

**NJSC " S. Seifullin Kazakh Agrotechnical Research University "**

Reviewed  
at the meeting  
faculty council  
Protocol № 9 from 04.05.2023

Affirmed:  
Dean of the Faculty  
Veterinary and Livestock Technology  
Abdrakhmanov S.K.



DEVELOPMENT PLAN  
EDUCATIONAL PROGRAM  
DOCTORAL COURSES "8D09102 – SANITARY AND ECOLOGICAL  
SAFETY OF ANIMAL PRODUCTS"  
FOR 2023-2027 ACADEMIC YEARS

Considered at an extended meeting of the Department of Veterinary Sanitation  
Protocol № 15A dated 03.05.2023

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## 1. Passport

Educational program development plan – “8D09102 – Sanitary and environmental safety of livestock products” for 2023 -2026

1	Reasons for developing an EP development plan	The strategy and topics of the EP development plan in accordance with the educational policy of the Republic of Kazakhstan, the goal of which is to prepare new specialists who are competitive in the labor market, have broad fundamental knowledge and practical experience, are proficient in modern methods of diagnosing and treating animal diseases, taking into account the requirements employers' expectations
2	Main developers of the EP development plan	Abdrakhmanov Sarsenbay Kadyrovich, Doctor of Veterinary Sciences, Professor; Maikanov Balgabay Sadepovich, Doctor of Biological Sciences, Professor; Adilbekov Zhanat Shabanbayevich, Ph.D., Associate Professor; Balji Yuriy Aleksandrovich, Candidate of Veterinary Sciences, Associate Professor; Mustafina Raikhan Khusainovna, PhD, Senior Lecturer. RSU Republican anti-epizootic detachment KVKN Ministry of Agriculture of the Republic of Kazakhstan; Sarsebekov Lukman Toleuuly, production director of Tselinaya Delicacies Factory LLP, Astana.
3	Time frame for implementing the EP	2023-2026yy.
4	Volume and sources of financing	Financing from the state budget, attraction of external sources of financing
5	Expected final results of the implementation of the EP development plan	Training of highly qualified specialists in the field of veterinary medicine in accordance with the requirements of domestic and international standards

## 2. Analytical justification for the program

Updated content of the EP; high quality of master's training; implementation of EP with the addition of in-depth training, taking into account the cognitive ability and needs of students.

**2.1. Information about the educational program.** The relevance of the developed educational program (EP) lies in the fact that it was developed in accordance with the National Qualifications Framework and professional standards, agreed with the Dublin descriptors and the European Qualifications Framework, based on the State Compulsory Standard for Postgraduate Education, Master's Degree, approved by the Order of the Minister of Education and Science of the Republic Kazakhstan dated October 31, 2018 №604, registered with the Ministry of Justice of the Republic of Kazakhstan on November 1, 2018 №17669.

Educational programs contain theoretical training, including the study of cycles of basic and core disciplines; additional types of training, research and teaching practice, doctoral student research work, etc.; intermediate and final certification. The volume of the EP is 180 credits, including 25 credits of theoretical training, including practical training (all types of practices) - 20 credits, research and development work - 123 credits, Final certification - 12 credits.

**2.2. Information about students.** Currently, 3 doctoral students from multilingual groups are studying under a general education grant in the specialty 8D091- "Veterinary Science" "8D09102 – Sanitary and Environmental Safety of Livestock Products".

**2.3. Internal conditions for the development of educational programs.** To implement the educational program, the department has appropriate material and technical support, including: a veterinary clinic, a food safety laboratory, a parasitological museum of the faculty, as well as specialized audiences in the disciplines: veterinary and sanitary examination, veterinary hygiene and sanitation, pathological anatomy of animals, veterinary epidemiology, veterinary -sanitary control at the border and transport, food safety, parasitology and invasive diseases, internal diseases of animals. Specialized classrooms are equipped with the appropriate equipment and instruments, in particular an automatic Eh analyzer using the potentiometric method (ionomer I-160 MI), an EVLIZ moisture analyzer, a voltammetric analyzer TA-Lab extended equipment (Laptop HP A1E29EA 635 Athlon), a set-top box for voltammetric analyzer -TA Ozone, ELISA analyzer (Uniplan photometer), somatic cell analyzer SomatosMini, automatic apparatus for determining the melting point Opti Melt, bidi still, electric distiller, luminometer LUM-1, luminometer SSP, automatic polarimeter, digital refractometer 30 PX, pH meter + pH titers Metrohm 827, pH meter (pH milk, pH -cheese, pH-meat), potentiometer "Expert-pH" (meat), dry-heat oven (cabinet), ultrasonic milk quality analyzer EkoMilk Total, ultrasonic milk quality analyzer Lactan 1-4, protein / nitrogen determination complex Kjeldahl method "Keltran" with an automatic titration unit, laboratory homogenizer, cryoscope "Termoscan-Mini", laboratory reductant thermostat LTR-24, heating plate, analytical balances, laboratory scales MWP-1200, psychrometric hygrometer type VIT, aspiration psychrometers, bellows aspirator AM-0059, high-precision liquid pH analyzer RN-200, hygrographs M-21A IT- 5TP "Termite", sound level meter Benetech GM1356, meteorological aneroid barometer BAMB-1 Testo 608-H1/H2, etc. (used in conducting laboratory and practical classes in the disciplines).

Educational and methodological documents for EP have been developed in accordance with existing regulatory documents such as state compulsory education standards, working curricula, academic calendars, and educational teaching materials have been developed in all areas of study. To carry out theses, there are relevant enterprises in this industry with which contracts have been concluded.

Особое внимание обращается таким вопросам, как повышение остротенности ППС, прохождение ими курсов повышения квалификации в отечественных Вузах, в Вузах ближнего и дальнего зарубежья, научно-исследовательских учреждениях и в Республиканских ветеринарных лабораториях, а также приглашение ведущих специалистов МСХ РК, ученых с высших учебных заведений ближнего и дальнего зарубежья.

Strengths:	Weak sides:
<ol style="list-style-type: none"> <li>1. Compliance of the content of State Educational Standards educational programs with modern requirements of science and consumers, as well as their regular updating, due to constant changes in the needs for graduate competencies, processes and economic integration.</li> <li>2. Step-by-step planning of the process of mastering educational programs, according to a path independently chosen by students in accordance with the rules of the credit education system.</li> <li>3. The combination of theoretical and practical training, independent work in educational programs, as well as the presence of compulsory and elective disciplines, including components for preparing for professional activity, the development of intellectual skills, creativity and personality of the student.</li> <li>4. Development and introduction into the educational process of innovative forms, methods of mastering educational programs, multimedia tools that ensure the training of highly qualified specialists.</li> <li>5. Improving the intra-university quality management system, the presence of structures for control and monitoring the effectiveness of students' mastery of educational programs;</li> <li>6. Entry into the European educational space;</li> <li>7. Academic mobility of students and teaching staff;</li> <li>8. Interdisciplinary communication.</li> <li>9. Provision of computers and Internet access, updating of the library collection.</li> </ol>	<ol style="list-style-type: none"> <li>1. Insufficient number of interuniversity student exchange programs and teacher internships.</li> <li>2. A small percentage of teaching staff speak foreign languages.</li> </ol>

**2.4. Characteristics of the surrounding society.** According to “8D09102 – Sanitary and environmental safety of livestock products”, employers are:

1. The first head of the Akmola regional Territorial Inspection of the Committee for Veterinary Control and Supervision of the Ministry of Agriculture of the Republic of Kazakhstan - Abdrakhmanov M.A.;

2. The first head of the Karaganda regional territorial Inspection of the Committee for Veterinary Control and Supervision of the Ministry of Agriculture of the Republic of Kazakhstan - Beketbayev E.M.

3. The first head of the Republican state Institution "Republican antiepi-zootic detachment" of the KVKN of the Ministry of Agriculture of the Republic of Kazakhstan - S.M. Abdukhalikov.

4. Director of production of "Factory of Virgin delicacies" LLP, Astana - Sarsebekov L.T.

5. General Director of the RSE at the National Veterinary Reference Center – M.A. Berdikulov

6. General Director of the Republican Veterinary Laboratory of the RSE on PCV, T.A. Elshibaev.

9 contracts have been concluded with organizations, enterprises and business entities, where students, undergraduates and doctoral students practice. Below is the list:

1. Akmola Regional Territorial Inspection of the Veterinary Control and Supervision Committee of the Ministry of Agriculture of the Republic of Kazakhstan;

2. Karaganda Regional Territorial Inspection of the Veterinary Control and Supervision Committee of the Ministry of Agriculture of the Republic of Kazakhstan.

3. Republican state institution "Republican Antiepi-zootic detachment" of the Ministry of Agriculture of the Republic of Kazakhstan.

4. LLP " Tselinaya Delicatessen Factory ", Astana.

5. RSE on the REO "National Reference Center for Veterinary Medicine".

6. RSE on the REO "Republican Veterinary Laboratory" CVK&N Ministry of Agriculture of the Republic of Kazakhstan.

7. Municipal state enterprise on the right of economic management "Astana vet-service " of the Akimat of Astana city

8. Astana Laboratory of Agricultural Products LLP of the Ministry of Agriculture of the Republic of Kazakhstan.

9. SSP on the REO Stepnogorsk Veterinary Station at the Department of Veterinary Medicine of the Akmola region.

Undergraduates undergo research internships in the neighboring countries (Omsk State Agrarian University, Kazan State Academy of Veterinary Medicine named after N.E. Bauman, Novosibirsk State University, (Russia) and abroad (Istanbul Agrarian University (Republic of Turkey), Uppsala Agrarian University (Kingdom of Sweden), Xinjiang University (China) and Warsaw Agrarian University).

Opportunities for graduates of the specialty, as well as emerging risks.

Possibilities:	Risks:
1. After mastering educational programs, graduates have the opportunity to continue their education in educational programs of postgraduate education.	1. The weakness of employers to formulate requirements for the competence of a graduate, which often differ from the content of the

<p>2. The ability to bring educational pro-grams to a new quality level, including to the international level.</p> <p>3. Cooperation of agricultural universities of the republic in the training of special-ists, exchange of experience in increasing the effectiveness of the implementation of educational programs.</p>	completed educational pro-grams.
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### 2.5. Information about teaching staff implementing educational programs.

The implementation of the educational program “8D09102 – Sanitary and environmental safety of livestock products” in the specialty “Veterinary Medicine” is carried out by a teaching staff of 22 people.

The faculty of the department implementing the EP includes 2 doctors of science, 12 candidates of science, 8 PhD.

During the reporting period, the average age of teachers remained stably at the level of 42-45 years. 80% can conduct classes in Kazakh, 10% in English. Leading teachers of the department annually undergo various advanced training courses.

List of teaching staff of the department participating in the implementation of the EP

Academic year	Total teaching staff	Professors	Docents	Associate Professors	Senior Lecturers		Assistants		Degree,%
					with a degree	With out de- gree	with a degree	Witho ut de- gree	
2023-2024	25	2	7	2	11	1	-	2	84

The degree of the department is 84%, which tends to grow annually.

Employees of the department annually take advanced training courses in leading scientific centers of this profile in the Republic, Russian Federation, Ukraine and foreign countries (Turkey, Sweden, Georgia, Germany, People's Republic of China, Poland). For the period from 2019 to 2024. teachers of the department "Veterinary Sanitation" have undergone advanced training in universities of the Republic of Kazakhstan (KazNAU, KSU), far abroad (Istanbul Agricultural University (Republic of Turkey), Uppsala Agricultural University (Kingdom of Sweden), Xinjiang University (China) and Warsaw Agrarian University Professor Abdrakhmanov S.K., associate professors Adilbekov Zh.Sh., Baldzhi Yu.A., Bainiyazov A.A., senior lecturers Zhanabayeva D.K., Yesembekova G.N., Murzakayeva G.K., Paritova A.Y., Mustafina R.Kh., Tokayeva M.O., Akhmetov A.N., Aitkozhiba B.Zh., Ashimova K.K.,

**2.6. Characteristics of achieving EP.** The department conducts scientific research on six grant funding projects, 1 international (PRC) and two commercialization projects, in which students are directly involved. The topics of the work correspond to this area of scientific research.

In accordance with the requirements of the labor market and at the suggestion of employers, new elective disciplines are being introduced into work curricula and catalogs of elective disciplines.

Currently, in connection with the state program for the intensive development of the livestock and poultry industry, there is a need for veterinarians. In the Republic of Kazakhstan, according to the latest statistical information, the current need for veterinary specialists is within 8,000 in this profile.

After graduating from the university, graduates are employed in all business entities, universities, veterinary laboratories and other veterinary facilities throughout the region of the Republic.

### **3. Characteristics of the problems that the EP development plan is aimed at solving, and justification for the need to solve them.**

Educational programs were created to train personnel to carry out professional activities in the field of ensuring the quality and safety of food products of animal and plant origin. Trained personnel in the educational program must be able to carry out veterinary and sanitary supervision at veterinary facilities, carry out veterinary activities, determine the quality and safety of food products, provide veterinary care to animals, as well as possess the skills of scientific, production and organizational and management activities.

**4. The main goals and objectives of the Development Plan with indications of the timing and stages of its development.** The development plan for the educational program “8D09102 – Sanitary and environmental safety of livestock products” was developed based on requests from employers.

The goal of the educational program “8D09102 – Sanitary and environmental safety of livestock products” is for doctoral students to master the issues of ensuring the quality and safety of food products. In this regard, the content of the educational program is aimed at obtaining knowledge and practical skills for carrying out veterinary and sanitary examination of the quality and safety of livestock products in the conditions of the Customs Union and the World Trade Organization, as well as in accordance with the requirements and recommendations of international veterinary organizations (OIE, FAO, WHO, etc.).

The main objectives of the Development Plan are the following:

No	Task name	Stages of development	Development timeframe
1	increasing the level of quality of education in accordance with the	during the educational process	the entire period of study



	requirements of domestic and world standards		
2	formation of theoretical and practical knowledge, skills and abilities necessary for their implementation in further professional activities, as well as for transition to the second stage	during the educational process	the entire period of study
3	consultation with employers and research institute scientists when choosing relevant and practically significant topics for dissertations.	consultations with employers and stakeholders	At the final stage of specialty training.

**5. Measures to reduce the impact of risks for the EP.** Increasing the number of students, fully providing educational and methodological literature, concluding agreements with business entities for internships and further employment, timely planned purchase of modern equipment, instruments and reagents. Involvement in research work. Operation of the Food Safety Laboratory.

Currently, agreements have been concluded with the Xinjiang Agricultural University, Istanbul Agrarian University, Uppsala University, Giessen University, Warsaw University of Natural Sciences, etc. to attract leading professors to give lectures and conduct laboratory and practical classes. In addition, there are agreements with neighboring universities (Novosibirsk, Omsk, Troitsk, Voronezh, Moscow, Saratov, Kazan, Irkutsk, etc.).

### **6. Action plan for the development of the EP.**

Plan for the development of an educational program in the specialty of bachelor's, master's and doctoral studies.

№	Name of events	Implementation deadlines	responsible	Expected results	Resource support
1	Formation of a commission to update educational programs	April 2023	Adilbekov Zh.Sh., Abdrakhmanov S.K., Bainiyazov A.A., Yeseneeva S.S., Mustafina R.Kh.	The team of authors will be determined by order of the university rector.	
2	Updating the goals and objectives of educational programs	May-June 2023	Adilbekov Zh.Sh., Abdrakhmanov S.K., Bainiyazov A.A., Yeseneeva S.S., Mustafina R.Kh.	According to modern requirements, the goals and objectives of educational programs will be developed	
3	Determination of	May-June	Adilbekov Zh.Sh.,	The competencies	

	competencies of bachelor's, master's and doctoral studies and specialty disciplines	2023	Abdrakhmanov S.K., Bainiyazov A.A., Yeseneeva S.S., Mustafina R.Kh.	of bachelor's, master's, doctoral and specialty disciplines will be determined	
3.1	Updating and supplementing the common position on competencies of educational programs with employers	June 2023	Adilbekov Zh.Sh., Abdrakhmanov S.K., Bainiyazov A.A., Yeseneeva S.S., Mustafina R.Kh.	Common positions on EP competencies will be developed with employers	
3.2	updating the general position on the competencies of the educational program of specialty disciplines with employers	June 2023	Adilbekov Zh.Sh., Abdrakhmanov S.K., Bainiyazov A.A., Yeseneeva S.S., Mustafina R.Kh.	Common positions on the competencies of EP disciplines will be developed with employers	
3.3	Formation and coordination of EP competencies and specialty disciplines with Dublin descriptors	June 2023	Adilbekov Zh.Sh., Abdrakhmanov S.K., Bainiyazov A.A., Yeseneeva S.S., Mustafina R.Kh.	The competencies of EP disciplines will be formed in accordance with the Dublin descriptors	
4	Formation of an educational program in accordance with professional standards	June 2023	Adilbekov Zh.Sh., Abdrakhmanov S.K., Bainiyazov A.A., Yeseneeva S.S., Mustafina R.Kh.	The educational program is formed in accordance with professional standards	
5	Drawing up an academic calendar and a working curriculum for the specialty in accordance with the developed educational programs	June 2023	Adilbekov Zh.Sh., Abdrakhmanov S.K., Bainiyazov A.A., Yeseneeva S.S., Mustafina R.Kh.	An academic calendar and curriculum for the specialty has been compiled in accordance with the developed EP	
6	Consideration of the updated educational program at an extended meeting of the department with the participation of employers	June 2023	Department of Veterinary Sanitation, employers	EP will be considered at an extended meeting of the department with the participation of employers	
7	Registration of	August	Адилъбеков Ж.ИИ.,	The EP will be	

updated educational programs in the UHEP	2023	Кабжанова А.М., Мустафина Р.Х.	reviewed and approved by the Faculty Academic Council	
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**7. Mechanism for implementing the EP development plan.** Carry out targeted work to increase the number of grants in the specialty "Veterinary Medicine". To implement the educational program, department staff have developed catalogs of elective disciplines with the direct participation of employers. Trips for students to basic farms and higher educational institutions in near and far abroad countries will be organized. Leading scientists from near and far abroad will be invited to conduct lectures and practical classes for students. Dual training agreements have been signed, where practical classes will be conducted on the basis of the Republican State Enterprise at the Republican Veterinary Laboratory, National Reference Center for Veterinary Medicine in Astana. When organizing the "Graduate Fair", employers from various forms of economic entities of veterinary institutions from other regions of the Republic of Kazakhstan will be invited.

**8. Assessment of the socio-economic efficiency of the implementation of the EP development plan.**

Socio-economic effect from the implementation of the EP development plan.

As a result of the implementation of educational programs, scientific developments and recommendations of scientists from the department will be introduced.

**9. Model of a graduate of this EP.**

As a result of training, the graduate must:

Have effective communication and social skills, including the ability to:

- work with scientists from other institutions in joint projects and participate in events (interpersonal competence);

- demonstrate teamwork skills, demonstrate competence in negotiations and the ability to demonstrate organizational skills (interpersonal competence);

- present work in an accessible form (interpersonal competence);

Integrate theory and experimental methods with the results of research work and interpret them taking into account the field of study (interpersonal competence);

Know and understand the role of veterinary geography in the system of sciences and directly in veterinary medicine, studies geographical epizootology and endemic diseases using the methodology of veterinary geography, considers the relationship between geography and ecology and their systematic approach in veterinary geography, develops skills in determining the chronological features of infectious diseases and the influence of natural factors on the epizootic process (instrumental competence)

- (subject-specific competencies);

*Have skills:*

- risk analysis, identifying critical control points, being able to implement a quality management system and food safety in meat, milk and fish processing enterprises, at transportation, storage and sales facilities;
- public speaking (instrumental competence);
- have knowledge and skills in working with international standards adopted by the International Commission Codex Alimentarius FAO/WHO, modern methods of food research, innovative technologies for managing the quality and safety of food products, national and traditional agricultural products (TradPro);
- application of information and telecommunication technologies for professional activities at the level of a qualified user;
- formulate the basic principles of organizing veterinary and sanitary measures, know methods for diagnosing diseases of infectious and invasive etiology, and also present methods of treatment and preventive measures for these pathologies;
- analyze and synthesize scientific data on food safety and correctly evaluate modern theoretical concepts and directions of food safety, apply writing techniques, plan and create essays, work with scientific texts.

*Be competent:*

- in the field of dangerous technogenic and biogenic pollutants of livestock areas, food products of animal and plant origin, various pathogens in raw materials and products, the influence of large enterprises and their technological processes on food products, methods of sanitary and environmental research, methods of production sanitary and environmentally “clean” products: milk, meat, eggs, honey, fish, etc., about the main scientific domestic and foreign achievements in the field of environmental safety.
- in the use of modern methods and methods of scientific research in veterinary medicine, analyze and interpret the results obtained.

**Заведующий кафедрой**



**Адилбеков Ж.Ш.**