

Odessa National Medical University

Department of General and Clinical Pharmacology and Pharmacognosy

methodological developments
workshops
for full-time department faculty

Discipline: "Resursovedenie medicinal plants"

Lesson number 2 "The raw material base of medicinal plants in Ukraine.

Wild, cultivated the Republic of Lithuania in Ukraine. Formal and informal medicinal plants"

Course 3 Faculty medico-pharmaceutical

approved by
in the methodical meeting of the Department
August 28, 2025
Protocol № 1
Head. Department of



_____ prof. Rozhkovsky YV

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Subject of practical lesson number 2: "The raw material base of medicinal plants in Ukraine.

Wild, cultivated the Republic of Lithuania in Ukraine. Formal and informal medicinal plants'- (2 hrs.)

1. Background.It has long been believed that Ukraine is extremely rich in natural plant resources, in particular medicinal plants. Indeed, in the USSR, almost 1/3 of wild and cultivated medicinal plant raw materials harvested just in Ukraine, as evidenced by relevant statistical data. But now such statistics are not available, and the state of natural resources worsened. CENSUS HR resources both in Ukraine and in the Odessa region was carried out for a long time, his conduct is essential and is one of the components of a large complex works on creation of the state cadastre of vegetation resources.

2. Purpose of the activity:

- sformirovat students' ideas about HR resource base in Ukraine and its current state;
- determine the place of wild and cultivated plants in ensuring raw domestic production of herbal remedies.

2.1. Learning Objectives:

-know (The level of assimilation of Bespal'ko -II):

- assortment of wild HR Ukraine;
- assortment cultivated in Latvia Ukraine;
- the range and ways of use of formal and informal medicinal plants;

- to be able (Mastering level -III):

- otsenivat common needs of specific types of medicinal plant raw materials in accordance with the ways of their modern use is harvested in Ukraine.

2.2. Educational goals:

- sposobstvovat formation of ecological outlook and liability for future pharmacists the use of natural resources, the RL.

3. Interdisciplinary integration:

number	discipline	Know	be able to
one.	previous Medical botany	Phase of development, the environmental conditions of growth of medicinal plants;	To assess the current conditions of growth of specific types of LR

2.	pharmacognosy	The effect of various factors on the contents of the main storage and a bar RL	Choosing optimum blank areas and periods native RL
3.	Intra integration (the topic of this discipline, which integrates that which is studied) ...	Resursovedenie as science and academic discipline. The raw material base of medicinal plants in Ukraine. The use of herbal medicines in the Republic of Lithuania and the modern world medical practice. Accounting for medicinal plant resources, the principles of their management and protection. Cultivation of Latvia in Ukraine and the world.	develop: on the harvesting instructions, drying and storage of raw wild higher plants, algae, lichens and fungi, newsletters; make reports for doctors and advise the public on matters related to the harvesting and use of raw materials and products of natural origin.

4. Content of the topic

The theoretical material topics outlined in the text of the lecture number 2, and the following sources of information:

1. Heinrich M., Barnes J., Prieto-Garcia J., Gibbons S., Williamson E. M. Fundamentals of Pharmacognosy and Phytotherapy. 3rd ed. Elsevier, 2023. 282 p.
2. Medicinal Plant Resources : textbook / V. M. Minarchenko et al. Kyiv : Palyvoda A. V., 2019. 128 p.
3. Bioprospecting of Ethnomedicinal Plant Resources: Sustainable Utilization and Restoration / ed. by G. Shukla et al. CRC Press, 2024. 466 p.
4. Medicinal Plants: Bioprospecting and Pharmacognosy / ed. by A. B. Sharangi, K. V. Peter. Apple Academic Press, 2022. 602 p.
5. Van Wyk B. E., Wink M. Medicinal Plants of the World. 2nd ed. CABI, 2017.

5. Plan and organizational structure of classes

number	The basic stages of employment, their functions and content	Each. goals in development levels	training and controls	Methodological materials. ensuring and the control of knowledge	duration min., or %
one	preliminary stage				

1.	Organizational measures. The wording of the objectives. Checking homework	II		Methodological developments; test items	1 minute. 2 minutes. 7 min.
2.	The main stage. Location - training room. Carrying out practical work	II-III	Maps, slides, herbaria, background and scientific literature	Methodical development - "Resursoznavstvo medicinal plants. Laboratory Journal"	130 min.
3.	The final stage. Location - training room. Check final level of knowledge. Inspection and assessment of practical skills. Checking and signing of the protocols in the laboratory journal. Scoring knowledge. Summing up the lessons and homework wording.	II-III II-III			15 minutes. 10 min. 10 min. 5 minutes.

6. Materials of methodical maintenance of employment.

6.1. control materials for the preparatory phase of exercises

Test questions:

1. How is it possible to appreciate the richness of the flora of Latvia in Ukraine? In the Odessa region.?
2. What kind of plants and herbal drugs we call officinal?
3. Give examples of officinal herbal drugs, which is now widely used only from wild plants of the local flora.
4. What types of HR - RL sources scarce.
5. What are the main reasons leading to the introduction of Latvia into the culture.
6. What are the possible ways of using herbal drugs.
7. What are the advantages and disadvantages of cultivated medicinal plant raw materials?

tests:

1. In the list of the Republic of Lithuania only source of wild medicinal plant raw materials are:

- A. Waybread
- B. *Psyllium blosnogo*
- V. *Valeriana officinalis*
- G. waterlily yellow**
- D. Peppermint

2. In the list of HR source exclusively cultivated herbal drugs are:

- A. Waybread
- B. *Psyllium blosnogo***
- V. *Valeriana officinalis*
- G. waterlily yellow
- D. Mother-and-stepmother

3. Informal RL in the above list is:

- A. *Herba Millefolii*
- B. *Herba Polygoni nodosi***
- B. *Herba Polygoni avicularis*
- G. *Folium Menthae piperithae*
- D. *Folium Uvae ursi*

4. Official HR Ukraine in the above list is:

- A. *Salvia nemorosa*
- B. Sage wilted
- B. *Baikal skullcap***
- Mr. Wormwood Austrian
- D. Wormwood Taurian

5. For the production of several complex and combined products use raw materials

- A. hellebore blushing
- B. Violets Field
- B. *Digitalis lanata*
- G. *Laminaria sugar*
- D. *Valeriana officinalis***

6. What is the pharmacy raw materials from this list can be harvested in a natural habitat in Ukraine?

- A. thallus kelp
- B. *Eucalyptus leaves*
- V. *Trava ervy woolly*
- G. sage leaves drug
- D. *Leaves mother and stepmother***

6.2. Materials of methodical maintenance of the main phase of occupation

Methods of operation, performing the steps of:

- A) Specification of terms: officinal; official; neofitsinalnoea; informal medicinal plants; potentially official herbs (refill their own dictionary of terms students);
- B) The study of medicinal raw material range used in Ukraine, on the basis of belonging to certain taxonomic groups (study of educational and reference books)
- B) The concretization of an idea about how to use in Ukraine assortment of cultivated medicinal raw materials (processing of scientific and reference literature)
- D) Data Aggregation on modern ways of using natural medicinal raw materials and their specification for distribution in Ukraine RL (processing textbooks and official information - State registries; HFCs)

List of educational and practical tasks to be carried out during the practical sessions:

Exercise 1. With the help of the recommended educational and reference books create your own dictionary of terms (concepts) in resursovedenii and give written answers to questions (fill in the table 1)

Table 1

Resursovedenie science

The term (concept), the question	Definition (content) response
officinal	
official	
neofitsinalnye	
informal	
potentially official	

Task 2. Based on prior knowledge and using training and reference literature, conduct determination and synthesize (in the table and chart) common data range in Ukraine medicament natural raw material sources for systematic belonging to fungi; seaweed; lichens; horsetails; floaters; ferns; gymnosperms; angiosperms

Table 2.

Medicinal plants of Ukraine in systematic affiliation

systematic group	The number of species of medicinal plants
mushrooms	
Seaweed	

lichens	
equisetum	
moss	
ferns	
gymnosperms	
Angiosperms (flowering)	

Task 3. Determine systematic affinity common plant sources in Ukraine crude drug, call and to indicate the corresponding a wild or cultivated RL (fill graphs 1-3, Tab. 5)

Ukrainian, Russian, latinskoe name of the Republic of Lithuania, the family	RL	Phytocenological Attachment		
	title	dik. (D) or cult. (K).	ways to use	
one	2	3	four	five

Task 4. To analyze the modern ways of using the most common in Ukraine plant sources of medicinal raw materials, fill in column 4, Table. 5, using the following symbols:

"FC" - packaged raw materials for pharmacy network; "SE" - herbal medicines; "PNC" - novogalenovyh preparations; "SP" - individual drugs; "KP" - complex preparations.

6.3. Materials control the final phase of occupation

Questions for self-control:

1. Types which taxonomic group (department) are suppliers of the vast majority of medicinal natural resources?
2. What is the terminology used in pharmacy to determine the type of RL?
3. What, in your opinion, the types of pharmaceutical and medical use of HR resources require the most of their natural resources?
4. Name HR, raw materials which are sold to the population in packaged form in pharmacies.
5. Name the widespread species LR with potentially large reserves of raw materials.

Tests and situational tasks:

1. The national pharmacy chain does not come packaged herbal drug that is potent or poisonous. This is, in the above list:

A. The leaves of *Digitalis lanata*

- B. fennel Fruits
- V. Bark of buckthorn
- G. Birch Buds
- D. valerian root

2. For the manufacture of the individual drugs used RL

- A. Kidney Birch
- B. Leaves mother and stepmother
- B. Grass knotweed

G. The leaves of Digitalis lanata

- D. grass succession

3. The raw material of this plant are harvested in nature and are cultivated in Ukraine. This plant

- A. Stinging nettle
- B. cottonweed medicinal
- V. Salvia officinalis

G. chamomile

- D. Mack hypnotic

4. Formulations used as belladonna protivastmaticheskie, antispasmodics. Official raw belladonna are:

- A. Flowers

B. The leaves and roots

- B. Grass

- G. Fruits

- D. Rhizomes

5. Medicament "Pertussin" is used as an expectorant. The preparation includes an extract:

- A. The leaves of black henbane

- B. sage leaves drug

- V. leaves belladonna common

G. herbs thyme

- D. nettle leaves

6. For drug substance kondilin NSA used:

A. rhizomes with roots podofilla

- B. Korenevischa with angelica root

- B. Korenevischa with valerian roots

- G. Travu Hypericum spotted

- D. Travu horsetail

7. Diosgenin is a substance for the synthesis of steroid hormone preparations - cortisol, and progesterone. The source of its production are:

- A. Leaves Ungern Victor

B. rhizomes and roots of ragwort broadleaf

B. The rhizomes with roots of Dioscorea

G. The leaves of barberry

D. Rhizomes scopolia karniolyskoy

8. Individual drug Ergotamine tartrate, which stimulates smooth muscle of the uterus and has hemostatic action prepared from

A. Herba Thymi serpylli.

B. Folium Belladonnae.

V. Herba Thermopsidis.

G. Fructus capsici.

D. Secale cornutum

9. Raw artichoke is a source of anti-sclerotic preparations, choleric, hepatoprotective activity. As a medicinal plant harvest:

A. The leaves and baskets

B. Roots

V. Travu,

G. Seeds

D. Plody.

10. Most types of plant raw material is stored in dry form. By the processing of fresh juice for taking plant material at the plants:

A. Althaea officinalis

B. Plantago major

V. Rosa canina

G. Urtica dioica

D. Capsella bursa-pastoris

11. psyllium preparations are widely used in medical practice. To cultivate this:

A. Plantago stepposa

B. Plantago media

B. Plantago lanceolata

G. Plantago psyllium

D. Plantago maxima

12. A plant raw material manufactured tincture, extracts, included in the complex preparations "Bellataminalum" "Bekarbon" "Besalol" "Belalgin" etc., is used for this grass

A. belladonna

B. Landysh

B. astragalus

G. alternate

D. celandine

13. Chamomile flowers - a popular drug of conventional medicine .. For this purpose, the raw material harvested from:

A. Tripleurospermum inodorum

B. Leucanthemum vulgare

B. Anthemis cotula

G. Anthemis arvensis

D. Chamomilla recutita

14. At the pharmaceutical company received a large shipment of the RL - peppermint leaves. Develop a scheme of the possible use of this party.

Solution: Menthae, folium - dry FS; processing raw or dry raw materials in the essential oil, which is part of the PNC, SE; isolation of essential oils Menthol, which may be the SP and the part of the PNC, KP.

6.4 Materials of methodical maintenance of self-students: orienting map for the organization of independent work of students with textbooks, Count of logical structure of employment and the like.

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Question	Answer
Features of standardization herbal drugs and herbal remedies at the present stage	
The basic provisions of the WHO and the installation requirements (2007) on herbal remedies quality assessment regarding contamination and residues	
Maximum allowable levels of toxic metals and nonmetals	

6. 7. Literature Basic literature

7. Фармакогностичне ресурсознавство з основами інтродукції лікарських рослин / Навчальний посібник. – Полтава: ПДМУ, 2021.

8. Державна Фармакопея України : в 3 т. / ДП «Український науковий фармакопейний центр якості лікарських засобів». 2-е вид. Харків : Науковий фармакопейний центр, 2015. Т. 1. 1128 с.

9. Ресурсознавство лікарських рослин: Практикум / Тржецинський С. Д. та ін. – Запоріжжя: ЗДМУ, 2021.

10. Фармакогнозія: підручник для студентів фармацевтичних факультетів / Посилкіна О. В. та ін. – Харків: НФаУ, 2015–2018 (розділи, присвячені сировинній базі).

11. Тржецинський С. Д., Доля В. С., Денисенко О. М. Ресурсознавство лікарських рослин : навч.-метод. посіб. Запоріжжя : ЗДМУ, 2015. 115 с.

12. Грицик А. Р., Водославський В. М., Мельник М. В. Фармакогнозія. Ресурсознавство лікарських рослин : навч. посіб. Івано-Франківськ : ПП Голіней О. М., 2019. 248 с.
13. Зузук Б. М. Ресурсознавство лікарських рослин : навч. посіб. для студ. вищ. фармац. навч. закл. Вінниця : Нова Книга, 2015. 232 с.
14. Heinrich M., Barnes J., Prieto-Garcia J., Gibbons S., Williamson E. M. Fundamentals of Pharmacognosy and Phytotherapy. 3rd ed. Elsevier, 2023. 282 p.
15. Medicinal Plant Resources : textbook / V. M. Minarchenko et al. Kyiv : Palyvoda A. V., 2019. 128 p.
16. Bioprospecting of Ethnomedicinal Plant Resources: Sustainable Utilization and Restoration / ed. by G. Shukla et al. CRC Press, 2024. 466 p.
17. Medicinal Plants: Bioprospecting and Pharmacognosy / ed. by A. B. Sharangi, K. V. Peter. Apple Academic Press, 2022. 602 p.
18. Van Wyk B. E., Wink M. Medicinal Plants of the World. 2nd ed. CABI, 2017.

Additional literature:

19. Лікарські рослини: Рекомендаційний список літератури (актуальні видання 2024 року) / Уманський НУС.
20. Малопоширені ароматичні види лікарських рослин / Наукове видання. – Берегове: ЗУІ ім. Ф. Ракоці II, 2025.
21. Лабораторний журнал з ресурсознавства лікарських рослин : [посібник] / В. М. Мінарченко та ін. Київ : Паливода А. В., 2018. 94 с.
22. Фармакогнозія : підручник для студ. вищ. навч. закл. / В. С. Кисличенко та ін. ; за ред. В. С. Кисличенко. Харків : НФаУ : Золоті сторінки, 2015. 736 с.
23. Державна Фармакопея України : в 3 т. / ДП «Український науковий фармакопейний центр якості лікарських засобів». 2-е вид. Харків : Науковий фармакопейний центр, 2015. Т. 1. 1128 с. 520 p.

electronic resources

24. Medicinal Plant Names Services (MPNS) Resource. Kew Royal Botanic Gardens. URL: kew.org (дата звернення: 22.03.2026).
25. Ресурсознавство лікарських рослин : презентація лекції. Нац. фармац. ун-т. URL: https://cnc.nuph.edu.ua/wp-content/uploads/2023/09/prezentatsiia_resursoznnavstvo-lr.pdf (дата звернення: 22.03.2026).

9.Tema following classes: The raw material base of medicinal plants in Ukraine. Geographical and Phytocenological Attachment LR Ukrainian are included in herbal domestic production (4 h).

Methodical recommendations were made by



associate professor Boyko IA