

Odessa National Medical University

Department of General and Clinical Pharmacology and Pharmacognosy

methodological developments
workshops
for full-time students

Discipline: "Resursovedenie medicinal plants"

Lesson number 5, "Using the LR and herbal remedies in the modern world medical practice. Using LR raw materials in foreign countries: medical systems, raw materials, drugs. LR included in the preparations of domestic production "

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

Odessa 2025

1. Topic 5: The use of herbal medicines in the Republic of Lithuania and the modern world medical practice. Using LR raw materials in foreign countries: medical systems, raw materials, drugs. LR included in the formulations of domestic production (4 h)

2. Relevance of the topic. . Range of medicinal plants, using modern world medicine, largely account for species that do not have a distribution in Ukraine, including those borrowed from the traditional medical systems in the East. This range is already included in the European Pharmacopoeia and will necessarily find full reflection in the HFC, the principle of which is to harmonize with PhEur. Therefore, future pharmacists just need to know as vegetable sources of imported products in order to better focus on the market of pharmaceutical services. For this reason, the most detailed study of the types of merit, which was pointed out in the previous course of Pharmacognosy.

3. The purpose of the activity:

-rasshirit knowledge range LR and specifics of their use in medicine of different countries and peoples, to form an idea of the possibilities of the world's flora as a source of replenishment of medicines domestic medicine.

3.1. Learning Objectives:

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

--traditsionnye medical systems of the world;

-Features- and ways of use of medicinal plant sources medical systems East;

-proiskhozhdeniya and Pharmacognostic characteristic species of plant material, a part of the domestic production of herbal remedies;

- **to be able** (Mastering level -III):

-vydelyat assortment of herbal remedies in the modern plant sources of foreign floras; the defining and characterizing additional 30 species of medicinal plant raw materials, which are sources of drugs Scientific (European) medicine;

-vydelyat in modern assortment types of HR-analogues of domestic and draw conclusions about the possibilities of Ukrainian flora as a source of new drugs.

3.2. Educational goals:

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

4. Interdisciplinary integration:

| number pp | 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. |

5. The content of lessons

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.

6. Materials for methodological support classes

6.1. control materials for the preparatory phase of exercises

Test questions:

1. Why the European medicine also called the world?
2. What you are aware of the medical system? The concept of "medical system" differs from the term "traditional medicine"?
3. What are the most used in modern medicine LR and RL of Mediterranean origin.
4. What are you known LR modern scientific medicine, which can be attributed to the plant-cosmopolitan.
5. What are the most common LR and RL with arid (dry) areas of Asia.
6. Name the LR and RL of modern scientific medicine, are Hispanic.

tests:

1. The main difference from the HFC GF-11, which was used, we still have
 - A. Reducing the total number of articles
 - B. Harmonization with evrop.farmakopeeyu
 - B. Lack of Latin names of medicinal plants
 - G. Use only brand new herbal drug research methods
 - D. Differences no
2. The source of any dosage forms (substances), which are used by modern medicine are mostly tropical trees and shrubs?
 - A. Essential Oils
 - B. balms
 - V. fatty oils
 - G. gums
 - D. Small
3. Traditional Chinese medicine is the source of use in the modern world of medical practice, such as a medicinal plant
 - A. Ginseng
 - B. Coffee
 - B. Olive
 - G. Eucalyptus
 - D. Castor
4. What is the plant - the source of herbal drugs has been applied in Europe (World) medicine after the discovery of America:
 - A lemon;
 - B. chocolate tree (cocoa)
 - V. coffee tree;
 - G. ginseng;
 - D.rauvolfiya snake
5. gum arabic, used in the production of emulsions, tablets, pills, extracted from plants of the genus in the world:
 - A. Astragalus

- B. Apricot
- B. Plum
- G. Aloe
- D. Cranberry

6. Standardization of the raw materials used for the manufacture of many drugs in European medicine, carried out on the content of alkaloids calculated as hyoscyamine. Call it raw:

- A. Radices Berberidis
- B. Folia Belladonnae.
- B. Herba Chelidonii.
- G. Herba Thermopsidis lanceolatae.
- D. Fructus Capsici.

7. Select the drug, raw material for the manufacture of which has fruit parsnip:

- A. Olimetin
- B. Ammifurin
- B. Beroksan
- G. kolhamina
- D. Korglikon

8. A source or dosage forms (substances), using modern medicine, are primarily a tropical woody shrubs?

- A. Essential Oils
- B. balm
- V. fatty oils
- G. gum
- D. Small

9. What is the pharmacopeia of herbal drugs in Ukrainian flora plants can be recommended to patients during avitaminosis C:

- A. Rhizoma Tormentillae
- B. Cortex Quercus;
- V. Fructus Rosae
- G. Cortex Viburni opuli;
- D. Folium Menthae piperitae.

10. The crushed seeds of this plant - a source of health oil, which has long been used in world medicine, pre-treated with hot steam to destroy toxin ricin. Call it the plant:

- A. Cucurbita pepo
- B. Helianthus annuus
- B. Corn common
- G. castor bean

D. Soy bristly

11. The cultivation of this plant and the production of the corresponding RL is under control of the UN and is illegal in Ukraine. These plants are:

- A. Ginseng
- B. Astragalus sherstistotsvetkovy Ungern Victor V.
- G. Machok yellow
- D. Mack hypnotic

12. Global demand for olive oil as a food product and solvent injectionis preparations are very large. How oil can be replaced with olive oil in its pharmaceutical use

- A. Oleum Amugdalarum.
- B. Oleum Ricini.
- B. Oleum Cucurbitae.
- G. Oleum Lini.
- D. Oleum Maydis.

Rauwolfia serpentina 13. Formulations used for the treatment of hypertension. High quality raw materials of tropical plants verify the content:

- A. vinblastine
- B. atropine
- B. hyoscyamine
- G. reserpine
- D. adonitoksin

6.2. The information necessary for the formation of knowledge, skills can be found in textbooks:

6. 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).

6.3. Indicative map for independent work with literature

Reference (home). Examine and analyze range LR and RL, which is included in HFC 1, application 2, 3, 4, Table fill. 15.

Table 15.

Objects plant proiskhozhdeniyaGFU 1.

| Number s \ n | Name of herbal drug or substance | LR -source corresponding RL or substance | differences from <i>PhEur</i> |
|-----------------|-------------------------------------|---|----------------------------------|
| one | 2 | 3 | four |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

- B. Tibet
- B. Indian (Ayurveda)
- G. Arab
- D. Slavic

2. Many food plants exhibit curative and preventive properties. So, in a very large number of domestic pharmacy uses as a source of herbal drugs

- A. Tomatoes
- B. Cucumbers
- B. Carrots
- G. Apples
- D. Melons

3. It is in Ukraine officinal herbal drug contains saponins. Its dust causes irritation of the mucous membranes, so work with this raw material requires caution. Call it raw

- A. Rhizoma et radices Polemonii
- B. Rhizomata Tormentillae
- B. Radices Araliae
- G. Rhizomata Bistortae
- D. Rhizomata et radices Rubiae

4. On analysis it domestic wild medicinal plants of the family Polygonaceae. Herbaceous plant, the leaves are lanceolate with a red stain, available sockets film coated compressed hairs. Inflorescence terminal, spicate dense brush. The plant is diagnosed as:

- A. Ordinary Sporysh
- B. Highlander pepper
- B. Persicaria maculosa.
- G. Highlander snake.
- D. Buckwheat.

5. Trava yarrow is part of the stomach and fees used in Ukraine for the production of herbal medicines. According to the requirements of HFC quality of this raw material is evaluated by content:

- A. Kardioglikozidov,
- B. alkaloids,
- B. polysaccharides
- G. essential oil and proazulen,
- D. vitamins.

6. World hepatoprotective medicine uses of vegetable origin. Name medicinal plant material, which contains silybin and reveals a hepatoprotective effect.

- A. The fruits of fennel.
- B. Flax seeds.
- B. Schisandra seeds.

- G. The fruits of milk thistle.
- D. pumpkin seeds.

7. In the arsenal of the modern world of medicine is an ointment with reparative properties, for the preparation of which are necessary fatty oils, which have the ability to dry out. It:

- A. Oleum Cucurbitae
- B. Oleum Lini
- B. Oleum Persicorum
- G. Oleum Jecoris
- D. Oleum Cacao

8. preventive properties soizdavna used oriental medicine, but now it is the source substances comprising the drugs with hepatoprotective action. What BAR soybeans rise to such action?

- A. polysaccharides
- B. micronutrients
- B. pigments,
- G. efirmiolii,
- D. phospholipids.

9. *Listya eucalyptus* comprising an essential oil used for the production of European and Russian phytopreparations with bactericidal action. According to the requirements of SPU identification of raw materials is carried out by thin layer chromatography. Chromatography plate after reagent treatment are identified:

- A. Kvertsetin,
- B. scopoletin,
- B. cineol,
- G. apigenin,
- D. glaucine.

10. Flower buds tropical allspice contain essential oil used in Europe for the production of herbal medicines with an antiseptic action. According to the requirements of the State Pharmacopoeia of Ukraine, identification of raw materials is carried out by thin layer chromatography. Chromatography plate after reagent treatment zone is identified:

- A. scopoletin and umbeliferon,
- B. quercetin and rutin,
- B. scopolamine and hyoscyamine,
- G. apigenin and luteolin,
- D. eugenol and kariofilenu.

11. Fitosredstva from the leaves of ginkgo world medicine used in the treatment of patients with impaired cerebral circulation. According to the requirements of the State Pharmacopoeia of Ukraine purity raw ginkgo is determined by content:

A anthraquinones
B flavonoids,
The polysaccharides
Mr. alkaloids
D vitamins.

12. Preparations of modern European medicine "Pasito", "novopassit" in Ukraine registered as a tranquilizing, sedative and mild hypnotic. Choose the source of these drugs

- A. Grass series
- B. Passiflora Grass
- B. The leaves of sage
- G. Leaves cranberries
- D. Grass periwinkle

11. The theme of the next session:Methods for determining the RL resources. Methods for determining the yield LR: to test the accounting portions of the projective coating on model instances. Calculation of biological, operational reserves and volumes of possible annual herbal drug preparations. Development of rational harvesting LR recommendations.

12.Reference for UDRS and NDRS on the next class

- 1) To learn the theoretical material on the next topic.
- 2) Fill in the workbook for the next topic. Fill in all terms
- 3) To learn the test base Krok scheme
- four) The study and analysis of the range of LR and RL, which is included in the HFC 1.2; HFC 1.3; HFC 1.4.

Methodical recommendations were made by



associate professor Boyko IA