livestock workers.
PC-20. To master the methods of searching and using scientific and technical information, to put into practice the achievements of science and the best practices of veterinary medicine, to independently work with educational, scientific, regulatory, reference literature in order to use it to solve professional problems.
PC-21. Use information technology in solving production

problems. *Research activities*

PC-22. Engage in analytical and research activities in the field of veterinary medicine.
PC-24. To study the trends in the development of modern forms of agricultural production.
PC-25. Work with scientific, reference and special literature.

PC-27. Explore animals.
PC-28. Develop scientific foundations and methods for breeding new breeds, raising animals, and increasing their productivity.
PC-30. Choose methods for optimizing production processes. PC-31. To carry out the choice of the optimal variant of carrying out research work.

Organizational and managerial activities
PC-32. Work with legal literature and labor legislation. PC-35. Draw up documentation (work schedules, instructions, plans, applications, etc.), as well as reporting documentation in accordance with established forms.
PC-36. Draw up documentation (work schedules, instructions, plans, applications, etc.), as well as reporting documentation in accordance with established forms.
PC-37. Analyze and evaluate collected data. PC-40. Prepare reports, materials with presentations. PC-41. Use global information resources. PC-42. Own modern means of telecommunications. *Supervisory and control activities*

PC-49. Give opinions on land allotment projects for the construction of livestock farms and complexes, poultry farms, enterprises

(workshops) for the slaughter of livestock and poultry, processing and storage of products of animal origin, the production of animal feed, recycling plants, fish farms, other livestock facilities, wastewater treatment facilities, as well as in the selection of water intake sites for the listed facilities.

PROCEDURE, ORGANIZATION AND PRACTICE GUIDANCE

Students of the 1st year of NISPO undergo educational agricultural practice for 4 weeks and perform tasks in the following disciplines: anatomy of animals, breeding of farm animals, the basics of zootechnics, fodder production.

It is allowed to pass practice in the form of an internship as part of specialized student teams.

Educational agricultural practice is carried out under the direct methodological guidance of teachers of the disciplines included in the program, is carried out as part of a student group.

The direct work of teachers of departments to guide the practice of students is as follows:

- briefing on the practice program before leaving the place, during the time of which students are informed of the deadlines for completing assignments, the procedure for maintaining documents, rules of conduct and labor discipline, safety precautions;

- **periodic consultation and control of the internship;**
- **checking workbooks.**

Based on the results of the practice, students are given a mark on the offset in the statement by the leaders of the practice for each department. The mark on the credit for educational practice is put in the record book, according to the data sheet for subjects, by the deputy dean of the faculty of veterinary medicine.

Students who have not completed the main volumes of practice, who have not submitted workbooks for verification in a timely manner, are re-sent to practice in their free time. Students who did not pass educational agricultural practice on time without good reason, scholarship for the 3rd semester is not assigned, the hostel is not provided.

The duration of educational agricultural practice in accordance with the educational standard OSVO 1-74 03 02 - 2013 is only 216 hours, of which:

- only 54 hours are allotted for practice in animal anatomy, the auditor-regular classes - 36 hours (1 week);

- for the practice of breeding farm animals only 54 hours, classroom - 36 hours (1 week);

- only 54 hours are allotted for practice on the basics of zootechnics, the auditor-nyh - 36 hours (1 week);

- only 54 hours are allotted for practice in fodder production, the auditor-nyh - 36 hours (1 week).

During the period of practice, students are required to fully complete the program on animal anatomy, breeding of farm animals, the basics of zootechnics and fodder production.

PRACTICE CONTENT

1. Anatomy of animals

Place of practice: practice will be carried out in practice kumah of the department, anatomical museum, vivarium and clinics of the academy.

Before the start of practice, a special safety briefing is held with the obligatory signature of students in a special journal.

Material support: during the internship will be used use anatomical preparations, museum preparations, dummies, live animals: large and small cattle, horses, pigs, dogs, cats, birds.

Diagnostic tools: demonstration by students on preparations, dummies, living animals of various anatomical structures. Determination of muscle and bone grooves and topography of internal organs.

The test is carried out in the form of a control survey (oral form).

As a result of the practice in animal anatomy, the student must:

know:

- methods of animal research;
- types of constitutions in animals;
- characteristics of breeds of farm animals;
- interdisciplinary approaches in solving practical problems; be able to:
- apply theoretical knowledge of animal anatomy to solve practical tasks;
- work independently;
- work in a team;
- work with scientific and special literature;
- engage in analytical and research work in the field of area of veterinary medicine;

own:

- an interdisciplinary approach to solving practical problems;
- method of recognition of pathological processes;

- modern means of telecommunications

Themes:

Safety precautions when working with live animals Safe ways to approach animals. Fixation of animals in a standing position. Fixation of individual parts of the body of animals - head, limbs, lower jaw. Safety features when working with different types of animals - large and small cattle, horses, pigs, dogs, cats, birds.

Neck Anatomy

The composition of the cervical spine (typical and atypical vertebrae of different animals); palpation on the animal of the bone landmarks of the atlas (wings, dorsal tubercle); consideration of the work and characteristics of the atlantooccipital joint (movement of the head along two axes) on the preparation and animal; palpation on the animal of bone landmarks of the epistrophy (spinous crest, transverse costal processes); consideration of the work and characterization of the atlantoaxial joint (rotation of the head around the axis of the spine) on the preparation and animal; palpation on the animal of bone landmarks of typical cervical vertebrae (spinous processes, transverse costal processes); consideration of movement between the cervical vertebrae, explanation of the great mobility in the cervical spine in connection with the structure of the vertebrae; palpation on the animal of landmarks of the 7th cervical vertebra (spinous process). The structure and palpation of the common cervical ligament on the animal, its participation in the movement of the neck;

examination and palpation of the body;

the dorsal muscles of the neck area; **examination on the preparation and palpation pacing on the animal of the ventral muscles of the neck; jugular groove: structure and content. Examination on the preparation (of all cartilages) and palpation on the animal (thyroid and annular) cartilages of the larynx, observation of the movement of the larynx during swallowing; examination on the preparation and palpation on the animal of the cervical part of the trachea, jugular vein, carotid artery, superficial cervical lymph nodes.**

Anatomy of the head region

Examination on the preparations of the skulls of the bones of the brain skull; palpation on the animal of the main bone landmarks of the brain skull (occipital crest, sagittal crest, jugular processes, zygomatic processes of the frontal and temporal bones, forming the posterior edge of the orbit of the eye, intercorneal crest and horn processes in cattle). Examination on the preparations of the skulls of the bones of the facial skull; palpation on the animal of the main bone landmarks of the facial skull (facial crest, orbit of the eye, angle of the mandible, vascular notch of the mandible, nasal processes of the incisors, lateral edge of the infraorbital foramen, body of the hyoid bone). Examination on the preparation of the structure of the temporomandibular

joint, its palpation on the animal. Topography and functions of masticatory muscles on the animal's head; topography and functions of the facial muscles on the animal's head. Examination of the bony and cartilaginous skeleton of the nose on preparations, palpation of the bones and cartilages of the nose on an animal, examination of the features of the nose in different animals, examination of the movement of the wings of the nose on an animal. Consideration of the anatomical parts and structure of the auricle and external auditory canal in animals. Studying the structure of the eyelids, eyelashes on the preparation and animals, examining the conjunctiva of the eye and the conjunctival sac, examining the third eyelid and elements of the lacrimal apparatus of the eye (lacrimal tubercle, lacrimal lake), the anterior surface of the eyeball (sclera, cornea, iris, pupil), movements eyeballs indicating the muscles of the eye. Mouth and oral cavity: examination of the lips, cheeks, gums indicating their functions in animals; consideration of the anatomical parts, structure and classification of teeth, anatomical parts and the structure of the tongue, anatomical parts and the structure of the hard and soft palate; palpation of the pharynx in an animal; palpation of the lymph nodes in the head.

Chest Anatomy

Inspection on the skeleton and palpation on the animal of the bone skeleton of the chest (vertebrae, ribs, sternum, costal arch). Examination of the muscles of the chest walls on the preparation, indicating their functions and determining their projection on the animal, with observation of the movement of the chest during breathing. Examination of the contents of the chest cavity on the preparation, determination of the projection of the organs of the chest cavity on the chest of the animal. The division of the anterior abdominal cavity (epigastrium) into regions (left and right hypochondrium, xiphoid cartilage region), the boundaries of which are the constituent parts of the chest (costal arch, xiphoid cartilage).

Inspection on the preparation of the abdominal organs located in the chest (stomach, liver, pancreas, parts of the small and large intestines), paying attention to the domed position of the diaphragm; determination of the projection of the epigastric organs on the chest of the animal, taking into account specific features. Definition on the animal of the withers area, indicating its bone skeleton, ligaments, bursa and muscles; determination of the dewlap area on the animal (indicate the anatomical prerequisites for the occurrence of edema in this area).

Anatomy of the abdomen

Defining the boundaries of the abdominal cavity and dividing it into sections (epigastrium, mesogastrium, hypogastrium) and regions. Examination of the muscles of the abdominal walls on the preparation, determination of their percutaneous projections on the animal. Examination of the contents of the abdominal cavity on the preparation, paying attention to the organs located in the mesogastrium (small and large intestines, kidneys, adrenal glands, ovaries) and hypogastrium (rectum, bladder,

inguinal canal, spermatic cord, scrotum, testicles). Determination of the topography of the abdominal organs on living animals.

Anatomy of the pelvic cavity

Determination of the boundaries of the pelvic cavity (palpation of the sacral tubercles, maklok, ischial tuberosities, first caudal vertebrae, ischial arch and ligaments of the pelvis). Inspection on the preparation of the organs of the pelvic cavity of males (rectum, urogenital canal, accessory sex glands, bladder) and females (rectum, bladder, urethra, uterus, vagina, vestibule, labia and clitoris).

Anatomy of the thoracic limb

Examination of the bones of the thoracic limb in the correct sequence. Examination of the bones of the shoulder girdle. Palpation of the base of the scapula, scapular cartilage, spine of the scapula, preospinous and infraspinous fossae. Palpation of the bones of the free thoracic limb and the allocation of the area of the shoulder, the area of the forearm, the area of the hand, the ulnar tubercle. Determination of the projection on the skin of the bones of the wrist, metacarpus and fingers. Palpation on each finger of the phalanges: proximal, middle and distal. Features of the thoracic limb of birds.

Determination of the projection of the joints on the thoracic limbs. Characteristics of each joint in terms of structure and movement. Angle and apex of the joint. Muscle groups acting on each joint. Determination of the topography of the neurovascular troughs (radial, ulnar, median, palmar metacarpal: lateral and medial).

Anatomy of the pelvic limb

Examination of the bones of the pelvic limb in the correct sequence. Select the bones of the pelvic girdle and divide them into iliac, ischial and pubic. On the ilium, feel the maklok, sacral tubercle, find the gluteal surface. Find the ischial tubercles on the ischial bones and feel the ischial arch between them. Find the area of the croup, the area of the anus, the area of the perineum. List the bones of the free pelvic limb and project them onto the skin. Select the area of the thigh, the area of the lower leg, the area of the foot. At the distal end of the thigh, find and feel the patella; find ankles on the bones of the lower leg; in the area of the tarsus, feel the calcaneal tubercle. Find the bones of the tarsus, metatarsus, and toes and form the area of the foot. Palpate the phalanges of the fingers and find out the number of fingers in the examined animals. Find and feel all the joints on the pelvic limbs. Give their characteristics: by structure and by movement. Find corners and vertices on the joints. Pay attention to the actions taking place in the joints: flexion, extension. Muscle groups acting on the joints of the pelvic limb and their location. Vascular troughs of the pelvic limb.

Leather and its derivatives

Examination of the structure of the skin on preparations. Inspection of the skin on living animals. Hairline examination. Determination of hair type. Hair streams. Inspection of hooves (hooves), crumbs, horns.

2. Breeding farm animals

Place of practice: educational agricultural practice students are held in the laboratory workshops of the department, vivarium and in the agricultural enterprise of the Vitebsk region. Before the start of the classes, there is a briefing on the rules of safe handling of animals.

material support: cards of breeding animals, forms of accounting and reporting, a report on a comprehensive assessment of the breeding value of animals, tables, slide presentations, measuring instruments, animals.

As a result of the internship in breeding farm animals, the student must:

know:

- **methods of breeding farm animals;**
- **types of constitutions in animals;**
- **characteristics of breeds of farm animals; be able to:**

- **determine the breed of farm animals;**
- **make pedigrees of animals and evaluate them by origin;**
- **calculate the "shares of the genotype" in crossbreeds obtained by various crossing options;**

own:

- **practical skills in the method of assessing the exterior and constitution farm animals;**
- **skills in filling out and processing the main forms of production; but-zootechnical and breeding records.**

Themes:

Assessment of farm animals by constitution and exterior

Principles of classification of constitution types according to P.N. Kuleshov, their biological and production characteristics. Connection of types of constitution with the direction of productivity, health and longevity of animals. The value of the assessment of the exterior. Articles of farm animals. Exterior assessment methods (measurements, physique indices, exterior profile, photographing, etc.). Essence, meaning and principles of linear assessment of the body type of dairy cattle. Vices and defects of the exterior. Oso-

exterior features in animals of different directions of productivity.

Breeds of farm animals

Breed of farm animals as the main means of production of livestock products. Breed traits. Classification of breeds according to the direction of productivity (specialized and combined). Breed structure: breed group, zonal type, factory type, specialized type, line, family, cross.

Evaluation and selection of animals by origin. Production-zootechnical and breeding records

Grade by origin. Forms of single and group pedigrees and their meaning. Principles and stages of evaluation of animals by origin (pedigrees). Pedigree index calculation. Estimated by lateral relatives (siblings and half-siblings). Genetic examination of the origin of breeding animals.

The main forms of production and zootechnical accounting (documents for recording livestock, products, feed) and breeding records.

Animal breeding methods

Classification of breeding methods: intrabreeding, interbreeding, interspecies. Purebred breeding. Biological features of purebred animals. Interbreeding breeding: absorption, introductory, reproductive, industrial (variable). Crossing schemes and calculation of "genotype shares". Hybridization, its goals and objectives. Breeding methods used in the Republic of Belarus to obtain breeding and commercial animals.

During the practice, students keep diaries in accordance with the developed tasks.

THEMATIC PLAN OF PRACTICE

No. p / p	Section topics	Total hours
one	Evaluation of farm animals by constitution and exterior	12
2	Breeds of farm animals	6
3	Evaluation and selection of animals by origin	6
4	Production-zootechnical and breeding records	6
5	Animal breeding methods	6

3. BASICS OF ANIMALS

Place of practice: department of private animal husbandry, vivarium, clinic KI EE "Vitebsk Order of the Badge of Honor" State Academy of Veterinary Medicine.

Material support: tables, albums of animal colors, slide presentations, videos, GOSTs, measuring instruments, models of teeth of cattle and horses, skins of rabbits and fur-bearing animals, animals of the vivarium and clinics of the academy.

As a result of the educational agricultural practice on the basics of zootechnics, the student must:

know:

- the subject, purpose, tasks of educational practice and its significance for the future professional activity of a specialist;

- the state and tasks of the development of animal husbandry in Belarus, taking into account the additional achievements of science and best practice;

- safety requirements when working with different types of agricultural farm animals.

be able to:

- determine the color and age of cattle and horses;

- determine the categories of fatness in different animal species according to but GOSTs;

- to determine the quality of the skins of rabbits and fur-bearing animals. own:

- methods of handling and ways of fixing animals;

- methods for determining the categories of fatness in agricultural native animals and birds;

- methods for assessing the quality of the products obtained.

The head of the internship must ensure its quality and control in accordance with the internship program and curriculum. Before starting the practice, the student is instructed on safety.

The practice leader must:

- to acquaint the student with the practice program and draw up a calendar plan for its passage;

- conduct mandatory briefings on labor protection at the workplace; ste, as well as on industrial sanitation and fire safety with the execution of the established documentation;

- create the necessary conditions for the implementation of the practice program;

- to monitor the daily presence of the student in practice; tick, keeping a diary, endorse the diary.

Themes:

Safety measures when working with farm animals

Study of safety instructions for working with different types of farm animals. Safety requirements before starting work, during and after work. Techniques of handling and methods of fixation of animals. The sequence of actions in the process of caring for animals. Actions in emergency situations.

The study of colors and the determination of age in cattle.

Acquaintance with the technology of milk and beef production on farms and complexes

The study of colors in cattle. Classification of suits. Determination of age in cattle by teeth and horns. Modern technologies for the production of milk and beef on farms and complexes: methods and systems of keeping, feeding young animals and adults, milking cows, requirements for the productivity and health of cows when completing technological groups. Best practices of foreign and domestic farms.

The study of colors and determination of age in horses. Acquaintance with technology for the production of koumiss and the maintenance of horses

The study of colors in horses. Classification of suits. Marks and signs of horses. Determination of age in horses by teeth. Technology for the production of koumiss and keeping horses: organization of milking of horses, arrangement of stables, rearing of young animals.

Acquaintance with the technology of production of eggs and poultry meat different types

Technology for the production of eggs and poultry meat of various types: methods of keeping, equipment, microclimate, organization of poultry feeding, collection and sorting of eggs, operation of the hatchery, slaughterhouse.

Acquaintance with the technology of pork production at complexes different power

Acquaintance with the technology of pork production at complexes of different capacities: organization of keeping, feeding, reproduction of pigs. Determination of the category of fatness in pigs.

Determination of the quality of skins of rabbits and fur-bearing animals. Acquaintance with technology for the production of rabbit meat and furs

Determination of the quality of skins of rabbits and fur-bearing animals. Acquaintance with the technology of production of rabbit meat and furs: organization of keeping and feeding, slaughtering and primary processing of skins of rabbits and fur-bearing animals.

Form of knowledge control. During the internship, the student is obliged to keep a diary in which all types of work performed by the student are reflected daily. The diary is checked and signed by the head of the practice. The presence of topics in the diary, the volume of assignments completed by students, the record of practice attendance is checked daily and noted by the head in the class attendance log.

After the completion of the practice, an oral survey is conducted.

THEMATIC PLAN OF PRACTICE

No. p / p	Section names	Total hours
one	Safety measures when working with farm animals	6
2	The study of colors and the determination of age in cattle. Acquaintance with the technology of milk and beef production on farms and complexes	6
3	The study of colors and determination of age in horses. Acquaintance with the technology of production of koumiss and keeping horses	6
4	Acquaintance with the technology of production of eggs and poultry meat of various types	6
5	Acquaintance with the technology of pork production at complexes of different capacities	6
6	Determination of the quality of skins of rabbits and fur-bearing animals. Acquaintance with the technology of production of rabbit meat and furs	6

4. FEED PRODUCTION

Place of educational agricultural practice: sow- annual and perennial crops, pasture areas, warehouses and facilities for storing grass fodder in agricultural enterprises of the Vitebsk region.

Materials and equipment: notebooks to complete the necessary records during excursions, plant guide, tape measure, meter frames, sickles, scales, fodder crops, agricultural machines, grass fodder storage, storage facilities, pastures, sampling bags.

As a result of the educational agricultural practice in fodder production, the student must:

know:

- **methods of cultivation of fodder crops, providing increased decrease in crop productivity and environmental safety of animals;**
- **progressive fodder harvesting technologies;**
- **organization of a pasture area for cattle; be able to:**

- **assess the economic and biological state of fodder lands;**
- **use technological regulations for preparation and storage vegetable feed;**

own:

- **technological methods of cultivation of fodder crops and harvesting fodder forage;**
- **at the first lesson in the introductory part, students are introduced to students with safety rules, purpose and objectives, the procedure for passing the practice, the form of maintaining the necessary documentation and final reporting. Necessary entries are made in the diary.**

Every day, each lesson includes two stages:

- **observation, research, collection of material during an excursion to left terms;**
- **drawing up technological maps for the cultivation of fodder crops and assessing the quality of feed with a diary entry in the laboratory.**

The basis of training practice in fodder production is field trips to agricultural enterprises, during which students get acquainted in the field with the technologies of growing field crops, determine the biological yield of grain and green mass, determine the timing of the technological phase for fodder harvesting, get acquainted with modern agricultural machines and warehouses for the storage of fertilizers and pesticides.

Visits to agricultural enterprises are carried out in accordance with the topics specified in the plan. Tasks are carried out under the guidance of a teacher, before leaving the students receive specific tasks.

Sampling is carried out to study the quality of feed.

To get acquainted with the technological processes for the production and procurement of feed, along with teachers, specialists from an agricultural enterprise and information documentation on the issues being studied are involved.

After visiting the studied objects in laboratory conditions, technological maps for the cultivation of fodder crops are compiled, and the quality of fodder is determined. The data obtained is recorded in the diary.

The specified lesson plan may change in accordance with climatic conditions and be carried out in laboratory rooms.

Themes:

Morphological analysis and qualitative characteristics of feed, medicinal, poisonous and harmful plants Acquaintance with the purpose, tasks, stages of internship. Familiarization with safety regulations in educational practice. Rules for the preparation of reporting documentation for practice. Morphological analysis of fodder, medicinal, poisonous and harmful plants. Rules for harvesting, drying technology and storage of herbal medicinal raw materials.

Technologies of cultivation of fodder crops. Determination of the biological yield of agricultural crops Preparation of seed and soil. Elements of forage crop cultivation technology. Features of the use of organic and mineral fertilizers. Integrated crop protection.

Organization of the pasture area. Rational use pastures. Accounting for pasture productivity

Organization of the pasture area. Pasture equipment. Pasta rotation. Pasture care (main and ongoing). Hygiene of grazing livestock. Ways of using pastures (driving-portion, frontal). Determination of the yield of green mass on pasture lands.

Technologies for harvesting various types of feed Factors for obtaining high-quality silage, hay, haylage: plant species and botanical composition of phytocenosis, harvesting phases, harvesting technology and storage. Technological operations performed in the preparation of grass feed. Feed accounting.

Organoleptic assessment of feed quality Organoleptic assessment of the quality of various types of feed (grain fodder, juicy, coarse, green).

Fundamentals of forage planning for cattle

Pasture conveyor, combined green conveyor. Cultures and agrophytocenoses for the use of intermediate and stubble crops. feed balance. Calculation of the structure of sown areas for fodder crops.

Credit conference on the results of educational practice.

THEMATIC PLAN OF PRACTICE

No. p.p.	Topic name	Qty in hours
one.	Morphological analysis and qualitative characteristics of fodder, medicinal, poisonous and harmful plants	6
2.	Technologies of cultivation of fodder crops. Determination of the biological yield of agricultural crops	6
3.	Organization of the pasture area. Rational use of pastures. Accounting for pasture productivity	6
4.	Technologies for harvesting various types of feed	6
5.	Organoleptic assessment of feed quality	6
6.	Fundamentals of forage planning for cattle	6

LIST OF REPORTING DOCUMENTATION

- **Practice diary.**
- **Individual educational and research work of the student (UIRS) in the form of an abstract, presentation of the technology of cultivation of fodder harvesting on the topic of research.**

TRAINING AND METHODOLOGICAL INSTRUCTIONS FOR CONDUCTING UIRS AT EDUCATIONAL PRACTICE ON FORAGE PRODUCTION AND PRESENTATION OF ITS RESULTS

To achieve the goals and objectives of the educational practice, the program provides for the implementation of individual thematic tasks by students (UIRS).

The student's educational and research work is an important component of educational work, which makes it possible to judge the degree of assimilation of the material by the student and his ability to apply the acquired knowledge in independent work. UIRS is performed by a student of his choice on one of the topics from the proposed list. The topic of UIRS can be chosen by the student independently in agreement with the head of the practice.

During the internship on field trips to agricultural enterprises, students collect the necessary data on the cultivation technologies of modern varieties of fodder crops, advanced fodder harvesting technologies, the organization of a pasture area for cattle, the structure of fodder crops sown areas and present the research results.

At the final conference on educational practice, students defend the UIRS with the provision of an abstract and a designed diary.

Entries in the diary are made by students in accordance with the teaching aid for students in the specialties "Veterinary Sanitation and Expertise", "Veterinary Medicine" and "Zootechny": Fundamentals of Botany

ki, agronomy and fodder production. Practicum: a textbook for students of higher educational institutions in the specialties "Veterinary Medicine", "Zootechnia" / N.P. Lukashevich [and others] - Minsk: ITC of the Ministry of Finance, 2010. - 432p.

TOPICS WIRS

1. Evaluation of the feed base for cattle.
2. Efficiency of creating legume-cereal pastures.
3. Development of an annual plan for the production of feed for dairy cattle.
4. Organization of summer forage base.
5. Intensification of livestock production.
6. Development of a summer forage base.
7. Organization of a raw conveyor in the production of herbal feed.
8. Ways to create multicomponent pastures.
9. Production process of medicinal plants in monocenoses.
10. Features of the technology of cultivation of annual fodder crops.
11. Features of the technology of cultivation of perennial fodder crops.
12. Calculation of doses of mineral fertilizers on pastures.
13. Efficiency of harvesting grass fodder from perennial grasses.
14. Analysis of the provision of plants with protein in the summer-pasture period.
15. Analysis of the fodder industry in agricultural enterprises.

SUMMARY PLAN

1. Introduction (relevance of the chosen topic).
2. Analysis of literary sources on the topic.
3. Conditions and research.
4. Analysis of the results of scientific research.
5. Economic efficiency of improved technological methods.
6. Conclusion. Main scientific results on the topic.
7. Recommendations for the practical use of research results.
8. List of used literature.

INFORMATION - METHODOLOGICAL PART

LIST OF BASIC AND FURTHER LITERATURE:

BREEDING OF FARM ANIMALS

Main literature

1. Karaba, V. I. Breeding farm animals: a textbook for university students majoring in Zootechnics / V. I. Karaba, V. V. Pilko, V. M. Borisov; Belarusian State Agricultural Academy. - Gorki: UO BSHA, 2005. - 368 p. : silt, tab. – Bibliography: p. 361–363.

2. Beauty, VF Breeding farm animals: a textbook for university students on special. "Zootechnia" / V. F. Beauty, T. G. Dzhaparidze, N. M. Kostomakhin; ed. E. V. Mukhortova. – 5th ed., revised. and add. - Moscow: KolosS, 2005. - 424 p. : ill.

Additional

1. Zhebrovsky, L. S. Animal breeding: a textbook for universities / L. S. Zhebrovsky. - St. Petersburg: Lan, 2002. - 256 p. – Bibliography: p. 252.
2. Zootechnical rules on the procedure for determining the productivity of breeding animals, breeding herds, assessing the phenotypic and genotypic characteristics of breeding animals: approved. Decree of the Ministry of Agriculture and Food of the Republic of Belarus 03.09.2013 No. 44. - Minsk, 2013. - 50 p. - Access mode : http:// mshp.minsk.by/documents/plem/pravila_zooteh.pdf
3. On breeding business in animal husbandry: Law of the Republic of Belarus No. 24-3 dated May 20, 2013 - Access mode: http://mshp.minsk.by/documents/plem/a0b5779ec6a3d840.html
4. Workshop on breeding in cattle breeding: a textbook for students studying in the direction of training "Animal husbandry" / V. G. Kahikalo [and others]; ed. V. G. Kakhikalo. - Saint Petersburg ; Moscow ; Krasnodar: Lan, 2010. - 285 p. : tab. – Bibliography: p. 282–283.
5. Republican program on breeding in animal husbandry for 2011-2015: approved. Decree of the Council of Ministers of the Republic of Belarus on December 31, 2010 No. 1917. - Minsk, 2010. - 84 p.
6. Shcheglov, E. V. Breeding farm animals: a textbook for university students majoring in Zootechnics / E. V. Shcheglov, V. V. Popov. - Moscow: KolosS, 2004. - 120 p. – Bibliography: p. 117.

BASICS OF ANIMALS

Main literature

1. Animal husbandry, zoohygiene and veterinary sanitation: a textbook for students of secondary specialized educational institutions in the specialty "Veterinary Medicine" / V. A. Medvedsky [and others]; ed. V. A. Medvedsky. - Vitebsk: VGAVM, 2006. - 322 p. : tab., ill. – Bibliography: p. 314–316.
2. Livestock. Practicum: a textbook for students of higher education institutions in the specialty "Veterinary Medicine" / V. P. Kolesen [and others]. - Minsk: Information Center of the Ministry of Finance, 2013. - 424 p. : ill. – Bibliography: p. 419–421.
3. Fur farming: a textbook for university students in the specialty "Zootechny" / E. D. Ilyina [and others]. - Saint Petersburg ; Moscow ; Krasnodar: Lan, 2004. - 304 p.: ill.
4. Izmailovich, I. B. Poultry farming: a textbook for students of institutions of higher education studies in the specialty "Zootechny" / I. B. Izmailovich, B. V. Balobin. - Minsk: Information Center of the Ministry of Finance, 2012. - 343 p. : fig., tab. – Bibliography: p. 327.
5. Fundamentals of zootechnics: a textbook for university students in the specialties "Veterinary medicine", "Veterinary and sanitary examination" / V. I. Shlyakhtunov [and others]. - Minsk: Tekhnoperspektiva, 2006. - 323 p. : ill. – Bibliography: p. 319–320.
6. Raketsky, P. P. Poultry farming: a textbook for university students in the specialty "Animal husbandry" / P. P. Raketsky, N. V. Kazarovets; ed. P. P. Raketsky. - Minsk: Information Center of the Ministry of Finance, 2011. - 431 p. : fig., tab. – Bibliography: p. 424–425.

7. Svechin, K. B. Horse breeding: a textbook for students of higher agricultural educational institutions in the specialty "Zootechny" / K. B. Svechin, I. F. Bobylev, B. M. Gopka. - Moscow: Kolos, 1984. - 352 p. : fig., tab.
8. Fedorenkova, L. A. Pedigree and industrial pig breeding: a practical guide / L. A. Fedorenkova, V. A. Doylidov, V. P. Yatusevich; ed. L. A. Fedorenkova; Vitebsk State Academy of Veterinary Medicine. - Vitebsk: VGAVM, 2014. - 218 p. : tab. – Bibliography: p. 211–212.
9. Shlyakhtunov, V. I. Cattle breeding: a textbook for university students in the specialty "Animal husbandry" / V. I. Shlyakhtunov, V. I. Smunev. - Minsk: Tekhnoperspektiva, 2005. - 387 p. : ill. – Bibliography: p. 384.

Additional

1. Balakirev, N. A. Animal breeding: a textbook for university students in the specialty "Zootechny" / N. A. Balakirev, G. A. Kuznetsov; ed. M. B. Nikolaev; International Association “Agricultural education”. - Moscow: KolosS, 2006. - 343 p. : silt, tab. – Bibliography: p. 333– 334.
2. Balobin, B. V. Workshop on poultry farming and technology for the production of eggs and poultry meat: a textbook for students of agricultural universities / B. V. Balobin. - Minsk: Urajay, 1998. - 224 p. : ill.
3. Veterinary Encyclopedia: in 2 volumes / S. S. Abramov [and others]; ed. A. I. Yatusevich [i dr.]. - Minsk: Belarusian Encyclopedia named after Petrus Brocki, 2013. - 2 vols.
4. Gladenko, V. K. Horse breeding in Belarus / V. K. Gladenko. - Minsk: Urajay, 1985. - 72 p.
5. Kochish, I. I. Poultry farming: a textbook for university students majoring in Zootechnics / I. I. Kochish, M. G. Petrash, S. B. Smirnov. - Moscow: KolosS, 2004. - 407 p. : ill. – Bibliography: p. 402–403.
6. Breeding and diseases of pigs: a practical guide: in 2 hours, Part I / A. I. Yatusevich [and others]; editors: A. I. Yatusevich, S. S. Abramov, V. V. Maksimovich; Vitebsk State Academy of Veterinary Medicine. - Vitebsk: VGAVM, 2013. - 337 p. – Bibliography. : With. 335–337.
7. Breeding and diseases of pigs: a practical guide: in 2 hours, Part II / A. I. Yatusevich [and others]; editors: A. I. Yatusevich, S. S. Abramov, V. V. Maksimovich; Vitebsk State Academy of Veterinary Medicine. - Vitebsk: VGAVM, 2013. - 606 p. : tab. – Bibliography: p. 606.
8. Breeding farm animals with the basics of private animal husbandry and industrial animal husbandry: a textbook for university students majoring in Veterinary Science / N. G. Dmitriev [and others]; ed. N. G. DMITRIEV - Leningrad: Agropromizdat, 1989. - 511 p. : tsv.il., fig., tab.
9. Solyanik, A. V. Pig breeding: workshop: textbook for students of higher education institutions in the specialty "Zootechny" / A. V. Solyanik, V. V. Solyanik, A. A. Solyanik; ed. A. V. Solyanik. - Minsk: Information Center of the Ministry of Finance, 2014. - 287 p. : tab. – Bibliography: p. 283–285.
10. Sysoev, V. S. Rabbit breeding: a textbook for students of higher agricultural educational institutions majoring in Zootechnics / V. S. Sysoev, V. N. Alexandrov. - Moscow: Agropromizdat, 1985. - 271 p. : fig., tab. – Bibliography: p. 269.

FEED PRODUCTION

Main literature

1. Zenkova, N. N. Forage base of cattle breeding: a textbook for students of higher educational institutions in the specialties "Veterinary medicine", "Zootechny" / N. N. Zenkova, I. Ya. Pakhomov, N. P. Razumovsky. - Minsk: Information Center of the Ministry of Finance, 2012. - 320 p. : tab. – Bibliography: p. 316–317.
2. Zenkova, N. N. Fundamentals of botany, agronomy and fodder production: a textbook for students of higher agricultural educational institutions in the specialties "Veterinary Medicine", "Zootechny" / N. N. Zenkova, N. P. Lukashevich, V. N. Walkers. - Minsk: Information Center of the Ministry of Finance, 2009. - 284 p. : photo.color – Bibliography: p. 280–281.
3. Lazarevich, S. V. Botany: a textbook for students of higher education institutions in agronomic specialties / S. V. Lazarevich. - Minsk: Information Center of the Ministry of Finance, 2012. - 479 p. : rice.
4. Medicinal, poisonous and harmful plants: a teaching aid for students of biotechnological and veterinary faculties / N. P. Lukashevich [and others]; Vitebsk State Academy of Veterinary Medicine, Department of Feed Production and Industrial Training. - Vitebsk, 2010. - 163 p. : rice. – Bibliography: p. 159.
5. Lukashevich, N. P. Feed production: a textbook for students of institutions of higher education in the specialties "Zootechny", "Veterinary medicine" and "Veterinary sanitation and expertise" / N. P. Lukashevich, N. N. Zenkova. - Minsk: Information Center of the Ministry of Finance, 2014. - 589 p. : rice. – Bibliography: p. 585–586.
6. Lukashevich, N. P... Forage production: the basics of agronomy: educational and methodological manual for students in the specialties "Zootechny", "Veterinary medicine", "Veterinary sanitation and expertise" / N. P. Lukashevich, S. N. Yanchik, V. F. Kovganov; Vitebsk State Academy of Veterinary Medicine. - Vitebsk: VGAVM, 2009. - 100 p. : tab., photo. – Bibliography: p. 96.
7. Lukashevich, N. P. Technologies for the production and procurement of fodder: a practical guide / N. P. Lukashevich, N. N. Zenkova; Vitebsk State Academy of Veterinary Medicine. - Vitebsk: VGAVM, 2009. - 251 p. : tab. – Bibliography: p. 247–248.
8. Fundamentals of botany, agronomy and fodder production: workshop: textbook for university students in the specialties "Veterinary Medicine", "Zootechny" / N. P. Lukashevich [and others]. - Minsk: Information Center of the Ministry of Finance, 2010. - 431 p. : fig., tab. – Bibliography: p. 428–429.
9. Guidelines for conducting educational practice in fodder production with the basics of botany: a teaching aid for students in the specialty "Zootechny" / N. P. Lukashevich [and others]; Vitebsk State Academy of Veterinary Medicine, Department of Feed Production and Industrial Training. - Vitebsk: VGAVM, 2010. - 25 p. : fig., tab. – Bibliography: p. 24.

Additional

1. Veterinary Encyclopedia: in 2 volumes / S. S. Abramov [and others]; ed. A. I. Yatusevich [i dr.]. - Minsk: Belarusian Encyclopedia named after Petrus Brocki, 2013. - 2 vols.

2. Duduk, A. A. Scientific research in agronomy: a textbook for university students / A. A. Duduk, P. I. Mozol; Grodno State Agrarian University. - Grodno, 2009. - 335 p. : graph., fig., tab. – Bibliography: p. 328.
3. Red Book of the Republic of Belarus. Plants: Rare and endangered species of wild plants / National Academy of Sciences of Belarus; ed. G. P. Pashkov [i dr.]. - Minsk: Belarusian Encyclopedia, 2005. - 456 p. : ill. – Bibliography: p. 418–425.
4. Nadtochaev, N. F. Corn in the fields of Belarus / N. F. Nadtochaev; National Academy of Sciences of Belarus, Scientific and Practical Center for Agriculture of the National Academy of Sciences of Belarus. - Minsk: Information Center of the Ministry of Finance, 2008. - 411 p. : tab., fig. – Bibliography: p. 394–408.
5. Feeding norms and diets for highly productive animals: a teaching aid for students majoring in Zootechnics, students of the FPC and PC / N. A. Shareiko [and others]; Vitebsk State Academy of Veterinary Medicine, Department of Farm Animal Feeding. - Vitebsk: VGAVM, 2008. - 94 p. : tab. – Bibliography: p. 91.
6. The main elements of the technology of cultivation of agricultural crops in the north-eastern part of the Republic of Belarus: recommendations / S. G. Yakovchik [et al.]. - Vitebsk: RUP VZISH NAS of Belarus, 2013. - 68 p.
7. Features of the cultivation of multi-cut annual cenoses and sorghum crops: guidelines / N. P. Lukashevich [and others]; Vitebsk State Academy of Veterinary Medicine, Department of Feed Production and Industrial Training. - Vitebsk: VGAVM, 2008. - 43 p. : graph., tab. – Bibliography: p. 41.
8. Ponomarenko, Yu. A. Feed, feed additives and food products: monograph / Yu. A. Ponomarenko; Ministry of Agriculture and Food of the Republic of Belarus. - Minsk: Ecoperspective, 2010. - 735 p. – Bibliography: p. 713–722.
9. Razumovsky, N. P. Recommendations for the preparation of high-energy grass fodder: a practical guide / N. P. Razumovsky, I. Ya. Pakhomov. - Vitebsk: VGAVM, 2009. - 40 p. : tab. – Bibliography: p. 35.
10. Recommendations for the preparation of grain haylage: a practical guide for farm managers, veterinary specialists, students of the FPC and PC and students / N. P. Razumovsky [and others]; Vitebsk State Academy of Veterinary Medicine. - Vitebsk: VGAVM, 2010. - 14 p. – Bibliography: p. 14.
11. Modern resource-saving technologies for the production of crop products in Belarus: collection of scientific materials / National Academy of Sciences of Belarus, Scientific and Practical Center of the National Academy of Sciences of Belarus for Agriculture; ed. F. I. Privalov [and others]. - 2nd ed., add. and revised - Minsk: Information Center of the Ministry of Finance, 2007. - 447 p. : tab., graph.
12. Modern technologies of cultivation of agricultural crops: scientific and practical recommendations / Grodno State Agrarian University; Ed.: K. V. Koleda, A. A. Duduk. - Grodno: GSAU, 2010. - 340 p. : tab. – Bibliography: p. 337–339.
13. Ulyanov, A. G. Veterinary dietology: monograph / A. G. Ulyanov; Vitebsk State Academy of Veterinary Medicine. - Vitebsk: VGAVM, 2009. - 132 p. : tab. – Bibliography: p. 115–122.