

BOTANICAL CLASSIFICATION AND MORPHOBIOLOGICAL CHARACTERISTICS OF KASHKARBEDA SPECIES IN THE CONDITIONS OF THE KHOREZM REGION

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Annotation. In this article, Morphological organoleptic differences of the main common species of Kashgarbida in the soil and climatic conditions of the Khorezm region. The following economically important species exist: white sweet clover (*Melilotus albus* L.), yellow sweet clover (*Melilotus officinalis* (L.) Pall.) and toothed sweet clover (*Melilotus dentatus* Pers.) on their organoleptic differences in energy, are presented.

Keywords: medicinal plants, white marigold, yellow marigold and toothed marigold varieties, introduction, soil-climatic conditions, organoleptic differences of medicinal plant raw materials.

Research goals, objects, and methods.

The genus *Melilotus* (*Melilotus* Mill.) belongs to the legume family (Fabaceae). According to some authors, it includes from 18 to 25 species, distributed mainly in the temperate and subtropical regions of Eurasia and North Africa. Kashgarbeta is a biennial or annual herbaceous plant with high ecological flexibility, drought resistance, and productivity.

It is characterized by its ability to grow well even on poor soils, which creates great opportunities for its widespread use in forage production, honey production, and phytomelioration. The genus *Melilotus* is very close to the genera *Trigonella* and *Medicago*, and has been repeatedly mentioned in the works of classical botanists.

The main diagnostic features of the species are: a two-year life cycle, the presence of tripartite leaves, small flowers collected in panicle-shaped inflorescences, and one- or two-seeded pods that do not open when ripe.

Morphological and organoleptic differences of the main common types of kashkarbeda (based on data from I.V. Grudko)

Different characters	Yellow skunk <i>Melilotus officinalis</i>	White dwarf <i>Melilotus albus</i>	Toothed scoundrel <i>Melilotus dentatus</i>
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Flower color	yellow	White	pale yellow
Plant height	80–150 cm	50–120 cm	60–100 cm
Stem	steep, rough	smooth, often thinner	smooth, less branched
Leaves	oblong, with small teeth	round, light-colored	small, tooth-shaped, light blue in color
Fruit	The pod is ovoid, rough.	the pods are smooth	The pod is smooth, slightly reticulated.
The smell	strong coumarin smell (especially after drying)	fragrant, vanilla-scented	less smelly
Spread	In all countries of Eurasia	More northern and mountainous areas	Central Asia, southern Kazakhstan, Caucasus
Economic importance	medicinal and forage plant	essential oil and ornamental plant	honeysuckle and siderate plant

In Uzbekistan, it is widespread in the Fergana, Jizzakh, and Kashkadarya regions. It is rare in other regions. It is highly adaptable for cultivation in large areas in agriculture, drought-resistant, and resistant to soil conditions.

The white sweet clover (*Melilotus albus* L.) and yellow sweet clover (*Melilotus officinalis* (L.) Pall.) species are used, which are distinguished by their high productivity and yield, as well as valuable economic characteristics. The species of Kashkarbeda is a biennial herb, reaching a height of 50–100 cm (sometimes 2 m). The root is branched, taproot. The stem is single or multiple, edged, and the upper part is branched. The leaf is a compound leaf with three leaflets, arranged alternately on the stem. The leaves are obovate, ovate or oblong-lanceolate, with smooth edges or finely serrated-toothed edges, and hairless, up to 3 cm long. The leaves have thin, lanceolate, sharp-pointed, flat-edged leaflets. The flowers are small, yellow, and clustered in panicles.

The calyx is divided into 5 triangular-lanceolate segments up to the middle. The corolla is structured like a butterfly inflorescence. There are 10 paternal nodes, one of which is not connected, the rest are connected. The maternal node is single-celled, located above. The fruit is an ovoid, transversely twisted, gray, hairless, one-seeded pod. It flowers from June to September, and the seeds ripen from August.

The main difference between the species is the color of their flowers. The flowers of the white marigold are white and have a pungent odor, the main active ingredient of which is coumarin. The flowers of the yellow marigold are yellow and have a pleasant, fragrant scent. Scientific research on the introduction, morphophysiological properties, chemical composition, and biologically active substances of white sedge varieties in the soil-climatic conditions of the Khorezm region is very relevant.

Species of the *Melilotus* genus are clearly distinguished from other legumes by their high adaptability, strong root system, resistance to adverse environmental factors, and ability to absorb atmospheric nitrogen from the air. The most common species of sweet melon are yellow sweet melon (*Melilotus officinalis* (L.) Pall.) and white sweet melon (*Melilotus albus* Medik.), which are used in folk medicine, modern medicine and pharmaceutical practice, as well as in the field of medicinal plant science, beekeeping and fodder production.

Seedlings can withstand short-term frosts down to -5 °C. Kashkarbeda species are considered photophilous long-day plants, they love light and do not like shady environments. In conditions of lack of light, they produce much weaker shoots and bloom sparsely.

According to the vegetation period of growth and development, the species of kashkarbeda are mainly biennial plants: in the first year, rosette-shaped leaves form on the branch and the root system develops strongly; In the second year, the shoots re-form, multiply, and go through the phases of flowering, seed formation, and ripening during their growth and development. However, when early planting of sedge species and favorable conditions (weather, climate, various agrotechnical measures) affect their one-year vegetative development, they can also be grown. In such cases, the species of sedges tend to flower, form seeds, and go through the ripening phases even in the first year of life.

The species of Kashkarbeda can grow and develop freely in soils with light or heavy mechanical composition, mainly black, chestnut, carbonate, stony and gravelly soils. However, plants often prefer soils rich in lime because they absorb more calcium through their root system. In addition, sorghum is considered a salt-tolerant plant, and it produces the expected results even in soils with salinity levels of 0.4-0.6%.

Yellow sedge has a shorter vegetative growth period and early flowering, while white sedge is distinguished by its high productivity of green mass and greater drought resistance.

Due to their deep root system, sedge species are not only drought-resistant, but also help improve soil microflora and composition, prevent soil erosion, and increase fertility. It is valued as a bioremediation plant, both in agriculture and as a plant of great importance in medicinal plant science.

In experiments by some researchers, yellow sweet clover – *Melilotus officinalis* (L.) Pall. – responds to water scarcity by reducing transpiration and photosynthetic activity,

However, they observed an increase in proline and sugar levels, which is a biochemical mechanism of adaptive adaptation.

LIST OF USED LITERATURE:

1. Kadyrov Sh. Yu., Sabirov R. S., Abdurahimov U. K. Agrotechnology of growing medicinal marigolds in the conditions of the Khorezm oasis (recommendations) // Khiva. Publishing Department of the Khorezm Mamun Academy, 2015.y
2. Alekseychuk. G. N., Laman N. A. Fiziologicheskoe kachestvo semyan selskohozyaystvennyx kultur i metody ego otsenki// Mn. : Pravo i ekonomika, 2005.y
3. Vasco V. T. Osnovy semenovedeniya polevyx kultur /V. T. Vasco. SPb. : Izdatelstvo "Lan", 2012.y
4. GOST-34221-2017 - Medicinal and aromatic plant seeds. Sorta i kachestva semyan. Methody opredeleniya vshojesti. 2017. y

