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**Federal State Autonomous Educational Institution
Higher Education "Peoples' Friendship University of Russia"
Agrarian-Technological Institute**

(name of the main training unit (PMO) - the developer of the EP HE)

WORK PROGRAM OF THE DISCIPLINE

Weed Biology

(name of discipline/module)

35.0 4.04 Agronomy

(code and name of the direction of training/specialty)

The development of the discipline is carried out within the framework of the implementation of the main professional educational program of higher education (EP HE):

Weed Biology

(name (profile/specialization) of vo)

1. THE PURPOSE OF MASTERING THE DISCIPLINE

The purpose of mastering the discipline "Biology of weedy vegetation" is to form students' skills in mastering a wide range of knowledge on the biology of weeds and measures to combat them; studying methods for assessing the state of agrophytocenoses and methods of correcting the technology of cultivation of crops in various conditions, taking into account the IHR, scientific and practical foundations for assessing and regulating soil fertility, increasing the yield of agricultural crops crops and quality of crop products.

2. REQUIREMENTS FOR THE RESULTS OF MASTERING THE DISCIPLINE

Mastering the discipline "Biology of Weedy Vegetation" is aimed at forming the following competencies (part of the competencies) among students:

Table 1 - The list of competencies formed by students during the development of the discipline (the results of mastering the discipline)

Code	Competence	Competency Achievement Indicators
OPK-1	Able to solve the problems of development of the field of professional activity and (or) organization on the basis of analysis of the achievements of science and production	OPK-1.2 Uses methods of solving problems in the development of agronomy based on the search and analysis of modern achievements of science and production
OPK-4	Able to conduct research, analyze results and prepare reporting documents	OPK-4.2 Uses information resources, scientific, experimental and instrumental base for research in agronomy
		OPK-4.5 Carries out work to protect plants from harmful objects
		OPK-4.6 Develops and improves measures to protect plants from harmful objects

3. THE PLACE OF DISCIPLINE IN THE STRUCTURE OF THE OP VO

The discipline "Biology of weedy vegetation" refers to the mandatory part of block B1.B.DV.02.02.

Within the framework of the EP HE, students also master other disciplines and / or practices that contribute to the achievement of the planned results of the development of the discipline "Biology of weedy vegetation".

Table 2 – List of components of the HE OP that contribute to the achievement of the planned results of the discipline

Code	Name of competence	Previous disciplines/modules, practices	Subsequent disciplines/modules, practices
OPK-1	Able to solve the problems of development of the field of professional activity and (or) organization on the basis of analysis of the achievements of science and production		
OPK-4	Able to conduct research, analyze results and prepare reporting documents		

4. THE SCOPE OF DISCIPLINE AND TYPES OF EDUCATIONAL WORK

The total labor intensity of the discipline "Biology of weedy vegetation" is 3 credits.

Table 3 – Types of educational work by periods of mastery of OP HE for full-time education

Type of educational work	Total, aca. hrs.	Semester
		2
Contact work	33	33
including:		
Lectures (LC)	11	11
Laboratory works (LR)	–	–
Practical/Seminar Classes (FPs)	22	22
Independent work of students	71	71
Control (exam/test with grade)	4	4
Overall labor intensity of the discipline	aca. hrs.	108
	Zach. Units.	3

Table 4 – Types of educational work by periods of mastering the OP HE for full-time and part-time education

Type of educational work	Total, aca. hrs.	Semester
		3
Contact work	34	34
including:		
Lectures (LC)	17	17
Laboratory works (LR)	–	–
Practical/Seminar Classes (FPs)	17	17
Independent work of students	49	49
Control (exam/test with grade)	25	25
Overall labor intensity of the discipline	aca. hrs.	108
	Zach. Units.	3

Table 5 – Types of educational work by periods of mastering the OP HE for full-time education

Type of educational work	Total, aca. hrs.	Semester
		2
Contact work	20	20
including:		
Lectures (LC)	–	–
Laboratory works (LR)	–	–
Practical/Seminar Classes (FPs)	20	20
Independent work of students	79	79
Control (exam/test with grade)	9	9
Overall labor intensity of the discipline	aca. hrs.	108
	Zach. Units.	3

5. CONTENTS

Table 6 – Content of the discipline (module) by types of educational work

Name of the discipline section	Contents	Type of educational work
Section 1. The concept of weeds.	Topic 1.1. Separation of weeds into groups.	LC
	Reduced quality of plant products as a result of littering	NW
Section 2. Biological features and classification of weeds	Topic 2.1. Biological features of weedy plants. Classification of weeds.	LC
	Topic 2.2. The concepts of "weedy vegetation", "weediness" and "weeds".	NW
		LC
Topic 2.3. Ecological features of different types of weeds.	NW	

Section 3. Harmfulness of weeds.	Topic 3.1. Harmfulness of weedy plants: reducing yields, shading, provoking a lack of moisture in the soil and reducing its temperature, the spread of pests and pathogens, etc.	LC NW
	Topic 3.2. Estimation of crop contamination Indirect damage caused by weeds.	LC NW
Section 4. Measures to combat weeds.	Topic 4.1. The relationship between cultivated and weedy plants in agrophytocenoses. Measures to combat weeds	LC NW
Section 5. Chemical weed control agents.	Topic 5.1. The concept of herbicides: A classification of modern herbicides.	LC NW
	Topic 5.2. The mechanism and causes of the selective effect of herbicides on plants.	LC NW
	Topic 5.3. Conditions for the effectiveness of the action of herbicides.	LC NW
Section 6. Terms and methods of application of herbicides:	Topic 6.1. Timing of herbicide application Methods of application and treatment with herbicides.	LC NW
	Topic 6.2. Technological schemes for the use of herbicides: continuous spraying; local methods of applying herbicides to the soil; the use of herbicides in the form of foam; Notethe use of herbicides in irrigation.	LC NW
Section 7. Biological weed control measures	Topic 7.1. Introduction into crop rotation of crops capable of suppressing certain types of weeds.	LC NW
	Topic 7.2. Use of phytophages: The use of phytopathogenic organisms, as well as viruses that cause diseases of weeds.	LC NW
	Topic 7.3. The use of products of biosynthesis of organisms, some bacteria and fungi that are safe for cultivated plants and humans.	LC NW
Section 8. Quarantine weeds	Topic 8.1. Biological characteristics. Representatives. Origin. Organization of quarantine Service.	LC NW

6. MATERIAL AND TECHNICAL SUPPORT OF DISCIPLINE

Table 7 – Discipline Logistics

Audience type	Equipping the classroom	Specialized educational/laboratory equipment, software and materials for mastering the discipline
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Lecture Hall	Auditorium for lecture-type classes, equipped with a set of specialized furniture; whiteboard (screen) and technical means of multimedia presentations.	
Seminary	An auditorium for seminar-type classes, group and individual consultations, current control and intermediate certification, equipped with a set of specialized furniture and technical means of multimedia presentations.	
Computer Lab	Computer class for classes, group and individual consultations, current control and intermediate certification, equipped with personal computers (in the amount of _____ pieces), a whiteboard (screen) and technical means of multimedia presentations.	
For independent work of students	An auditorium for independent work of students (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to EIOS.	

7. EDUCATIONAL, METHODOLOGICAL AND INFORMATION SUPPORT OF THE DISCIPLINE

Main literature:

1. Bazdyrev, G. I. Selezhenie s osnovami soilovedenie i agrohimi. / Bazdyrev, G.I., Safonov A.V. - Moscow "Koloss" 2009. – 415 p.
2. Safonov, A. V. Tekhnologiya proizvodstva proizvodstva; Kolos 2010 – 487s.
3. Denisov, E. P. Sornye plants saratovskoi oblast'. Saratov 2011. – 121 p.

Additional literature:

1. V.I. Manzhesov, I.A. Popov, D.S. Shchedrin, S.V. Kalashnikova, T.N. Tertychnaya Technology of storage, processing and standardization of production of production. Troitsky Bridge 2010. - 704 p.
2. S.V. Kalashnikova V.I., Manzhesov, I.V. Maksimov Standardization of plant production. VSAU 2011 – 303 s
3. V.I. Manzhesov., I.A. Popov., D.S. Shchedrin Technology of storage of plant products Voronezh: Publishing House of VSAU named after K.D. Glinka 2009 – 249 s
4. A.P. Solodovnikov, L.N. Nurgalieva, N.P. Molchanova, Methodical instructions and workbook for laboratory classes in the discipline "General Agriculture" for students of the correspondence department of the direction of training 110400.62 "Agronomy" profile agronomy. FSBEI HPE "Saratov GAU", 2013, 36 p.
5. E.P. Denisov, V.F. Kulkov et al. Scientific foundations of agriculture in the Volga region. Saratov, SGAU 2008. – 153 p.
6. E.P. Denisov, A.P. Solodovnikov et al. "Features of agriculture in the steppe Volga region" Uch. methodical manual Saratov, SSAU 2013. – 153 p.

Resources of the information and telecommunication network "Internet":

1. RUDN University EBS and third-party EBS, to which university students have access on the basis of concluded contracts:
 - Electronic library system RUDN University – EBS RUDN University <http://lib.rudn.ru/MegaPro/Web>
 - EBS "University Library Online" <http://www.biblioclub.ru>
 - EBS Jurait <http://www.biblio-online.ru>
 - EBS "Student Consultant" www.studentlibrary.ru

- EBS "Lan" <http://e.lanbook.com/>

- EBS "Trinity Bridge"

2. Databases and search engines:

- <http://quakes.globalincidentmap.com/>,
- <http://www.globalincidentmap.com/>,
- http://earthquake.usgs.gov/earthquakes/recenteqsww/Quakes/quakes_all.php,
- http://www.thesis.lebedev.ru/forecast_activity.html
- RUDN University Educational Portal (<http://web-local.rudn.ru>);
- University Library Online: <http://www.biblioclub.ru>
- National digital resource "RUKONT": <http://rucont.ru>
- IQlib: <http://www.iqlib.ru>
- ScienceDirect: <http://www.sciencedirect.com>
- EBSCO: <http://search.ebscohost.com>
- Sage Publications: <http://online.sagepub.com>
- Springer/Kluwer: <http://www.springerlink.com>
- Taylor & Francis: <http://www.informaworld.com>
- Web of Science: <http://www.isiknowledge.com>
- University Information System RUSSIA: <http://www.cir.ru/index.jsp>
- [Http://www.studmedlib.ru](http://www.studmedlib.ru) Student Advisor

Educational and methodical materials for independent work of students in the development of the discipline / module:

1. A course of lectures on the discipline "Biology of weedy vegetation".

8. ASSESSMENT MATERIALS AND POINT-RATING SYSTEM FOR ASSESSING THE LEVEL OF FORMATION OF COMPETENCIES IN THE DISCIPLINE

Assessment materials and a point-rating system for assessing the level of formation of competencies (part of competencies) based on the results of mastering the discipline "Biology of Weedy Vegetation" are presented in the Annex to this Work Program of the discipline.

DEVELOPERS:

Associate Professor of agrobiotechnology
department

(position, BCD)

(Signed)

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