

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

Agrarian and Technological Institute

**PROGRAM
STATE FINAL CERTIFICATION**

Direction of training / specialties 35.06.01 «Agriculture»

Profile
06.01.07 Plant Protection

Graduate qualifications: Researcher. Research instructor указывается квалификация выпускника в соответствии с приказом Минобрнауки России от 12.09.2013г. №1061)

Отформатировано: русский

The program of the State final certification for graduate students of the Federal State Educational Institution of Higher Education "Peoples' Friendship University of Russia" in the direction of 35.06.01 "Agriculture", Profile: "06.01.07 Plant Protection", compiled in accordance with the requirements of the Federal State Educational Standard to the mandatory minimum required for full-fledged training of highly qualified personnel in this area.

The program of the State final certification in the direction 35.06.01 "Agriculture", Profile: 06.01.07 Plant protection approved at the meeting

Academic Council _____

Meeting Protocol № ___ from « ___ » _____ 20__ г.

Chairman's signature

Academic Council

: _____ /

Dovletyarova E.A./

Отформатировано: английский (США)

The purpose of the state final certification is to assess the theoretical knowledge of graduates, as well as their skills in solving pedagogical, scientific, scientific and practical (research) and other professional tasks of a theoretical

and applied nature within the direction, taking into account the profile of training.

- **The tasks of the state final certification are:**checking the quality of teaching the basic natural science laws and phenomena necessary in professional activity;
- determination of the level of theoretical and practical readiness of the graduate to perform professional tasks in accordance with the acquired qualifications;
- establishing the degree of a person's aspiration for self-development, improving their qualifications and skills;
- checking the ability to find organizational and managerial solutions in non-standard situations and the willingness to bear responsibility for them
- checking the knowledge of theoretical and experimental research methods in the field of agriculture;
- checking the readiness to conduct teaching activities in educational programs of higher education;
- increasing the efficiency of using scientific and technological achievements, reforming the scientific sphere and stimulating innovation.

As a result of passing the state final certification, the student must have formed universal, general professional and professional competencies:

- ability to critically analyze and evaluate modern scientific achievements, generate new ideas when solving research and practical problems, including in interdisciplinary fields (UC-1)
- readiness to use modern methods and technologies of scientific communication in the state and foreign languages (UC-4)
- the ability to plan and solve problems of one's own professional and personal development (UC-6)
- possession of the methodology of theoretical and experimental research in the field of agriculture, agronomy, plant protection, breeding and genetics of agricultural crops, soil science, agrochemistry, landscape development of territories, technologies for the production of agricultural products (GPC-1)
- the ability to develop new research methods and their application in the field of agriculture, agronomy, plant protection, breeding and genetics of agricultural crops, soil science, agrochemistry, landscape development of territories, technologies for the production of agricultural products, considering the observance of copyright (GPC-3)
- readiness to organize the work of a research team on the problems of agriculture, agronomy, plant protection, selection and genetics of agricultural crops, soil science, agrochemistry, landscape development of territories, technologies for the production of agricultural products (GPC-4)
- readiness for teaching activities in educational programs of higher education (GPC-5)

Thus, for the state final exam, the graduate must: ***Know:***

- elements of adaptive landscape farming and agroecology; the basis of integrated plant protection - the control of weeds, pests and diseases at different stages of the crop rotation

- modern research methodology.

- modern technologies of information search and processing

- patterns of formation of phytopathogenic entomofauna; patterns of occurrence and development of epiphytotic; the influence of individual environmental factors on the dynamics of populations of phytopathogens; directions of adaptation of harmful organisms.

- Basic methods of plant protection; groups of chemical and biological preparations for pest, disease and weed control; advantages and disadvantages of chemical and biological pesticides; the nature of the action of various plant protection products; compatibility of drugs from different groups; methods of applying plant protection products; safety measures when working with pesticides;

Be able to:

- to develop agrotechnical requirements for the use of mineral and organic fertilizers and means of protecting agricultural plants from pests, diseases and weeds;

- to organize the educational process of training at different levels and profiles of training in higher education;

- to carry out planning of educational work;

- to determine the phase of the dynamics of the population of phytopathogens; to assess the influence of various environmental factors on intra- and interpopulation - relations within the phytopathogenic complex; determine economic thresholds of harmfulness and use them when building a system of protective measures;

- choose methods of plant protection at various stages of the formation of agrophytocenosis; determine the causal relationship between the nature of plant damage and the etiology of the disease; choose means of protection, considering the nature of the culture, phytopathogenic complex and the ecological situation.

Own:

- the skills of choosing rational farming systems, considering the peculiarities of natural and climatic zones; determination of weed infestation of crops, the incidence of diseases and pests and the yield of agricultural crops;

- building skills and methods for assessing the effectiveness of a complex of protective measures on various crops

- skills of phytopathological diagnostics for the selection of plant protection products and methods of their application;

- methodology of scientific and practical professional activity.

**The list of questions of the Final state certification
in the part of Higher education pedagogy**

1. General characteristics of the main theoretical and methodological aspects of higher education pedagogy.
2. Modern development of education in Russia and abroad.
3. Fundamentalization of education in higher education.
4. Object and subject of study of pedagogy and psychology of higher education.
5. Brief description of the current state of higher education in Russia.
6. Modern trends in the development of higher education abroad and the prospects for the development of higher education.
7. Informatization of education in higher education.
8. General characteristics of the main theoretical and methodological aspects of pedagogy and psychology of higher education.
9. Modern development of education in Russia and abroad.
10. Fundamentalization of education in higher education.
11. Object and subject of study of pedagogy and psychology of higher education.
12. Brief description of the current state of higher education in Russia.
13. Modern trends in the development of higher education abroad and the prospects for the development of higher education.
14. Bologna Declaration and Bologna Process.
15. Didactics of higher education. General concept of didactics.
16. The essence of the competence-based approach in education.
17. Characteristics of the structure of pedagogical activity.
18. Teaching ability and teaching excellence
19. Forms of organization of the educational process in higher education.
20. Active self-awareness as the main characteristic of the subject of education in higher education.
21. The general concept of activity.
22. Activity and cognitive processes. Cognition as activity.
23. Trends in the development of innovations in higher education.
24. Problems of innovative activity of teachers of higher education.
25. The role and place of the lecture at the university.
26. Seminars and workshops in higher education.
27. Independent work of students as the development and self-organization of the personality of students.
28. Fundamentals of pedagogical control in higher education.
29. The introduction of scientific achievements and the dissemination of advanced teaching experience as an innovative process in higher education.
30. Pedagogical design in higher education.
31. Pedagogical technologies and their classification.
32. Modular training in the context of modernization changes in the Russian system of higher professional education.
33. Concept and principles of modular learning.
34. The technology of problem learning.

35. Trends and ideas for the development of innovative activities of teachers of higher education.

36. Technology of sign-contextual learning. Business game as a leading form.

37. Description of the case method.

38. Characteristics of the project method.

39. Heuristic learning technologies.

40. Technology of developing education.

41. Technology of distance learning.

42. Online training based on webinar technology.

43. The theory of the planned formation of mental actions as an example of the consistent implementation of the activity approach in teaching.

44. Psychology of personality and problems of education in higher education.

45. Characteristics of the structure of the personality.

46. Characteristics of personality development.

47. Development of creative thinking of students in the learning process.

48. Psychodiagnostics in higher education.

49. Analysis of the professional activity of a university teacher.

50. Psychological factors of successful training of students at the university.

Profile ‘Plant Protection’

Questions

1. Insects from the orders are Homoptera, Hemiptera and Diptera - beet pests. Systematic position, biology, harmfulness. Organization of complex protection of beets.
2. The system of immunogenetic barriers of plants that determine resistance to pests.
3. Specialized and polyphagous pests of flax and sunflower. Systematic position, biology, harmfulness. Organization of comprehensive protection of flax and sunflower.
4. The most important sunflower diseases and a system of measures to combat it
5. Entomopathogenic microorganisms and their use in ecologically safe plant protection.
6. The most important diseases of forage grasses and a system of measures to combat them.

7. Quarantine pests of limited distribution in the territory of the Russian Federation. Detection and identification methods. Pest risk assessment.
8. Pests of perennial legumes. Systematic position, biology, harmfulness. Organization of comprehensive protection of perennial legumes.
9. The most important diseases of perennial legumes and the system of measures to combat them.
10. Plant pest resistance factors identified by R. Painter. Change in economic thresholds of harmfulness for resistant varieties.
11. Pests of annual legumes. Systematic position, biology, harmfulness. Organization of comprehensive protection of legumes.
12. The doctrine of plant immunity to diseases as a theoretical basis for creating varieties of agricultural crops that are resistant to harmful organisms.
13. Polyphagous insects that damage the underground parts of agricultural plants. Systematic position, biology, harmfulness. Organization of comprehensive protection.
14. Methods for accounting and forecasting the development and harmfulness of plant diseases as the basis for ecologized plant protection.
15. Ecological foundations of plant protection: ways of using beneficial organisms in the fight against pests and diseases.
16. Beetles are pests of grain crops. Systematic position, biology, harmfulness. Organization of comprehensive protection of grain crops.
17. Rust diseases of grain crops and the system of measures to combat them
18. Types of forecasts for lead time and their tasks. Forecast errors. Significance for sustainable plant protection.
19. The use of aphidophages in greenhouses as an ecologically safe method of plant protection.
20. Features of the use of herbicides - sulfonylurea derivatives (titus, harmony, granstar, etc.) on monocotyledonous and dicotyledonous agricultural crops to combat weeds in agrocenoses.
21. Butterflies and ticks are pests of agricultural products during storage. Systematic position, biology, harmfulness.

22. The most important phytoplasmic and viral diseases of tomato and a system of measures to combat them.
23. Features of the use of herbicides from the group of heterocyclic compounds (lontrel, basagran, prometrin, zenkor, etc.) on agricultural crops as a way to combat weeds in the agrocenosis.
24. Insects from the order Homoptera are pests of protected ground crops. Systematic position, biology, harmfulness. Organization of comprehensive protection.
25. The most important potato mycoses and the system of measures to combat them.
26. Nematodes and slugs are pests of agricultural crops. The organization of measures to fight take off.
27. The most important diseases of potatoes during storage and a system of measures to combat them as a way to reduce losses during storage.
28. The role of predatory insects in the regulation of the number of harmful organisms in the agrocenosis.
29. Rodents - pests of agricultural crops, Main species, organization of measures to reduce the number.
30. The most important diseases of flax and a system of measures to combat them.
31. The role of parasitic insects in the regulation of the number of harmful organisms in the agrobiocenosis.
32. Beetles are pests of agricultural products during storage. Systematic position, biology, harmfulness. Control measures as a way to reduce losses of crop production.
33. Methods of using plant protection chemicals (spraying, fumigation, dressing, etc.). Improvement paths, safety precautions. Biological, economic and economic efficiency of the use of modern drugs.
34. The most important diseases of strawberries and the system of measures to combat them.
35. The value of the biological method of plant protection for the regulation of the number of harmful organisms in the agrocenosis.

36. The most important diseases of fruit stone fruits and the system of measures to combat them.
37. Classification of herbicides by chemical structure, nature of action on cultivated and weed plants, terms and methods of application. Examples.
38. Pests of branches, boles of fruit and berry crops. Systematic position, biology, harmfulness. Organization of comprehensive protection.
39. Diseases of the trunk and skeletal branches of apple and pear and a system of measures to combat them.
40. Quarantine pests absent on the territory of the Russian Federation. Pest risk assessment and measures to prevent their importation (penetration).
41. Sucking pests of fruit crops. Systematic position, biology, harmfulness. Organization of comprehensive protection.
42. Diseases of leaves and fruits of apple and pear and a system of measures to combat them.
43. Breeding methods of predatory aphidimiza gall midge and phytoseiulus for environmentally safe control of phytophages in greenhouses.
44. Spider mites and thrips are pests of protected ground crops. Systematic position, biology, harmfulness. Organization of comprehensive protection.
45. The most important diseases of cucumber in greenhouses and a system of measures to combat them.
46. Chemical method of plant protection. Advantages and disadvantages. Biological, economic and economic efficiency of the use of pesticides.
47. Diptera are pests of vegetable crops. Systematic position, biology, harmfulness. Organization of comprehensive protection.
48. Integrated crop protection. The concept of the economic threshold of harmfulness (EPV).
49. The impact of pesticides on the environment. Ways to reduce the negative impact on agrobiocenoses.
50. The sum of effective temperatures, its use in the forecast, positive and negative sides. Role in organizing protective measures.

Evaluation tools designed to establish, in the course of certification tests, the compliance / non-compliance of the level of training of graduates who have completed the development of EP VO in the direction of training / specialty, the requirements of the corresponding OS VO RUDN / FGOS VO.

The time taken to prepare a written response is 150 minutes. The clinical discipline exam ticket includes 3 questions. The completeness and correctness of the answer, the literacy of the presentation are assessed. Each question is rated on a scale of 1 to 33 points.

For the correct completion of all written assignments, a maximum of 100 points can be received. The results of the test part of the exam are considered in favor of the student in case of disagreement between the members of the examination committee.

The final grade for each part is set based on the number of points scored by the applicant (Table 1).

Table 1.

Exam Grading Table

Total points	Final Grade
< 50	Unsatisfactory
56 – 68	Satisfactory
69 – 85	Good
86 – 100	Excellent

The grade "5" (good) is given if:

- the content of the examination card material is fully disclosed;
- the material is presented correctly, in a certain logical sequence;
- demonstrated systematic and deep knowledge of program material;
- terminology is used accurately;
- shows the ability to illustrate theoretical provisions with specific examples, to apply them in a new situation;
- demonstrated the assimilation of previously studied related issues, the formation and stability of competencies, abilities and skills;
- the answer sounded independently, without leading questions;
- demonstrated the ability to creatively apply knowledge of theory to solving professional problems;
- demonstrated knowledge of modern educational and scientific literature;
- One or two inaccuracies were allowed in the coverage of secondary issues, which are corrected according to the remark.

The grade "4" (good) is given if:

- questions of the examination material are presented in a systematic and consistent manner;
- demonstrated the ability to analyze the material, but not all conclusions are reasoned and evidentiary;
- the assimilation of the main literature is demonstrated.
- the answer basically satisfies the requirements for the mark "5", but at the same time has one of the drawbacks:
- there are small gaps in the statement that did not distort the content of the answer;
- one or two flaws were made when covering the main content of the answer, corrected according to the comment of the examiner;
- there was a mistake or more than two shortcomings in the coverage of secondary questions, which are easily corrected at the comment of the examiner.

The grade "3" (satisfactory) is given if:

- the content of the material is incomplete or inconsistently disclosed, but a general understanding of the issue is shown and skills are demonstrated that are sufficient for further
- assimilation of the material;
- mastered the main categories on the considered and additional issues
- there were difficulties or mistakes in the definition of concepts, the use of terminology, corrected after several leading questions
- with incomplete knowledge of the theoretical material, insufficient formation of competencies, abilities and skills is revealed, the student cannot apply the theory in a new situation;
- the assimilation of the main literature is demonstrated

The grade "2" (unsatisfactory) is given if:

- the main content of the educational material has not been disclosed
- there is a lack of knowledge or misunderstanding of the most or the most important part of the training material
- mistakes were made in the definition of concepts, when using terminology, which are not corrected after several leading questions
- competencies, skills and abilities are not formed.

Developer _____

E.-N. Pakina



Associate Professor _____

Отформатировано: английский (США)

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