

Ministry of Agriculture of the Republic of Kazakhstan  
S.Seifullin Kazakh Agrotechnical Research University

Reviewed  
at the meeting of the Faculty Council  
Protocol No. 11 dated «18» 04 2024

«APPROVED»  
Acting Dean of the Agronomy Faculty of  
NJSC «S.Seifullin Kazakh Agrotechnical  
Research University»

  
" 19 " 04 2024 G.K. Satybaldieva



**DEVELOPMENT PLAN  
DOUBLE DIPLOMA EDUCATIONAL PROGRAM  
6B08106«AGROTECHNOLOGY»  
for 2024 - 2028 years**

Reviewed at the extended meeting of the Department of Agriculture and Plant Growing  
Protocol No. 7 dated «08» 04 2024

Astana, 2024

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### 1 Passport for the development plan of the «Agrotechnology»EP

Passport for the development plan of the educational program 6B08106 “Agrotechnology” for the period of 2024 – 2028

1	Reasons for developing an EP development plan	The development of the educational program is based on new regulations for the implementation of the Law of the Republic of Kazakhstan dated July 4, 2018 No. 171-VI “On introducing amendments and additions to some legislative acts of the Republic of Kazakhstan on the issues of expanding the academic and managerial independence of higher educational institutions,” and in accordance with professional standards
2	Main developers of the EP development plan	Academic Committee (order No. 374-N dated October 18, 2023) - Stybaev G.Z., Shestakova N.A., Kipshakbaeva A.A., Nogaev A.A., Mukhanov N.K., Amantaev B.O. , Saurov S. (3rd year doctoral student OP 8D08102 - “Organic farming”). Invited: Irina Aleksandrovna Zhirnova, M.Sc. (Agricultural Sciences), head of the department of selection of grains, legumes, grain fodder and oilseeds of LLP "NPTsZH named after A.I. Baraev"; Lushchak Pavel Vasilievich, director of Naydorovskoye LLP.
3	Time frame for implementing the EP development plan	2024 - 2028
4	Volume and sources of financing	the state budget
5	Expected final results of the implementation of the EP development plan	training of specialists with in-depth knowledge in accordance with the requirements of employers in the field of agro-industrial complex and related industries in the direction of “Crop Production”, taking into account professional standards.

## **2 Analytical justification for the program «Agrotechnology»**

### **2.1 Information about the educational program**

The Department of Agriculture and Plant Growing of the Faculty of Agronomy of the Kazakh Agrotechnical University named after S. Seifullin is a graduate department. The training of agronomic specialists has been carried out since 1958, and according to the educational program 6B08106 "Agrotechnology" since 2023 in the state and Russian languages in full-time and part-time forms of study on the basis of general, secondary and higher education.

In connection with the introduction of the new regulatory legal act, the undergraduate educational program - 6B08106 - Agricultural Technology was developed and implemented from the 2022-2023 academic year (2nd semester).

The undergraduate educational program "Agrotechnology" was created based on the request of employers due to the increased need for specialists who have general cultural, professional and specialized competencies in the field of crop production, contributing to their social mobility and demand in the labor market.

The features of the implemented program are the formation and development of socio-professional, practice-oriented competence, which allows combining social, personal, professional competencies to solve problems in the field of agriculture and crop production.

The educational program is focused on providing comprehensive and high-quality training of competitive, highly qualified specialists capable of solving theoretical and practical problems of professional activity in modern conditions based on the development of skills and abilities necessary for a future specialist in combination with the requirements of advanced technologies.

The educational program provides educational (in the disciplines of agrometeorology, biology) - 3 credits, technological (in the disciplines of plant protection, soil science, mechanical use in agriculture) - 6 credits, production (in the disciplines of agriculture, crop production) - 12 credits and pre-diploma practice - 3 loans, which are a component of the university and represent types of training sessions directly focused on the professional and practical training of students.

The uniqueness of the educational program is the conduct of practical classes in professional disciplines directly in the field and laboratory conditions, studying crops, carrying out agricultural operations, etc. directly on the field.

### **2.2 Information about students**

The Department of Agriculture and Plant Growing of the Faculty of Agronomy of the Kazakh Agrotechnical Research University named after S. Seifullin is graduating in the direction of training 6B081-Agronomy.

The total number of students for the current academic year is 285 people, of which 223 are a grant from the Ministry of Education and Science of the Republic of Kazakhstan, 61 students are studying on a contractual basis.

In the 2022-2023 academic year, 3 students studied on a contract basis in EP 6B08106 - Agricultural technology. In the 2023-2024 academic year, 18 people entered the EP 6B08106 - Agricultural Technology in the Kazakh language and 15 people in the Russian language of instruction.

### **2.3 Internal conditions for the development of the EP «Agrotechnology»**

The non-profit joint-stock company "Kazakh Agrotechnical Research University named after S. Seifullin" (hereinafter - KATIУ named after S. Seifullin) is a subject of higher professional education of the Republic of Kazakhstan and operates on the basis of the Charter, approved by the decision of the sole shareholder of the non-profit joint-stock company and the "National Agrarian

Scientific and Educational center" No. 2 dated 02/05/2018, certificate of state re-registration of a legal entity No. 27738-1901-AK dated 07/10/2007.

Today KATIU is a multidisciplinary university that has its own established scientific schools, thanks to which the basis of the current teaching staff has been created.

The research activities of students of the Department of Agriculture and Plant Growing are carried out continuously within the framework of scientific programs and projects. As a result, the quality of training of specialists with higher education that meets their needs in a market economy increases; skills of creative professional thinking are formed by mastering scientific methods of knowledge and research, and the unity of education (study and upbringing), scientific and practical process is ensured; conditions are created and developed (legal, economic, organizational, resource, etc.) that provide the opportunity each student realizes his right to creative personal development, to participate in scientific research and scientific and technical creativity. At the republican competition of student research works, organized by the Ministry of Education and Science of the Republic of Kazakhstan, a 2nd year student, OP 6B080102 - "Breeding and seed production" Perdebek S. distinguished herself among the other participants by receiving second place (scientific supervisor Rysbekova A.B.). On September 22, 2023, the International Scientific and Practical Conference "Problems of desertification of the territory of the Republic of Kazakhstan and ways to solve them" was held, dedicated to the 80th anniversary of the candidate of biological sciences of KazNU. Al-Farabi, associate professor. Professor Abibulla Ametovich Ametov, "Breeding and Seeds" of the Faculty of Agronomy of the Department of Agriculture and Plant Growing Samal Askharkvina, 3rd year student of group BBB 01-077-21-02, made a report on the topic "Features of the Development of the first root system of wheat varieties under drought conditions" and took 1st place. On March 14, 2024, the KAZATIU competition named after S. Seifullin "ZHIGIT SULTANY-2024" was held, where our 1st year student Ergesh Danial, surprising the jury members with his talent, took 1st place.

Over the years of its existence, the university has trained over 60 thousand highly qualified specialists for various sectors of the country's agro-industrial complex, who, with their selfless work, have made and continue to make a worthy contribution to the development of the state's economy. The university is rightfully proud of its graduates, among them employees of the Presidential Administration and the Office of the Prime Minister, deputies of the Senate and Mazhilis of the Parliament of the Republic of Kazakhstan, ambassadors, prominent scientists, candidates and doctors of sciences, akims of regions, cities and districts, heads of large enterprises and agricultural formations, specialists in various spheres of the national economy.

#### **2.4 Characteristics of the surrounding society**

The priority direction in the development of the educational program is training focused on the student's personality, revealing his individual abilities, turning the student into an active and interested participant in the educational process.

The educational environment in which the formation of future specialists in the field of soil science and agrochemistry takes place is the interconnection of conditions that ensure the formation of a personality capable of active creativity in various fields of fundamental and applied sciences.

The basis of the educational environment is its social component, in relation to educational programs in the direction of "Agronomy" - these are more than 65 years of traditions and the image of the Kazakh Agrotechnical Research University named after S. Seifullin, mutual responsibility, moral and emotional climate; social support for students, extracurricular activities (creative groups, sports clubs, scientific communities, etc.). One of the key components is also the intellectual development environment: modern technologies of developmental education (interactive teaching methods), a system of electives (business games, excursions), a system of elective courses in various

areas of educational programs to acquire knowledge on a specific topic, a system of intellectual competitions at various levels (subject and interdisciplinary Olympiads, competitions, tournaments, intellectual marathons, games, etc.), support system for gifted students.

All components of the structure of the educational environment are open, there is an opportunity to realize oneself, which leads to increased motivation for learning activities and develops communication skills.

### **2.5 Information about teaching staff implementing the educational program**

Total number of teaching staff teaching classes at the department, total: 2023-2024. - 29. Including those with academic degrees and titles: 2023-2027 - 75.0% (including teachers of the OOD cycle). Classes are taught in the state language by 24 teachers. The average age of teaching staff is 48 years, including 1 teacher under 35 years old, 15 teachers between 35-50 years old, and 8 teachers over 50 years old. The average age of full-time teaching staff with academic degrees and titles during the reporting period was 52 years.

According to the staffing table, the faculty staffing of the department is 100%. The extent of PPS is 87.0%.

The presence of basic education among teaching staff in the department's profile is 100%.

The teaching staff of the department is constantly improving, raising its scientific and pedagogical level through a system of advanced training. During the reporting period, the department carried out constant work to improve the qualifications of its young employees - through master's and doctoral studies. In the 2023-2024 academic year, Doctor of Philosophy (PhD) in the specialty "Agronomy" to the teacher of the department Nogaev A.A. awarded the title of associate professor, and he was the winner of the "Best University Teacher" competition in 2023.

Of the teaching staff teaching classes for students of the specialty, 5 people are holders of the state grant "Best University Teacher" (professors G.Zh. Stybaev, K.M. Musynov, V.T. Khasanov, senior teacher A.A. Baytelenova, Nogaev A.A.).

An analysis of the department's personnel potential showed its high professional level with its desire for improvement.

### **2.6 Characteristics of the achievements of the EP «Agrotechnology»**

The achievements of the program include the number of agreements concluded with specialized research institutes for students to undergo practical training. In recent years, at the Department of Agriculture and Plant Growing, agreements have been concluded with Karaganda Research Institute of Plant Growing and Breeding LLP, Kazakh Research Institute of Agricultural Products Processing LLP, South-Western Research Institute of Animal Husbandry and Plant Growing LLP, Kaz Research Institute of Rice Growing LLP, Yugo LLP -Western Research Institute of Animal Husbandry and Plant Growing", LLP "Atameken-Agro", LLP "Agrofirma TNK", JSC "Akmola-Phoenix", LLP "Research Institute of Potato and Vegetable Growing", LLP "Greenhouse Technologies of Kazakhstan", LLP "Kazakh Research Institute of Agriculture and Plant Growing" , Kazakh Research Institute of Livestock and Feed Production LLP, Izet green house LLP, Astana Eco Standard LLP, Kazakh Research Institute of Plant Protection and Quarantine named after. Zh.Zhienbaeva" LLP "Baymyrza Agro" LLP, "En Dana" LLP.

For the training of practice-oriented specialists, dual training is important. In the 2023-2024 academic year, students in the specialty took practical classes at the Kazakh Research Institute for Processing of Crop Products LLP, Led System Media LLP, A.I. Baraev Research and Production Center for Grain Farming LLP.

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

- harmonization of the content of educational programs with the educational programs of leading foreign and Kazakh universities and improving the quality of education through the introduction of effective pedagogical technologies, integration of the educational and scientific-industrial environment, and attraction of highly qualified practitioners;

- competency-based approach to education, ensuring variability and different levels of proposed educational programs and educational services;

- focus on meeting the needs of the state, stakeholders and students and consistency with national development priorities and the university development strategy.

- transparency of the educational program management system and participation of representatives of interested parties (employers, teaching staff, students) in the collegial bodies of management of the educational program.

- ensure equal opportunities for students, incl. regardless of the language of instruction on the formation of an individual educational program aimed at developing professional competence. providing students with the opportunity to receive a wide range of additional education and additional educational services, including paid ones;

- ensuring a high level of social and professional competence and education of graduates, as a result of the traditionally high quality of education;

- reforming the educational process in accordance with the practice of the world's leading agricultural research universities and strengthening the material and technical base.

Students of the OP "Agrotechnology" have the opportunity to undergo educational practice in many specialized disciplines, the organization of educational practice should be carried out in and the acquired skills are very important when studying disciplines in practice, including as part of dual training, in this regard, it is necessary to organize visits to production bases for conducting visual educational practice.

### **4 The main goals and objectives of the development plan of the EP «Agrotechnology», indicating the timing and stages of its implementation**

The goal of the educational program "Agrotechnology" is to train highly qualified specialists with in-depth knowledge in accordance with the requirements of employers and professional standards for the field of crop production.

Objectives of the educational program:

1. Creating conditions for acquiring quality professional education;

2. Formation of universal and social-personal values of the graduate, as well as environmental, physical, ethical, legal culture, culture of thinking;

3. Formation of knowledge of basic disciplines necessary for mastering professional disciplines in the field;

4. Creating conditions for the acquisition of theoretical and practical skills in agricultural technologies in crop production, terms, concepts and principles of agronomy, as well as the acquisition of analytical skills for use in the production of crop products;

5. Prepare the bachelor for professional activity, continuous professional and moral improvement and master's studies;

6. Forming the competitiveness of graduates in the labor market to ensure the fastest possible employment in the field of study.

The goal of the development plan for the EP "Agrotechnology" is to develop various types of activities aimed at creating conditions for the successful development of the educational program.

**5 Measures to reduce the impact of risks for the educational program «Agrotechnology»** The successful implementation of educational programs can be affected by various types of risks, which is why it is necessary to develop preventive measures to reduce them.

№	Risks	Risk Mitigation Measures
1	Social (dismissal of leading teachers, industrial conflicts)	1. Creation of a system of employee motivation. 2. Including them in work on the institution's development program 3. Motivation 4. Creating a favorable moral and psychological climate 5. Social support
2	Financial and economic risks (increase in the number of alternative services, decrease in the solvency of consumers, increase in taxes, prices for utilities, etc.)	1. Strengthening the image activities of the university and EP 2. Activities for selecting management
3	Production and technological risks (wear of equipment, novelty of technologies)	1 Updating the material and technical base 2 Improving pedagogical skills, language and professional qualifications of teaching staff 3 Introduction of modern teaching technologies 4 Informatization of the educational process and, accordingly, the cost of projects
4	Force majeure (threats of terrorist attacks, natural and man-made disasters)	Force majeure (threats of terrorist attacks, natural and man-made disasters)

**6 Action plan for the development of the educational program «Agrotechnology»**

№	Name of events	Сроки реализации	Responsible	Expected results	Expected results
1	Improving bachelor's degree programs taking into account the opinions of potential employers	2024-2028	Head department, working group on EP	Taking into account changes in regulatory legal acts and stakeholder proposals	-
2	Development of a new UML in the state and Russian languages, computer programs	2026-2028	Head department, teaching staff	A new UML will be developed	-
3	Increase in the number of scientific projects and agreements with business entities	2024-2028	Head department, teachers of the department	Project applications for competitions will be submitted	project financing
4	Conducting dual forms of training at manufacturing enterprises in the country	2024-2028	Head department, teachers of the department	Conducting disciplines within the framework of dual training	
5	Academic mobility of teaching staff students	2024-2028	Academic mobility of	Academic mobility of	at the expense of the International



			teaching staff students	teaching staff students	Educational Institution, international programs, s/s, etc.
6	Involving leading scientists from near and far abroad countries to give lectures, conduct seminars, etc. students	2024-2028	Head department, heads of scientific projects	Lectures given by foreign scientists	at the expense of the International Educational Institution, international programs, s/s, etc.
7	Passing independent national specialized accreditation			passed in 2023 (accreditation for 5 years)	
8	International and national scientific and industrial internships for teaching staff, incl. young scientists of the department	2024-2028	responsible for MS	internships for scientific project managers, teaching staff	through international programs, s/s, etc.
9	Prize-winning places in the national ranking of specialties among universities of the Republic of Kazakhstan	2024-2028	Head department	annually	
10	Prize-winning places for students in republican subject Olympiads, competitions of the Ministry of Education and Science of the Republic of Kazakhstan for the best student works	2024-2028	Head department	annually	s/s university
11	Monitoring of graduates' employment	2024-2028	Head department, resp. for the employment of graduates	graduate employment	
12	Concluding agreements on practical training for students	2024-2028	Head department, resp. for practice	internship	practice base, university

### **7 Mechanism for implementing the development plan of the EP «Agrotechnology»**

1. Message from the President of the Republic of Kazakhstan - Leader of the Nation Nursultan Nazarbayev to the people of Kazakhstan "Strategy "Kazakhstan-2050"

2. Legislative and regulatory acts in accordance with which KazATIU named after S. Seifullin carries out its activities: Law of the Republic of Kazakhstan "On Education" dated July 27, 2007 No. 319-III

3. Development program of NJSC "Kazakh Agrotechnical Research University named after Saken Seifullin" for 2024-2029

4. License for the right to conduct educational activities at KazATIU named after S. Seifullin
5. Regulatory documentation developed by SVO KATIU named after S. Seifullin
6. Students master the basic educational program in accordance with the RUP.
7. Providing students with the opportunity to test themselves in various directions: social-moral, artistic-aesthetic, research, scientific, cognitive in interconnection.
8. Creation of an appropriate developmental environment: educational, creative, social, etc.
9. Ensuring a favorable moral and psychological climate.

#### **8 Assessment of the socio-economic efficiency of the implementation of the development plan of the EP «Agrotechnology»**

As a result of the implementation of the EP development plan, it is expected to ensure the following socio-economic effects:

- improving the quality of professional education and, as a consequence, the competitiveness of specialists in the field of soil science and agrochemistry;
- increasing the professional literacy of graduates and better meeting the needs of potential employers;
- increasing the role of employers in training professional personnel;
- increasing the demand for qualified personnel, optimizing their age structure;
- improving the system of training specialists at all levels;
- increasing the number of educational services;
- expanding opportunities for professional self-realization of youth;
- increasing the level of income of education workers;
- preventing the outflow of promising teaching staff to other sectors;
- increase in the number of young people employed in the economic sector (increase in the number of graduates employed or moving to the next level of education);
- growth in academic mobility of students, academic and administrative;
- growth in the export of educational services (increase in the number of citizens of other states studying in institutions of higher professional and postgraduate education of the Republic of Kazakhstan);
- updating the educational and material base (educational and laboratory, computer and technological base that meets modern requirements and standards).

#### **9 Model of EP graduate by level of study**

The bachelor's degree graduate model includes competencies: general educational competencies, basic competencies and professional competencies.

General educational competencies. Know the prerequisites for the formation of statehood of modern Kazakhstan; general principles of being and cognition, relations between man and the world, patterns of development of the personality of a specialist with higher professional education, patterns of the emergence of political phenomena (institutions, relationships, processes), methods and forms of their functioning, methods of managing political processes, consciousness, structure of society, norms and values, methods and features of the functioning of elements of society, features of the processes of individuals and their role in the development of society; linguistic and speech means, vocabulary, forms and types of speech/communication of the state, Russian and foreign languages; types of information and communication technologies; means of automation of information activities and their purpose, methods for measuring the amount of information; purpose and types of information models, purpose and functions of operating systems

Must demonstrate the ability to justify one's own assessment of everything that happens in the social and industrial spheres based on ideological positions; make the choice of methodology

## **8 Socio-economic efficiency assessment of the implementation of the development plan of the EP "Genetics and Crop Selection"**

As a result of the implementation of the EP development plan, it is assumed that the following socio - economic effects will be achieved:

- improving the quality of pedagogical and scientific education and, as a result, the competitiveness of specialists in the field of crop breeding;
- improving the professional literacy of graduates and better meeting the needs of potential employers;
- increasing the role of employers in the training of professional personnel;
- improving the system of training specialists at all levels;
- expanding the opportunities for professional self-realization of young people;
- raising the level of income of employees in the field of education;
- preventing the outflow of promising teaching staff to other industries;
- an increase in the number of young people employed in the economy (an increase in the number of graduates who are employed or have moved to the next level of education);
- increased academic mobility of students, academic and administrative staff;
- growth in the export of educational services (an increase in the number of citizens of other countries studying in institutions of higher professional and postgraduate education of the Republic of Kazakhstan);
- updating of the educational and material base (educational and laboratory, computer and technological base that meets modern requirements and standards).

## **9 Model of the EP graduate by levels of study**

Graduates who have mastered the program of the educational program "Genetics and selection of agricultural crops" can work in research, research and production organizations in the field of agriculture, breeding and seed production, protection of agricultural plants, seed farms; local and republican state institutions, as well as in enterprises of various types of agricultural formations; educational spheres of higher средне- специального, education. institutions of agricultural and biological profile; research and production institutions, in the offices of local, district, regional, republican structures of the Ministry of Agriculture of the Republic of Kazakhstan.

Graduates of the educational program "Genetics and crop selection" must have key skills and know the competencies described in the educational program, and must also be competent in the field of scientific and scientific-pedagogical activities in the context of rapid updating and growth of information flows, in conducting theoretical and experimental scientific research in the field of crop selection, in setting up and conducting research in the field of solving theoretical and applied problems in scientific research, conducting a professional and comprehensive analysis of problems in crop breeding, interpersonal communication and human resource management, university training of specialists, conducting expertise of scientific projects and research, and ensuring continuous professional growth.

Head of the Department  
Of Agriculture and crop production



A. A. Baitelenova