

MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
Educational Institution
«BELARUSIAN STATE MEDICAL UNIVERSITY»

APPROVED

by Rector of the Educational Institution
«Belarusian State Medical University»

S.P.Rubnikovich



24. 02. 2026

Reg. No. UD-0912-01-06/2526 /p.

**PROGRAM
OF PRACTICAL SESSIONS**

«PHARMACOGNOSTIC PRACTICE»

**for the specialty
7-07-0912-01 «Pharmacy»**

THE COMPILERS:

O.V. Mushkina, Head of the Pharmacy Organization Department with advanced training and retraining course of Educational Institution «Belarusian State Medical University», PhD; Associate Professor;

N.S.Gurina, Dean of the pharmaceutical faculty of the Educational Institution «Belarusian State Medical University», Doctor of biological sciences, Professor;

O.A.Kuzniatsova, Associate Professor of the Pharmacy Organization Department with advanced training and retraining course of Educational Institution «Belarusian State Medical University», PhD;

O.A.Yorshyk, Associate Professor of the Pharmacy Organization Department with advanced training and retraining course of Educational Institution «Belarusian State Medical University», PhD

RECOMMENDED FOR APPROVAL:

By the Organization of Pharmacy with advanced training and retraining course Department of Educational Institution «Belarusian State Medical University» (protocol No. 9 of 19.02.2026);

By the Council of the Pharmaceutical Faculty of the Educational Institution «Belarusian State Medical University» (protocol No. 2 of 24.02.2026)

EXPLANATORY NOTE

Practice session is aimed at developing practical skills, consolidating theoretical knowledge, and mastering primary skills.

The internship program was developed in accordance with:

educational standard of special higher education in the specialty 7-07-0912-01 «Pharmacy», approved and put into effect by Resolution No. 302/127 of the Ministry of Education of the Republic of Belarus and the Ministry of Health of the Republic of Belarus dated 09.01.2023;

the curriculum of the institution of education in the specialty «Pharmacy», approved on 04.16.2025, registration # 7-07-09-0912-01/2526.

The purpose of the practice session «Pharmacognostic» is to consolidate the acquired theoretical knowledge and practical skills that make up the content of the pharmacist's professional activity.

Objectives of the educational practice:

mastering the skills of cultivation, harvesting, and storage of medicinal plant raw materials (MPRM);

mastering the skills of standardization, application, and release of MPRM and medicinal herbal preparations.

In total, 108 academic hours are allocated for the practice session «Pharmacognostic» during 2 weeks (12 working days) at the end of the 6th semester and at the beginning of the 7th semester.

Of these, 72 hours of classroom instruction, 36 hours of independent student work.

The intermediate certification is carried out in the form of a differentiated assessment at the end of the internship.

REQUIREMENTS FOR EDUCATIONAL PRACTICE

Upon completion of the Pharmacognostic practice the student must

know:

morphological signs of MPRM approved for use in medical practice, possible admixtures;

general principles of rational harvesting of medicinal plants, measures for the protection of medicinal plant thickets;

nomenclature of medicinal plants;

the nomenclature of drugs of animal and natural origin;

the nomenclature of pharmaceutical companies of the Republic of Belarus;

be able to:

identify by external signs of medical plant (MP) in natural habitats;

determine stocks, possible volumes of MPRM blanks;

possess:

skills of identification in MP in natural phytocenoses;

skills of standardization, storage and application of MPRM and medical herbal preparations;

pharmaceutical consulting skills in the implementation of MPRM and medical herbal preparations;

The student's fulfillment of the credit standards guarantees the acquisition of practical training of the required level.

GENERAL ISSUES OF ORGANIZATION AND QUALITY CONTROL OF THE IMPLEMENTATION OF THE PRACTICE

Students' educational practice is conducted in the simulation and certification pharmacy of the educational institution «Belarusian State Medical University», classrooms of the Department of Pharmacy Organization with advanced training and retraining, course, natural phytocenoses in and around Minsk, as well as on the basis of the Botanical Garden of the educational institution «Belarusian State Medical University» (hereinafter referred to as the practice base).

Academic practice is not combined with the learning process.

The general management and organization of the students' practice is carried out by the head of the practice from the university.

The general management and organization of the practice at the Faculty of Pharmacy is carried out by the head of the practice from the faculty.

The direct management of the educational practice is carried out by the head of the practice from the Department of Pharmacy Organization with advanced training and retraining course at the university.

A student is allowed to practice if he has a certificate of health status. On the first working day, the head of the practice from the Department of Pharmacy Organization conducts all necessary briefings with a course of advanced training and retraining at the university. Each student is subject to the internal regulations of the practice base, the rules and regulations of medical ethics and deontology, and the requirements for safe work in the workplace. After completing the briefings, students are subject to all the rules of the internal labor regulations of the internship base. Students' working hours are monitored by the head of the practice from the department and the head of the study group.

In accordance with the Regulations on the practice of students, upon completion of the internship, a differentiated credit is given to the head of the practice from the University department.

A student is allowed to take a differentiated credit for academic practice if:

- all the requirements for completing the internship are met;
- availability of an internship diary;
- availability of a report on the implementation of the practice program;
- performing an individual task for harvesting MPRM.

The differentiated credit for academic practice includes:

- checking the internship diary;
- checking the report on the implementation of the practice program;
- checking the individual MPRM procurement assignment.

When marking, the average score for all practice days is taken into account. When evaluating a student's work, his knowledge, skills, completeness and quality of the practical program, discipline, participation in hygienic education and upbringing are taken into account.

FORMS OF CONTROL OF PRACTICE SESSION

The head of the practice from the department conducts a daily interview with students, where all questions that have arisen during the work are discussed, theoretical knowledge is evaluated, and practical skills are correctly performed. The head of the internship from the department engages students in the work provided for by the internship program, monitors the correctness of the internship diary and the report on the implementation of the internship program. The results of the interview and the completion of the internship program are recorded in the electronic journal of student performance.

FORMS OF CONDUCTING PRACTICE

In the course of the practice session «Pharmacognostic», students get acquainted with the objects of their future professional activities, master and consolidate the skills of determining the yield and reserves of medicinal plants; carrying out cultivation of medicinal plants, harvesting, primary processing, drying, standardizing, storing medicinal plants; owning the nomenclature of pharmaceutical enterprises of the Republic of Belarus, the nomenclature of medicinal products and medicinal products, their release forms.

The educational practice «Pharmacognostic» is carried out in the following forms:

- the presence of MPRM during the determination of yields and reserves;
- self-cultivation of MP, collection, primary processing, drying, bringing to standard condition, storage of MPRM;
- the presence of natural phytocenoses in the study of ;
- independent study of the nomenclature of pharmaceutical enterprises of the Republic of Belarus;
- independent study of the MPRM and medical herbal preparations nomenclature and their release forms.

THE CONTENT OF THE PRACTICE

1. The raw material base of medicinal plants

Cultivated, wild plants of the Republic of Belarus.

Determination of yields and MPRM reserves. Rational use of natural resources, protection of forests (identification of thickets, inventory accounting, mapping; reproduction of wild forests).

2. Fundamentals of the procurement process of medicinal plant raw materials

Collection of MPRM of various morphological groups: leaves, grasses, flowers, buds, fruits, seeds, bark, roots, rhizomes.

Primary processing, drying, bringing to standard condition, storage.

Good practices for growing, harvesting, and storing MPRM.

3. Medicinal plants of natural phytocenoses

The range, places of growth, and external signs of the natural phytocenoses producing MP species. Differences from morphologically similar plant species and

MPRM admixture.

4. Pharmaceutical enterprises of medicinal plant raw materials and herbal preparations of the Republic of Belarus

The nomenclature of pharmaceutical enterprises of the Republic of Belarus.

The nomenclature of MPRM and medical herbal preparations, their forms of release.

5. Nomenclature of medicinal plant raw materials and herbal preparations

Features of standardization, storage, application and release of MPRM and medical herbal preparations. Pharmaceutical consulting in the implementation of MPRM and medical herbal preparations.

INFORMATION AND METHODOLOGICAL PART

CALENDAR AND THEMATIC PLAN

Name of the work performed	Number of classroom hours
1. Determination of MPRM reserves. Mastering the methodology for determining the yield of wild plants	12
2. Acquaintance with cultivated plants and methods of their cultivation. Development of the MPRM harvesting process, herbarization of the MP	12
3. Acquaintance with MP of natural phytocenoses. Development of the MPRM harvesting process, herbarization of the MP	18
4. Pharmaceutical consulting in the sale of herbal preparations with expectorant effect and sore throat	6
5. Pharmaceutical consulting in the sale of herbal preparations with sedative effect	6
6. Pharmaceutical consulting in the sale of herbal preparations used in diseases of the gastrointestinal tract	6
7. Pharmaceutical consulting in the implementation of herbal preparations with diuretic, uroantiseptic and immunomodulatory effects	6
8. Analysis of accounting documents and individual assignment materials	6
Total:	72

A LIST OF PRACTICAL SKILLS ACQUIRED DURING PRACTICE

Levels of mastering practical skills:

1 – to know theoretically, to be professionally oriented, to know the indications for conducting;

2 – to know theoretically, to assess, to participate in the work of the medical staff;

3 – to know theoretically, to perform independently.

If there are no conditions in the healthcare organization for mastering a skill at levels 2 (3), the student must master practical skills according to level 1.

№	Practical skills	Recommended	
		Number	The level of development
1.	Herbarization of medicinal plants	10	2,3
2.	Harvesting, primary processing, drying, and standartization of medicinal plant raw materials of morphological groups: leaves, herbs, flowers, buds, fruits, seeds, bark, roots, and rhizomes	6	3
3.	Determination of yields and stocks of medicinal plant raw materials	3	3
4.	Cultivation and cultivation of medicinal plants	6	3
5.	Pharmaceutical consulting in the sale of herbal preparations with expectorant effect	1	2,3
6.	Pharmaceutical consulting in the sale of herbal preparations with sedative effect	1	2,3
7.	Pharmaceutical consulting in the implementation of herbal preparations with immunomodulatory effects	1	2,3
8.	Pharmaceutical consulting in the sale of herbal preparations used in diseases of the gastrointestinal tract	1	2,3
9.	Pharmaceutical consulting in the sale of herbal preparations with diuretic and uroantiseptic effects	1	2,3
10	Pharmaceutical consulting in the sale of herbal medicines for sore throat	1	2,3

REQUIREMENTS FOR THE CONTENT OF ACCOUNTING DOCUMENTATION

During the practice, the student accomplishes the practice program under the supervision of the head of the practice from the department, performs the internship program and fills in the practice diary in accordance with **Appendix 1**. Based on the results of the practice, the student prepares a written report on the implementation of the practice program in accordance with **Appendix 2**. In the report, the student marks the acquired practical skills, their number and level of mastery. The report must be signed by the student, the head of the practice. The student's practice diary / report on the completion of the practice program and other accounting documents should be

executed on A4 paper using the MS Word application. The accounting documentation is kept at the medical University in accordance with the procedure determined by the legislation in the field of archival affairs and record keeping.

THEMS OF INDIVIDUAL TASKS

During the practice, the student independently performs an individual task.

The individual task of the student in the educational practice «Pharmacognostic» is to prepare 500 g of MPRM of a given MP.

MPRM harvesting includes the following stages: raw material collection, primary processing, drying, standardizing, packaging, and storage.

The MPRM must comply with all the requirements of the regulatory documentation.

The dried MPRM is packed in a paper bag or cardboard box.

A label containing information describing the collected MPRM is affixed to a paper bag or cardboard box.:

Educational Institution «Belarusian state medical university» Department of pharmacy organization with advanced training and retraining course
Name of MPRM (latin) -
Name of MPRM (russian) -
Species -
family –
Place of harvesting:
Date of harvesting:
Mass of MPRM:
Name of student who collected MP:

MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS

Educational institution

«BELARUSIAN STATE MEDICAL UNIVERSITY»

The department of pharmacy organization
with advanced training and retraining course**DIARY**

of practical training in «Pharmacognostic»

Student

Specialty

Faculty

Course, group No.

Terms of the internship

Practice supervisor from the department of
Pharmacy organization with advanced
training and retraining course_____ Full name
(signature)

Date _____

DETERMINING RESERVES OF MEDICINAL PLANT RAW MATERIALS

Type of work performed _____

Introduction to the calendar-thematic plan, the practical program. Briefing on safety.

Determining reserves of medicinal plant raw materials

Conditions of task 1 and calculations:

--

Do tasks 2 and 3 by analogy.

Commodity analysis of medicinal plant raw materials

Medicinal plant raw material type: _____

Conditions of task:

--

Section "Numerical indicators" of ND _____

Indicator	Allowed by ND	Value which is set in the task	
		%	grams

Calculations:

--

Signature of the student _____

Signature of the practice supervisor _____

Date _____

**MASTERING THE METHODOLOGY OF DETERMINING THE YIELD OF WILD
MEDICINAL PLANTS**

Type of work performed _____

Task 1. Calculate the size of the operational reserve and the volume of possible annual procurement

Type of phytocenosis _____

Calculation method _____

Name of the medicinal plant raw material (Latin) _____

Area of the harvesting _____

Calculations:

Do tasks 2 and 3 by analogy.

Signature of the student _____

Signature of the practice supervisor _____

Date _____

**INTRODUCTION TO CULTIVATED MEDICINAL PLANTS AND THEIR
CULTIVATION METHODS. MASTERING THE PROCESS OF PREPARING
MEDICINAL PLANT RAW MATERIALS, GERBARIZATION OF MEDICINAL PLANTS**

Type of work performed _____

Location of the harvesting site _____

Types of medicinal plants which are cultivated on the

site: _____

Task 1. Describe one of the cultivated plants

Latin and Russian names of medicinal plant materials	
Latin and Russian names of producing medicinal plant and families	
Terms and rules for medicinal plant materials procurement	
Primary processing of the medicinal plant materials	
Possible admixtures (distinctive features)	
Conditions for rational use of thickets and their restoration (for wild plants)	
Drying conditions and coefficient of dry medicinal plant materials yield	
BAS group	
Quality indicators of medicinal plant materials according to ND requirements (numerical indicators)	
Method of standardization of medicinal plant materials according to ND	
Medical use	

Do tasks 2 and 3 by analogy.

Signature of the student _____

Signature of the practice supervisor _____

Date _____

**ACQUAINTANCE WITH MEDICINAL PLANTS OF NATURAL PHYTOCENOSES.
DEVELOPMENT OF THE PROCUREMENT PROCESS OF MEDICINAL PLANT RAW
MATERIALS, GERBARIZATION OF MEDICINAL PLANTS**

Type of work performed _____

Type of phytocenosis _____

Medicinal plants growing in this phytocenosis: _____

Task 1. Describe one of the plants according to the scheme proposed below

Latin and Russian names of raw materials	
Latin and Russian names of the medical plant and the family	
Terms and rules of harvesting MPRM	
Primary LRS treatment	
Possible admixtures (distinguishing features)	
Conditions for the rational use of thickets and their restoration (for wild plants)	
Method for determining yields, justification	
Drying conditions and dry MPRM yield coefficient	
BAS Group	
MPRM quality indicators according to ND requirements (numerical indicators)	
The method of standardization of medical plant by ND	
Medical use	

Task 2. Indicate the signs of the end of drying of MPRM of various morphological groups

Morphological group of raw materials	Signs of the end of drying of raw materials
Flowers	
Leaves	
Grass	
Fruits (juicy)	
The bark	
Underground organs	

Signature of the student

Signature of the practice supervisor

Date _____

**ACQUAINTANCE WITH MEDICINAL PLANTS OF NATURAL PHYTOCENOSES.
DEVELOPMENT OF THE PROCUREMENT PROCESS OF MEDICINAL PLANT RAW
MATERIALS, GERBARIZATION OF MEDICINAL PLANTS**

Type of work performed _____

Location of the site _____

Types of medicinal plants which are cultivated on the

site: _____

Task 1. Describe one of the cultivated plants

Latin and Russian names of medicinal plant materials	
Latin and Russian names of producing medicinal plant and families	
Terms and rules for medicinal plant materials procurement	
Primary processing of the medicinal plant materials	
Possible admixtures	
Conditions for rational use of thickets and their restoration (for wild plants)	
Drying conditions and coefficient of dry medicinal plant materials yield	
BAS group	
Quality indicators of medicinal plant materials according to ND requirements (numerical indicators)	
Method of standardization of medicinal plant materials according to ND	
Medical use	

Task 2. Draw up a scheme for harvesting wild-growing medical plant (using the regulatory documentation for MPRM, instructions for harvesting, drying)

Latin and Russian names of raw materials	
Latin and Russian names of the manufacturer of medical plant and the family	
Characteristic external signs of the producing plant	
Area, habitats of the producing plant	
Raw material base (collection point)	
Terms of harvesting	
Basic collection techniques	
Primary processing	

Drying conditions and regime	
Bringing the raw materials to the standard state	
Packaging and labeling	
Storage conditions	

Signature of the student

Signature of the practice supervisor

Date _____

**ACQUAINTANCE WITH MEDICINAL PLANTS OF NATURAL PHYTOCENOSSES.
DEVELOPMENT OF THE PROCUREMENT PROCESS OF MEDICINAL PLANT RAW
MATERIALS, GERBARIZATION OF MEDICINAL PLANTS**

Type of work performed _____

Type of phytocenosis _____

Medicinal plants growing in this
phytocenosis: _____

Task 1. Describe the technological process of obtaining whole MPRM _____
_____ for medical use. The following
regulatory documentation is used in the description of the technological
process: _____

- _____
Medical
plant _____
Family _____

Life form	
Appearance of the plant (herbarium sample)	Morphological features characteristic of the family
Natural habitats	
The phenological phase of harvesting medicinal products (the stage of seasonal plant development)	
Primary LRS treatment	
Drying conditions. The end of drying	
LRS quality indicators according to ND requirements (numerical indicators)	
Storage conditions (temperature, humidity, etc.)	
Active ingredients	
Related substances	
Possible impurities (distinguishing features)	
Conditions for the rational use of thickets and their restoration (for wild plants)	
Formulas of basic compounds	
Availability of raw materials in pharmacies	

Industrial application	
Medical application	

Tasks 2 and 3 should be done by analogy.

Signature of the student

Signature of the practice supervisor

Date _____

PHARMACEUTICAL CONSULTING IN THE SALE OF HERBAL PREPARATIONS

Type of work performed _____

Task 1. Describe the medicines presented in the pharmacy's assortment according to the proposed plan (fill in the table).

Herbal drug for treatment					
Name, release form, country of origin	MP, BAS	Indications	Contraindications (diseases, individual intolerance)	Application Features • children's age • pregnancy, lactation • diabetes mellitus • compatible with other medicines	Storage features (conditions, group)
1	2	3	4	5	6

Signature of the student _____
 Signature of _____ the _____ practice supervisor

Date _____

**ANALYSIS OF ACCOUNTING DOCUMENTS AND INDIVIDUAL ASSIGNMENT
MATERIALS**

Task 1. Describe the medicinal plant raw materials of the individual assignment

Latin and Russian names of the harvested MPRM	
Latin and Russian names of the manufacturer of medical plant and the family	
Terms and rules of harvesting MPRM	
Primary MPRM treatment	
Possible impurities (distinguishing features)	
Conditions for the rational use of thickets and their restoration (for wild plants)	
Method for determining yields, justification	
Drying conditions and dry MPRM yield coefficient	
BAS Group	
MPRM quality indicators according to ND requirements (numerical indicators)	
The method of standardization of medical plant by ND	
Medical application	

Signature of the student _____

Signature of the practice supervisor _____

MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS

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Department of pharmacy organization with advanced training and retraining course

REPORT

on the implementation of the program
of practical sessions « Pharmacognostic»

Student _____
 Specialty _____
 Faculty _____
 Course, study group No. _____
 Terms of the internship _____

№	List of practical skills	Recommended		Mastered	
		quantity	level of development	quantity	level of development
1.	Herbarization of medicinal plant materials	10	2,3		
2.	Procurement, primary processing, drying, standardization of medicinal plant raw materials of morphological groups: leaves, herbs, flowers, buds, fruits, seeds, barks, roots, rhizomes	6	3		
3.	Determination of yield, reserves of medicinal plant raw materials	3	3		
4.	Cultivation and cultivation of medicinal plants	4	3		
5.	Pharmaceutical consulting in the sale of herbal preparations with expectorant action	5	2,3		
6.	Pharmaceutical consulting in the sale of herbal preparations with sedative action	2	2,3		
7.	Pharmaceutical consulting in the sale of herbal preparations with immunomodulatory action	2	2,3		
8.	Pharmaceutical consulting in the sale of herbal preparations used in diseases of the gastrointestinal tract	4	2,3		
9.	Pharmaceutical consulting in the sale of herbal preparations with diuretic and uroantiseptic effects	2	2,3		
10.	Pharmaceutical consulting in the sale of herbal preparations for sore throat	3	2,3		

Completion of an individual task for the procurement of medicinal plant materials: _____

Student _____ Full name
(*signature*)

Practice supervisor from the department

(*department name*)

Full name
(*signature*)

AUTHORS:

Head of the Pharmacy Organization Department with advanced training and retraining course of Educational Institution «Belarusian State Medical University», PhD; Associate Professor



O.V. Mushkina

Dean of the pharmaceutical faculty of the Educational Institution «Belarusian State Medical University», Doctor of biological sciences, Professor



N.S. Gurina

Associate Professor of the Pharmacy Organization Department with advanced training and retraining course of Educational Institution «Belarusian State Medical University», PhD



O.A. Kuzniatsova

Associate Professor of the Pharmacy Organization Department with advanced training and retraining course of Educational Institution «Belarusian State Medical University», PhD



O.A. Yorshyk

The design of the educational practice program and accompanying documents meet the established requirements

Head of the practice of the educational institution «Belarusian State Medical University»



N.A. Medved

Methodologist of the Educational Institution «Belarusian State Medical University»



S.A. Yankovich