

MICROSCOPIC STUDY OF MELILOTUS ALBUS DESR
Yulchiyeva M.T.¹, Latipova E.A.² (Republic of Uzbekistan) Email:
Yulchiyeva536@scientifictext.ru

¹Yulchiyeva M.T. - PhD in Biology, Associate Professor;

²Latipova E.A. - Assistant Professor,

DEPARTMENT OF PHARMACOGNOSY, PHARMACEUTICAL FACULTY,
TASHKENT PHARMACEUTICAL INSTITUTE. TASHKENT, REPUBLIC OF UZBEKISTAN

Abstract: conducted microscopic study of the aerial organs of white clover. The epidermis of a leaf is single-row, adaxial cells are larger than abaxial. The cells of the epidermis of the leaves with sharply anfractuose walls, anizocyte type of stomata, simple and capitate hairs, dorsiventral type of mesophyll, crystal-lining.

The stalk triangular, three-beam type, sclerenchymal lining. Epidermis cells are thickened outer walls. The stem is cylindrical with weak projections, covered with epidermis. Vessels are numerous, single or form small groups of 2-5 vessel, radial rays are multi-row. There is a core in the center.

Keywords: an anatomic study, a structure of a leaf, a structure of the stem, the cells of the epidermis, a stomata, a hairs, a conductive bundle, a primary bark, a wood.

МИКРОСКОПИЧЕСКОЕ ИССЛЕДОВАНИЕ МЕЛИЛОТУСА
ALBUS DESR

Юльчиева М.Т.¹, Латыпова Э.А.² (Республика Узбекистан)

¹Юльчиева Мавлуда Тургунбаевна. – кандидат биологических наук, доцент;

²Латыпова Эльвира Азатовна – ассистент,
кафедра фармакогнозии, фармацевтический факультет
Ташкентский фармацевтический институт,
Ташкент, Республика Узбекистан

Аннотация: проведено микроскопическое исследование воздушных органов белого клевера. Эпидермис листа однорядный, адаксиальные клетки крупнее абаксиальных. Клетки эпидермиса листьев с резко выступающими стенками, анизоцитарным типом устьиц, простыми и головчатыми волосками, дорсивентральным типом мезофилла, кристаллической подкладкой.

Стебель треугольный, трехлучевой тип, склеренхимальная подкладка. Клетки эпидермиса являются утолщенными наружными стенками.

Стебель цилиндрический со слабыми выступами, покрытый эпидермисом. Сосуды многочисленны, одиночные или образуют небольшие группы по 2-5 сосудов, лучи радиальные многорядные. В центре есть центр.

Ключевые слова: анатомическое исследование, строение листа, строение стебля, клетки эпидермиса, устьица, волоски, проводящий пучок, первичная кора, древесина.

White sweet clover - *Melilotus albus* Desr. of Leguminosae family - leguminousisannual-biennial, high (up to 2.5 m) herbaceous plant. It is found in the valleys of flood plains to the middle zone of the mountains in Tashkent, Fergana, Samarkand and Surkhandarya regions.

Flowering and fruiting period is from May to August [1].

In Uzbekistan occurs four types, two of which are used in medicine.

In folk medicine, infusion prepared from the aerial part of flowering plant is used in febrile diseases. Ointment of leaves and flowers is used as a wound-healing agent [2].

The results of microscopic study of the aerial organs of white clover, which allowed to identify diagnostic features needed to develop reliable raw authenticity characteristics are given. Anatomic study was conducted according to conventional techniques as in fresh and fixed 70 °C alcohol [3]. For anatomical diagnosis a microscope MBI-3 was used. Micro-preparations' sketches were made by a drawing apparatus RA-6. Material for anatomical study was collected in the period of mass flowering in Bostanlik district of Tashkent region.

The structure of a leaf. The epidermis is single-row, adaxial cells are larger than abaxial.

On paradermal sections adaxial epidermal cells are polygonal with a slightly anfractuose walls. Cells of abaxial epidermishave sharply sinuous walls.

The stomata are slightly sunk, of anizocyte type. Abaxial epidermis bears simple and capitate hairs. Simple hairs have 1-2 small cells, which lie at the base and one long final cell with a barely perceptible cavity and a very thick coat with a rough, serrated surface.

Capitate hairs are very thin-walled, consist of 1 - 2 cell feet and 1 - 4 - cell oval head, transparent or light - brownish contents. Mesophyll is dorsiventral. Under the adaxial epidermis is 2-row palisade parenchyma, then

there are 2-row oval and rounded chlorophyll sponge cells with well-defined intercellular spaces.

Among the spongy parenchyma are located potent strongly projected from abaxial side medial beams with well developed conductive tissues and crystal-stagnant plates.

Side beams are small.

Petiole in cross-section is triangular, medial three-beam and two - side.

Epidermis cells are thickened outer walls. Under the epidermis there is 2 - row small-cell root parenchyma of round form, large more elongated oval cells are in the center. Bunches outside are surrounded by sclerenchyma lining. In beam conductive tissue is well-developed.

The structure of the stem. The stem is cylindrical with weak projections, covered with epidermis. Epidermal cells on paradermal sections are elongated. Stomata are anizocyte. In projections under the epidermis there is a group of cells - collenchyma. Primary bark consists of wide, rounded parenchymal cells. Bast fibers are arranged in multi-cell groups. Phloem and cambium in radial rays are interrupted. Wood is ring- vessel. The bulk of the wood occupy fibers of libriform. Vessels are numerous, single or form small groups of 2-5 vessels, radial rays are multi-row. There is a core in the center.

— Thus, for white clover diagnostic features are:

— For leaves:

— Cells of the epidermis with sharply anfractuose walls, anizocyte type of stomata, simple and capitate hairs, dorsiventral type of mesophyll, crystal-lining;

— For Stalk:

— triangular, three-beam type, sclerenchymal lining;

— For stem:

— A group of collenchyma cells in projections, the group of bast fibers, wide radial rays, ring-vessel wood.

References / Список литературы

1. Флора Узбекистана. Ташкент: Изд. Академии Наук Узбекистана. Т. III, 1955. Т. 436.
2. Дроботко В.Г. и др. Антимикробные вещества высших растений. Киев, 1958. С. 57.
3. Прозина М.Н. Ботаническая микротехника. М.: Высшая школа, 1960. С. 206.