

Federal State Autonomous Educational Institution of Higher  
Education «Peoples' Friendship university of Russia» Agrarian Technological institute

Adopted by the Academic Council  
of the agrarian technological institute  
15.02.2017 y. protocol №7

Affirm  
Vice-rector for academic work  
A.P. Eremov  
2017y.



**Basic professional studying programme of higher education**

**The direction of training (specialty)**  
**35.06.01 Agricultural science**

The programme was designed appropriate to requirements of ES HE RUDN / FSES HE that was affirmed by rector's decree dated 26.02.2015 y. № 96

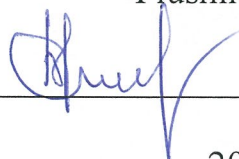
Graduate's qualification; Researcher. Mentor-researcher  
The direction of programme (profile, specialty):

06.01.07«Plant protection systemic technology»

A normative period of programme mastering: 4 years  
Form of studying: full-time

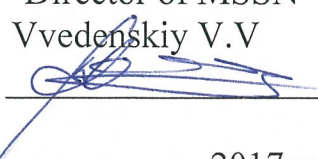
Information about features of the basic studying programme:  
modular principle

Director of programme  
Plushikov V.G.

  
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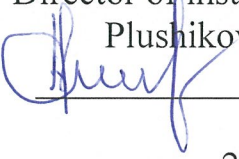
2017 y.

Agreed  
Director of MSSN  
Vvedenskiy V.V

  
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2017 y.

Agreed  
Director of institute  
Plushikov V.G.

  
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2017 y.

## Description of the educational program

### General characteristics OP VO

#### *1.1. The purpose (mission) of the OP VO.*

The mission (social significance) of the program 35.06.01 "Agriculture" 06.01.07 " Plant Protection " training of highly qualified personnel (postgraduate) - training of researchers, teachers, researchers who are able to carry out research activities in the field of agriculture and teaching activities in educational programs of higher education, taking into account modern requirements.

*The goal of the program is 35.06.01 "Agriculture", 06.01.07 Plant Protection, training of highly qualified personnel (postgraduate) - developing students' personal qualities that meet the requirements of modern agriculture for work in higher educational institutions, research organizations and other structures that carry out research and training of citizens, as well as the formation of universal, general professional and professional competencies in accordance with the requirements of the OS VO RUDNU in this area of training.*

#### *1.2. Basic information.*

The main educational program 35.06.01 "Agriculture" 06.01.07» Plant Protection " is a program of training of highly qualified personnel (postgraduate) , which corresponds to the *second level of higher education*. Higher education in the postgraduate program can be obtained in full-time. The peculiarities of the implementation of the main educational program include the modular principle and the use of elements of e-learning and distance learning technologies. When teaching persons with disabilities, e-learning and distance learning technologies provide for the possibility of receiving and transmitting information available to them.

*The area of professional activity of graduates who have mastered the program of postgraduate education 35.06.01 "Agriculture" 06.01.07 " Plant Protection " It includes the solution of complex problems in the field of agriculture: agronomy, plant protection, soil science, agrochemistry, land reclamation, horticulture, grassland, landscape gardening of territories, plant breeding and seed production, agricultural biotechnology, crop production, and crop production technologies.*

*Objects of professional activity graduates who have mastered the postgraduate program 35.06.01 "Agriculture" 06.01.07 " Plant Protection " are: agricultural plants (species, varieties and hybrids, genetic collections of plants), agricultural landscapes , hayfields and pastures, soils and their fertility, harmful organisms, methods and means of protecting plants from them, production technology  
crop production;  
crops of field crops, plantations of fruit, vegetables, medicinal, ornamental crops and grapes.*

*Types of professional activity for which graduates who have mastered the postgraduate program 35.06.01 "Agriculture" 01/06/07 " Plant Protection " :*

*research activities in the field of agriculture, agronomy, plant protection, breeding and genetics of agricultural crops, soil science, agrochemistry, landscape arrangement of territories, technologies for the production of agricultural products as research officers capable of participating in collective research projects;*

*Teaching activities in higher education programs*

*The program of postgraduate studies is aimed at mastering all types of professional activity for which the graduate is preparing.*

*Information about the features of the implementation of the basic educational program of postgraduate education 35.06.01 "Agriculture" 06.01.07 »Plant Protection »:*

- a form of organization of educational activities is used, based on the modular principle of presenting the content of the educational program and building curricula;
- the implementation of the educational program provides for the use of various educational technologies, including e-learning, distance learning technologies;

*The subject field of postgraduate training for the program 35.06.01 "Agriculture" 01/06/07» Plant Protection " are:*

A) in the field of research activities in the field of agriculture:

- Basic research in the field of theory and applied problems of agriculture;
- Research in the field of the history of the development of agricultural technology and the methodology of the analysis methodology used in the field of agriculture;
- Studies of agricultural industries;
- Development and improvement of modern technologies, methods used in the field of agriculture;
- Applied agricultural research based on fundamental agricultural methods;
- Investigation of the problems of the formation of agricultural sciences with the aim of revealing stable links and patterns that determine the nature and content of these problems, logic and mechanisms for their resolution;
- Identification, analysis and resolution of problems of innovative development of modern agriculture, management of the main parameters of innovative processes, as well as methods and tools for evaluating the results of innovative activities;
- Development of theoretical and methodological principles, methods and methods used in the sectors of agriculture, agronomy, plant protection, plant breeding and genetics, soil science, agrochemistry, landscape arrangement of territories, technologies for the production of agricultural products ;
- Analysis of current trends and forecasts of the development of the agro-industrial complex;
- Improvement of methods used in plant protection, breeding and seed production, agriculture.
- T In theory and experimental research in the field of agriculture, agronomy, plant protection, plant breeding and genetics of crops, soil science, agricultural chemistry, Landscape Spatial Planning, production technologies and agricultural products, and;

B) in the field of teaching activities in educational programs of higher education:

- development of training courses in areas of professional activity, including on the basis of the results of theoretical and empirical research, including the preparation of teaching materials, textbooks and textbooks;
- Teaching of agricultural disciplines and educational and methodical work in areas of professional activity;
- conducting research in an educational organization, including the management of students' research work.

*The place of implementation of the main educational program 35.06.01 "Agriculture" is training of highly qualified personnel (postgraduate study): "Peoples' Friendship University of Russia" is the Agrarian-Technological Institute (Moscow, Miklukho-Maklaya, d.8 / 2).*

### **1.3. Features of the implementation of OP VO.**

*Features of the implementation of the basic educational program of postgraduate education 35.06.01 "Agriculture" 06.01.07 "Plant Protection are:*

- Application of the form of organization of educational activities based on the modular principle of presenting the content of the educational program and constructing curricula;
- The use of various educational technologies, including e-learning, distance learning technologies;

- The use of a modular form of organization of educational activities based on the modular principle. A feature of building curricula based on the modular principle is that it consists of relatively independent parts that form a specific competence or group of competencies in the course of mastering: the academic discipline; or a set of disciplines united by interdisciplinary connections.

*The content of the main educational program 35.06.01 "Agriculture" 06/01/07 "Plant Protection" includes an obligatory part (basic) and a part formed by the participants of educational relations (variable). The curriculum is constructed from the following blocks:*

Block 1 "Disciplines (modules)", which includes disciplines (modules) relates to the basic part of the program and disciplines (modules) relating to its variable part. The basic part of Block 1 of the program includes disciplines that are mandatory for graduate students to study all profiles. The optional part of block 1 is represented by the following disciplines: "By the choice of a graduate student", where they are selected from 3 of the offered disciplines.

Block 2 "Practices", which is represented by pedagogical practice, which forms the pedagogical skills of students (teaching, educational and research activities).

Block 3 "Scientific research" implies consolidating and deepening the theoretical training of the graduate student and acquiring the research skills necessary for working on the text of articles, thesis and abstract, as well as the formation of competences in the field of professional activity in accordance with the requirements of the OS VO RUDN in this area of training.

Block 4 "State final certification" includes: preparation and passing of the state exam in the direction and profile of training; and the presentation of a scientific report on the main results of the prepared research paper (dissertation). "The state final certification is completed by the assignment of qualifications specified in the list of specialties and areas of higher education, approved by the Ministry of Education and Science of the Russian Federation [\[1\]](#) .

- With the implementation of the program of postgraduate studies 35.06.01 "Agriculture" 06.01.07 "Plant Protection" *e-learning and distance learning technologies can be applied*. When teaching people with disabilities and people with disabilities, e-learning and distance education technologies should provide for the possibility of receiving and transmitting information in the forms available to them. *The network form of implementation of the main educational program "Agriculture" is not provided.*

- Educational activities under the postgraduate program 35.06.01 "Agriculture" 06/01/07» Plant Protection " carried out in English.

#### ***1.4. P the demand of the labor market in graduates of this OP.***

Analysis of the state and development trends of research and educational activities in the field of economics shows that the formation and management of the knowledge base of researchers and research teachers is an important factor in increasing the potential and competitiveness of domestic educational institutions of higher education, research organizations and innovation- active companies engaged in scientific and educational activities.

Modern educational, research and other innovative- active organizations are in dire need of professional agronomists , researchers, and agronomists, teachers, and researchers who are capable of developing scientific and pedagogical activity, possessing the appropriate technologies and skills.

Demand for graduates of the Main educational program 35.06.01 "Agriculture" 06.01.07 "Plant Protection" training of highly qualified personnel

(postgraduate) was determined by the program manager based on the analysis of the Russian labor market of scientific and pedagogical workers in the field of agriculture.

Defined by the heads of the main educational program of training of higher qualifications (postgraduate) in the direction of 35.06.01 "Agriculture" 06.01.07 " Plant Protection " its place in the labor market meets the quality requirements of training graduates in demand in the market in modern conditions. All graduates of this program are successfully employed.

### ***1.5. Requirements for the applicant.***

Potential applicant of the *basic educational* program for training highly qualified personnel (postgraduate studies) 35.06.01 "Agriculture" 01/06/07» Plant Protection " should be prepared for activities requiring in-depth agricultural, research and pedagogical training and possess the following competencies:

- *general cultural competences* : the ability to abstract thinking, analysis, synthesis; readiness to act in non-standard situations, to bear social and ethical responsibility for the decisions made; readiness for self-development, self-realization, use of creative potential;

- *general professional competences* : readiness for communication in oral and written forms in Russian and foreign languages to solve the problems of professional activity; willingness to lead a team in their professional activities, tolerantly perceiving social, ethnic, confessional and cultural differences; the ability to make organizational and managerial decisions;

- *professional competencies*

*in the field of research activities: the ability to summarize and critically evaluate the results obtained by domestic and foreign researchers, identify promising areas, draw up a research program; the ability to justify the relevance, theoretical and practical significance of the chosen topic of scientific research; the ability to conduct independent research in accordance with the developed program; the ability to present the results of the research to the scientific community in the form of an article or report;*

*in the field of pedagogical activity: the ability to apply modern methods and methods of teaching agricultural subjects in professional educational organizations, educational institutions of higher education, and additional professional education; the ability to develop curricula, programs and appropriate methodological support for teaching agricultural subjects in professional educational organizations, educational institutions of higher education, and additional professional education.*

### ***1.6. Characteristic of professional activity of a graduate of the OP***

#### ***1.6.1 Professional field.***

*The area of professional activity of graduates who have mastered the program of training highly qualified personnel (postgraduate studies) 35.06.01 "Agriculture" 06.01.07 " Plant Protection " includes agriculture, agronomy, plant protection, selection and genetics of agricultural crops, soil science, agrochemistry, landscape arrangement of territories, technologies for the production of agricultural products.*

*The specifics of the professional activity of graduate postgraduate students 35.06.01 "Agriculture" 01/06/07 " Plant Protection " consists in the implementation of research activities in the field of agriculture and teaching activities in educational programs of higher education.*

*Taking into account the agricultural orientation of the training, the graduate of the postgraduate education 35.06.01 "Agriculture" can carry out professional activities in higher educational institutions, research and other innovative- active organizations, as well as educational and scientific infrastructure institutions of the Russian Federation and countries that have delegated their citizens for training according to the program.*

### **1.6.2 The object of professional activity.**

*Objects of professional activity* graduates who have mastered the postgraduate program 35.06.01 "Agriculture" 01/06/07 " Plant Protection " are: agricultural plants (species, varieties and hybrids, genetic collections of plants), agrolandscapes , hayfields and pastures, soils and their fertility, harmful organisms, methods and means of protecting plants from them, the technology of crop production; crops of field crops, plantations of fruit, vegetables, medicinal, ornamental crops and grapes . in rare organisms, methods and means of protecting plants from them, plant immunity to pests, creating crop genotypes, ecologized plant protection systems, designing sustainable agro-ecosystems , methods for estimating crop losses, economic thresholds of harmfulness, dynamics of populations of harmful organisms, phytopathogenic complex on various agricultural cultures, the evaluation of losses in various crops, economic and environmental assessment of a package remedies plants in different crops

### **1.6.3 Types of professional activity.**

Types of professional activity for which graduates who have mastered the postgraduate program 35.06.01 "Agriculture" 01/06/07 " Plant Protection " identified in accordance with the OS VO RUDNF jointly with the interested participants of the educational process, based on the needs of the labor market, research and material and technical resources of the RUDN University:

- *Research activities in the field of agriculture in the field of scientific specialties:*
  - *teaching activities in educational programs of higher education in the direction of 35.03.04 Agronomy*
- *Bachelor degree in training areas: March 35, 04. "Agronomy"*  
- *Master's degrees in training areas: March 35, 04. "Agronomy"*

### **1.6.4 Tasks of professional activity.**

The tasks of professional activity for which graduates who have mastered the postgraduate program 35.06.01 "Agriculture" 06.01.07 "Plant Protection" are defined in accordance with the OS VO RUDNU for research and teaching activities in the direction "Agriculture" and orientation ( profile) of training / specialty in accordance with the requirements of OS V O RUDN .

- *In the field of scientific research in the field of economics, the following tasks of professional activity are solved:* Basic research in the field of theory and applied problems of agriculture; and research in the field of history of the development of agricultural technology and methodology methodology analyzes used in the field of agriculture; studies of agricultural sectors; development and improvement of modern technologies, methods used in the field of agriculture; applied agricultural research based on fundamental agricultural methods; the study of the problems of the formation of agricultural sciences with the aim of revealing stable connections and patterns that determine the nature and content of these problems, the logic and the mechanisms for their solution; identification, analysis and resolution of problems of innovative development of modern agriculture, management of the main parameters of innovative processes, as well as methods and tools for evaluating the results of innovative activities; development of theoretical and methodological principles, methods and methods used in the sectors of agriculture, agronomy, plant protection, plant breeding and genetics, soil science, agrochemistry, landscape arrangement of territories, technologies for the production of agricultural products ; analysis of current trends and forecasts of the development of the agro-industrial complex; improvement of methods used in plant protection, breeding and seed

production, agriculture; t In theory and experimental research in the field of agriculture, ag Ron and plant protection.

### ***1.7. T required for the results of the development of OP IN.***

The results of mastering the basic educational program for training highly qualified personnel (postgraduate study) in the direction of 35.06.01 “Agriculture” 06.01.07 “Plant Protection” are determined by the competences acquired by the graduate, his ability to apply knowledge, skills and personal qualities in accordance with the objectives of professional activity.

- *Universal competence:*
  - the ability to critically analyze and evaluate modern scientific achievements, generate new ideas in solving research and practical problems, including in interdisciplinary areas (QC-1);
  - The ability to design and implement integrated research, including interdisciplinary, based on a holistic system of scientific outlook using knowledge in the field of history and philosophy of science (UK-2);
  - Willingness to participate in the work of Russian and international research teams to solve scientific and scientific-educational problems (UK-3);
  - willingness to use modern methods of scientific communication and technology at the state and foreign languages, including the willingness to communicate to solve the problems of professional activities, knowledge of foreign language communicative competence in official cases a marketing, training and professional, Mr. scientific, socio-cultural spheres of everyday and everyday foreign language communication (UK-4);
  - The ability to follow ethical standards in professional activities (UK-5);
  - Ability to plan and solve problems of their own professional and personal development (UK-6);
- *General professional competencies:*
  - Mastering the methodology of theoretical and experimental research in the field of agriculture, agronomy, plant protection, plant breeding and genetics, soil science, agrochemistry, landscape landscaping of territories, technologies for the production of agricultural products (OPK-1);
  - Possession of a culture of scientific research in the field of agriculture, agronomy, plant protection, breeding and genetics of agricultural crops, soil science, agrochemistry, landscape arrangement of territories, technologies for the production of agricultural products, including using the latest information and communication technologies (OPK-2);
  - Ability to develop new research methods and their application in the field of agriculture, agronomy, plant protection, plant breeding and genetics, soil science, agrochemistry, landscape landscaping of territories, technologies for the production of agricultural products, taking into account respect for copyright (OPK-3);
  - Willingness to organize the work of the research team on the problems of agriculture, agronomy, plant protection, plant breeding and genetics, soil science, agrochemistry, landscape landscaping of territories, technologies for the production of agricultural products (OPK-4);
  - Readiness for teaching activity in basic educational programs of higher education (OPK-5).
- *Professional competencies by training profiles:*

- The ability to understand the current problems of agriculture and use the fundamental agricultural ideas in the field of professional activity for the formulation and solution of new problems (PC-1);
- Ability to use basic theories, concepts and principles in the chosen field of activity, ability to system thinking (PC-2);
- Independent analysis of available information, identification of fundamental problems, setting goals and objectives of the study, performing laboratory agricultural research in solving specific tasks on specialization using modern equipment and computing tools, demonstrating responsibility for the quality of work and scientific accuracy of results (PC-3);
- Knowledge of the history and methodology of agricultural sciences, extending general professional, fundamental training (PC-4);
- The ability to creatively apply modern computer technology in the collection, storage, processing, analysis and transmission of agricultural information (PC-5);
- The ability to apply the methodological framework for the design and implementation of laboratory agricultural research using modern equipment and computing systems (in accordance with the objectives of the graduate student training program), the ability to generate new ideas and methodological solutions (PC-6);
- The ability to independently use modern computer technologies to solve research and production and technological tasks of professional activity, to collect and analyze agricultural information (PC-7).

#### 1.8. Matrix of competencies.

The competency matrix reflects the relationship between the content of the main educational program for training highly qualified personnel (postgraduate studies) 35.06.01 “Agriculture” and the planned educational results.



## Матрица компетенций

Вид профессиональной деятельности:

- научно-исследовательская деятельность в области сельского хозяйства, агрономии, защиты растений, селекции и генетики сельскохозяйственных культур, почвоведения, агрохимии, ландшафтного обустройства территорий, технологий производства сельскохозяйственной продукции в качестве научных сотрудников, способных к участию в коллективных исследовательских проектах;
- преподавательская деятельность по образовательным программам высшего образования.

	Наименование дисциплин (модулей) в соответствии с учебным планом	Универсальные компетенции					
		УК-1: способностью к критическому анализу и оценке современных научных достижений, генерированию новых идей при решении исследовательских и практических задач, в том числе в междисциплинарных областях	УК-2: способностью проектировать и осуществлять комплексные исследования, в том числе междисциплинарные, на основе целостного системного научного мировоззрения с использованием знаний в области истории и философии науки	УК-3: готовностью участвовать в работе российских и международных исследовательских коллективов по решению научных и научно-образовательных задач	УК-4: готовностью использовать современные методы и технологии научной коммуникации на государственном и иностранном языках, в том числе готовностью к коммуникации в устной и письменной формах на русском и иностранном языках для решения задач профессиональной деятельности, владение иноязычной коммуникативной компетенцией в официально-деловой, учебно-профессиональной, научной, социокультурной, повседневной-бытовой сферах иноязычного общения	УК-5: способностью следовать этическим нормам в профессиональной деятельности	УК-6: способностью планировать и решать задачи собственного профессионального и личного развития
Блок 1	Базовая часть						
	Иностранный язык				+		

	История и философия науки		+				
Блок 1	Вариативная часть						
	Педагогика высшей школы					+	+
	Методология научных исследований						
	Защита растений						
	Английский язык				+		
	Русский как иностранный язык				+		
	Современные методы диагностики вредных организмов						
	Генетические особенности наследования резистентности организмов	+					
	Биохимия патологии растений						
Блок 2	Вариативная часть						
	Педагогическая практика					+	
	Научно-исследовательская практика					+	+
Блок 3	Вариативная часть						
	Научные исследования			+			

	Наименование дисциплин (модулей) в соответствии с учебным планом	Общепрофессиональные компетенции				
		ОПК-1: владением методологией теоретических и экспериментальных исследований в области сельского хозяйства, агрономии, защиты растений, селекции и генетики сельскохозяйственных культур, почвоведения, агрохимии, ландшафтного обустройства территорий, технологий производства сельскохозяйственной продукции	ОПК-2: владением культурой научного исследования в области сельского хозяйства, агрономии, защиты растений, селекции и генетики сельскохозяйственных культур, почвоведения, агрохимии, ландшафтного обустройства территорий, технологий производства сельскохозяйственной продукции, в том числе с использованием новейших информационно-коммуникационных технологий	ОПК-3: способностью к разработке новых методов исследования и их применению в области сельского хозяйства, агрономии, защиты растений, селекции и генетики сельскохозяйственных культур, почвоведения, агрохимии, ландшафтного обустройства территорий, технологий производства сельскохозяйственной продукции с учетом соблюдения авторских прав	ОПК-4: готовностью организовать работу исследовательского коллектива по проблемам сельского хозяйства, агрономии, защиты растений, селекции и генетики сельскохозяйственных культур, почвоведения, агрохимии, ландшафтного обустройства территорий, технологий производства сельскохозяйственной продукции	ОПК-5: готовностью к преподавательской деятельности по основным образовательным программам высшего образования
Блок 1	Базовая часть					
	Иностранный язык					
	История и философия науки					
Блок 1	Вариативная часть					
	Педагогика высшей школы					
	Методология научных исследований		+		+	
	Защита растений	+			+	

	Английский язык					
	Русский как иностранный язык					
	Современные методы диагностики вредных организмов	+		+		
	Генетические особенности наследования резистентности организмов	+		+		
	Биохимия патологии растений	+				
Блок 2	Вариативная часть					
	Педагогическая практика	+				+
	Научно-исследовательская практика	+				
Блок 3	Вариативная часть					
	Научные исследования	+	+	+		

	Наименование дисциплин (модулей) в соответствии с учебным планом	Профессиональные компетенции						
		ПК-1: способность понимать современные проблемы сельского хозяйства и использовать фундаментальные сельскохозяйственные представления в сфере профессиональной деятельности для постановки и решения новых задач	ПК-2: способность использовать основные теории, концепции и принципы в избранной области деятельности, способность к системному мышлению	ПК-3: способность к самостоятельному анализу имеющейся информации, выявлению фундаментальных проблем, постановке целей и задач исследования, выполнению лабораторных исследований при решении конкретных задач по специализации с использованием современной аппаратуры и вычислительных средств, демонстрацию ответственности за качество работ и научной достоверности результатов	ПК-4: знание истории и методологии сельскохозяйственных наук, расширяющих общепрофессиональную, фундаментальную подготовку	ПК-5: способность творчески применять современные компьютерные технологии при сборе, хранении, обработке, анализе и передаче сельскохозяйственной информации	ПК-6: способность применять методические основы проектирования и выполнения лабораторных сельскохозяйственных исследований с использованием современной аппаратуры и вычислительных комплексов (в соответствии с целями программы подготовки аспиранта), способность генерировать новые идеи и методические решения	ПК-7: способность самостоятельно использовать современные компьютерные технологии для решения научно-исследовательских и производственно-технологических задач профессиональной деятельности, для сбора и анализа сельскохозяйственной информации
Блок 1	Базовая часть							
	Иностранный язык							
	История и философия науки							
Блок 1	Вариативная часть							
	Педагогика высшей школы							
	Методология научных исследований				+	+		
	Защита растений	+					+	+

	Английский язык							
	Русский как иностранный язык							
	Современные методы диагностики вредных организмов	+					+	+
	Генетические особенности наследования резистентности организмов		+	+			+	+
	Биохимия патологии растений			+			+	+
Блок 2	Вариативная часть							
	Педагогическая практика							
	Научно-исследовательская практика							
Блок 3	Вариативная часть							
	Научные исследования							