

*Federal State Autonomous Educational Institution of Higher Education «RUDN University»*

*Agrarian and Technological Institute*

Recommended by MCCN/MO

**PROGRAM  
SCIENTIFIC RESEARCH PRACTICE  
POSTGRADUATE**

**Recommended for training courses**

**06.06.01 «Biological Sciences»**

*(indicate the code and name of the direction of training (specialty))*

**Profile:**

03.02.07 Plant Genetics

**Graduate Qualifications**

Researcher. Research teacher

*indicates the qualification of the graduate in accordance with the order of the Ministry of Education and Science of Russia of September 12, 2013. №1061)*

All practices in this educational program are conducted in accordance with the ES HE RUDN in the direction of training 06.06.01 Biological Sciences (qualification (degree) Researcher. Teacher-researcher) and the "Provision on the procedure for conducting practices of students in RUDN full-time, part-time and part-time training", approved by the order of the rector of April 22, 2014 № 268.

### **1. Objectives of research practice**

The purpose of the research practice of a graduate student is to acquire practical skills for independent research work, gathering material for writing a dissertation and checking the validity of the theoretical conclusions made in the final qualifying work.

### **2. Tasks of research practice**

The objectives of research practice are:

- mastering a graduate student in the methodology and methodology of research work,
- use of modern information technology in agriculture,
- acquisition of skills and abilities to receive, process, store and disseminate scientific agricultural information.
- collection and analysis of the necessary material.

### **3. Place of research practice in the structure of EP**

Research practice in the system of training of highly qualified personnel is a component of professional training for research activities in higher education and is a kind of practical activity of postgraduate students in the implementation of scientific work in higher education, including research in the framework of the theme of their graduate qualification work (Ph.D. dissertation), approbation of the results and writing a candidate dissertation.

Research practice for students in the main educational programs (profiles) of the postgraduate course in the direction of "Agriculture" is part of the educational component provided by the curriculum, and the logical conclusion of the research work.

For successful research work, a graduate student should have preliminary training in agricultural vocational courses, possess the initial skills of scientific research, be able to work independently with the main information sources, select literature on a given topic, prepare abstract reviews on the research topic, analyze concepts and entities of ideal objects, possess skills to use information technology and databases.

### **4. Forms of research practice**

The main form of research practice is research work.

The practice takes place in the framework of the implementation of the curriculum for the preparation of graduate students.

At the end of the research practice a graduate student protects a progress report.

During the research practice the main task of the student is the completion of the research on the topic of final qualifying work (Ph.D. thesis). To do this, the graduate student must conscientiously carry out the instructions of the immediate supervisor. A graduate student publishes scientific articles on the topic of scientific research in journals included in the list of HAC and RSCI, speaks at scientific conferences, seminars, round tables, prepares his dissertation.

## 5. Place and time of the research practice

The research practice of the graduate student is carried out at the university, specialized research institutes, experimental agricultural stations and libraries. The place of internship is determined by taking into account the topic of the final qualifying work (master's thesis) of the student. It is carried out during the whole training about the profile of the graduate school.

## 6. Trainee competencies generated as a result of research practice

As a result of the passage of this research practice, the student must acquire the following practical skills, abilities, universal and professional competences:

<b>General Professional Competences</b>		
Ability to carry out scientific research activities in the relevant professional field using modern research methods and information and communication technologies (GPC-1);		GPC-1
<b>Professional competences:</b>		
The ability to independent analysis of available information, identification of fundamental problems, setting goals and objectives of the research, performing laboratory biological research in solving specific tasks by specialization with the use of modern equipment and computer facilities, demonstrating responsibility for the quality of work and scientific reliability of the results		PC-3
Knowledge of history and methodology of Biological sciences, which expand the general professional, fundamental training		PC-4
The ability to creatively apply modern computer technologies in the collection, storage, processing, analysis and transferring of biological information		PC-6
The ability to understand and deeply comprehend the philosophical concepts of natural science, the place of the natural sciences in developing a scientific worldview		PC-7
Use the skills to organize and manage the work in professional collectives, ability to interdisciplinary communication and to free business communication in Russian and foreign languages, work in international collectives		PC-8
The ability to professionally design, submit and report the results of scientific research and industrial-technological work on approved forms		PC-9

## 7. Structure and content of research practice

The total service rendered of the practice is 6 credits, 216 hours.

№	Sections (stages) of practice	Types of production work, in practice, including the independent work of graduate students and service rendered (in hours)		Form of Periodical Assessment
		Room	Indiv. work	
1.	Preparatory	5	5	Oral recitation
2.	Main	5	180	Differentiated tests
3.	Final	5	16	Written report

*Types of activities of graduate students in the production practice  
Stage 1 (Preparatory):*

– an orientation lecture is held in which graduate students are introduced to the goals, objectives and content of research practice. In addition, graduate students receive advice on the design documentation. An individual task for the practice with the head of the practice (supervisor).

***Stage 2 (Main):***

1. Conducting an empirical study, the results of which are consistent with theoretical development.
2. Publication of scientific articles of a graduate student on the topic of scientific research in journals included in the list of HAC and RSCI, theses of conferences in an amount approved by the HAC RF and the university .
3. The drafts of all three chapters of the final qualifying work (PhD thesis) were prepared and discussed.
4. The graduate student is ready to proceed to the design of the final qualifying work and its pre-defense in the block "State final certification."

***The third (final) stage*** provides for summing up the practice. Graduate students summarize their research experience in reports and reports. Teachers analyze the activities of graduate students, note the difficulties they have encountered and the most successful solutions to the tasks set during the course of the classes. The overall assessment of the practice consists of the degree of participation of the graduate student in the scientific life of the department and the university, the level of research on the thesis and documentation design.

**8. Research and scientific-production technologies used in research practice**

1. Profile field and laboratory technologies
2. Multimedia technology

**9. Teaching and methodological support of the independent work of graduate students in research practice:**

The independent work of a graduate student is carried out in accordance with an individual plan, developed by a graduate student and a supervisor, approved in accordance with the schedule of the educational process by the relevant department.

Graduate students in their work use sources on the subject of their scientific research. In this case, the graduate student is obliged to familiarize himself with the works on the topic of his research recommended by his supervisor, scientists working and working in the university, as well as in other scientific and educational organizations representing the main agricultural schools of the country. It is mandatory for a graduate student to familiarize himself with the papers on the topic of his research published in international journals, available through international (including electronic) library systems, which are provided by the University.

A graduate student conducts research independently, avoiding plagiarism, and also minimizing the verbatim borrowing of his previously published works.

Practice involves familiarity with the work of dissertation councils: the study of regulatory materials governing their activities; clarification of the duties of the chairman of the dissertation council, his deputy and academic secretary of the dissertation council; familiarization with the rules of design, submission to the protection and defense of dissertations.

**10. Forms of intermediate certification (based on the results of research practice)**

Following the practice, the graduate student submits a detailed written report. The report includes information of a general nature (surname, name, patronymic of the graduate student; type of practice and place of passage; topic of final qualifying work (PhD thesis); period of

internship), as well as information characterizing the content of the postgraduate student's work research practice.

The report should include information:

- on the implementation of individual tasks;
- on the preparation and publication of articles in journals included in the list of HAC and RSCI;
- on the participation of a graduate student in significant conferences on the subject of his research;
- on participation in the research work of the department (with participation);
- on the degree of readiness of the final qualifying work (PhD thesis).

The report may include documents containing information on the results of the student's work during the period of research practice (for example, texts of articles or reports prepared by a graduate student on materials collected in practice).

The results of each type of practice are determined by conducting an intermediate certification with scoring "excellent", "good", "satisfactory", "unsatisfactory" and in the ECTS system (A, B, C, E). The basis for their submission is the University adopted a point-rating system:

Points PRS	Traditional Grades in Russian Federation	Points equivalent to grades	Grades	Grades ECTS
86 - 100	5	95 – 100	5+	A
		86 – 94	5	B
69 - 85	4	69 – 85	4	C
51 - 68	3	61 – 68	3+	D
		51 – 60	3	E
0 - 50	2	31 – 50	2+	FX
		0 – 30	2	F

Controlled competence code	Types of students' work	Numbers	Max. number of points for 1 work	Maximum total points
GPC-1 PC-3	<b>Participation in the setup of conference</b>	<b>1</b>	<b>10</b>	<b>10</b>
PC-4	<b>Compilation of practice plan</b>	<b>1</b>	<b>10</b>	<b>10</b>
PC-6	<b>Completion of practice plan</b>	<b>1</b>	<b>50</b>	<b>50</b>
PC-7	<b>Preparation of report</b>	<b>1</b>	<b>15</b>	<b>15</b>
PC-8 PC-9	<b>Report in the subdivision/department</b>	<b>1</b>	<b>15</b>	<b>15</b>
<b>Total</b>	<b>Total</b>			<b>100</b>

Trainees who have undergone internship at other educational organizations may be credited with the practice after the submission of the relevant practice report.

A student who has not completed the internship program without a valid reason, has received a negative review of work or an unsatisfactory rating while defending a report, by decision of the dean's office, in consultation with the relevant department, may be sent to the internship again during his free time or seems to be discharged as not fulfilling his duties of conscientious mastering. educational program and curriculum implementation.

Students who have not passed the practice of any type for a good reason, practice on an individual plan.

### 11. Educational and methodical and informational support of research practice

1. On the procedure for awarding academic degrees: Resolution of the Government of the Russian Federation from 24.09.2013 г. №842 // Official Internet portal of legal information <http://www.pravo.gov.ru>, 01.10.2013
2. GOST 7.0.11-2011 Thesis and dissertation dissertation. Structure and design rules. Access mode: <http://protect.gost.ru/document.aspx?control=7&id=179727>.
3. Raizberg B.A. Thesis and degree. Allowance for applicants. Moscow, INFRA-M, 2011.
4. Fundamentals of scientific work and the methodology of dissertation research / G.I. Andreev, V.V. Barvinenko, V.S. Willow and others. - M. : Finance and Statistics, 2012. - 296 c. - ISBN 978-5-279-03527-4 ; The same [Electronic resource]. - URL: <http://biblioclub.ru/index.php?page=book&id=221203>
5. Reference and legal system "Consultant Plus".
6. Reference and legal system "GARANT".
7. Site of HAC of the Ministry of Education and Science Russian Federation <http://vak.ed.gov.ru/>
8. Literature corresponding to the direction of the study.

### 12. Material and technical support of research practice

For carrying out research practice, you need specially equipped classrooms and a computer classroom with workstations providing internet access, as well as multimedia equipment.

The implementation of the practice program should be provided by each graduate student's access to information resources — the institute library library of the RUDN University and the Internet network resources. To use ICT in the educational process, you must have software that allows you to search for information on the Internet, systematizing, analyzing and presenting information, exporting information to digital media.

Domestic premises must comply with applicable sanitary and fire regulations, as well as safety requirements.

#### Implementor:

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