

**AGROTECHNOLOGY OF CULTIVATION OF MELILOTUS OFFICINALIS
IN SOIL-CLIMATIC CONDITIONS OF KHOREZM REGION**

*Radjabova Zulayxo Baxromovna¹,
Abdikadirova Shaxzoda Shokirjon qizi¹,
Xudayberganov Norbek Atabaevich²*

*¹Urganch State University. 220100, Khorezm region,
Urganch city, 14 Hamid Olimjan street*

*²Khorazm Mamun Academy. 220900. Khorezm region,
Khiva city, Center-1*

Annotatsiya: ushbu maqolada Melilotus officinalis ning biologiyasi, tarqalishi, kimyoviy tarkibi, ishlatilishi va Xorazm viloyatining sho'rlangan tuproq- iqlim sharoitlarida etishtirish agrotexnologiyasi haqidagi ma'lumotlar keltirilgan.

Kalit so'zlar: tuproq-iqlim sharoiti, dorivor o'simliklar, agrotexnologiya

Аннотация: в данной статье приведены сведения о биологии, распространении, химическом составе, применении и агротехнологии выращивания донника лекарственного на засоленных почвенно- климатических условиях Хорезмской области.

Ключевые слова: почвенно-климатические условия, лекарственные растения, агротехнология

Melilotus officinalis

Annotation: the article consists of information about biology, distribution, chemical composition, application and cultivation agrotechnology of plaster clover (Melilotus officinalis) in soil climatic conditions of Khorezm region.

Key words: soil climatic condition, medicinal plants, agrotechnology

Relevance of the research workit. is known that the Khorezm oasis has an agricultural culture based on artificial irrigation since ancient times, and its climate is highly variable and unstable. All the lands of the oasis are of different degrees of salinity, due to the lack of precipitation and the low relative humidity of the air during the day, some types of medicinal plants can be grown only by artificial irrigation. Therefore, it is an important problem to grow medicinal plants in the conditions of the Khorezm oasis, bring seeds from other places and acclimatize them to this climate, because not every herb grows in saline soil. Developing the technology of growing medicinal plants in saline soils, adapting plants to the climate, and creating a raw material base for preventive medicinal preparations are among the urgent tasks.

Biology. Melilotus officinalis - legumes - belongs to the Fabaceae family. Biennial herb growing 50-100 cm (sometimes 2 m) tall. The root is branchy, arrow

root. The stem is single or multiple, pointed, and the upper part is branched. The leaf is a compound leaf with three plates, arranged in a row with a band on the stem. The leaf is inverted ovate, ovate or oblong-lanceolate, flat-edged or finely saw-edged and glabrous, 3 cm long. The leaf has thin, flat-edged additional leaflets. The flowers are small, yellow, clustered in stipules. The calyx is cut to half into 5 triangular lanceolate pieces. The inflorescence is composed of butterfly-flowers.

There are 10 paternities, one of which is not united, the rest are united. The maternal node is single-digit, located above. The fruit is an egg-shaped, transversely bent, grayish, hairless, one-seeded pod. It blooms in June-September, and seeds are produced from August.

Geographic distribution. It grows on roadsides, meadows, and fields. It is mainly found in Ukraine, Moldova, the Baltic states, the European part of Russia, Western Siberia, the Caucasus and Central Asia.

Appearance of the product. The finished product consists of a mixture of crushed leaves and flowers. The product has a pleasant smell, salty and bitter taste. Product moisture 14%, total ash 10%, stalks thicker than 3 mm diameter 2%, small particles passing through a sieve with a hole diameter of 0.5 mm 5%, yellowed, Brown and blackened pieces should not be more than 2%, organic impurities 1% and mineral impurities 0.5%.

Chemical composition. The product contains up to 0.4-0.9% coumarin, dicoumarin (dicoumarol), melilotin, melilotoside glycoside, coumarin and melilotic acids and 0.01% essential oil. The smell of coumarin and partially melilotin gives the product a pleasant smell.

Usage. Medicinal preparations of the product are used to treat wounds (absorption of pus) as an emollient and effective medicine. Dicoumarol has an anticoagulant effect, which is 1000-5000 times stronger than coumarin. Therefore, dicoumarol is used as an anticoagulant drug.

Medicinal preparations. Ointment made from the product. The product includes emollients - teas. In medicine, along with *Melilotus officinalis*, there is a tall (tall) kashgarbed - *Melilotus altissimus* Thuill (a biennial plant up to 1.5 m tall, grown in the South-western part of Russia and the Altai region occurs) and sweet-smelling sedge — *Melilotus suaveolens* Ledeb. (*Melilotus officinalis* is found in the growing areas) plants are also used.

Agrotechnics of cultivation. It grows in all soils distributed in Uzbekistan. The plant is very resistant to drought, cold and salinity. As it belongs to the family of leguminous plants, Kashgarbe enriches the soil with biological nitrogen. When planted on saline soils, it reduces seepage and reduces salinity. It is also a honey plant. 25-28 cm. plowed deep and 50-60 kg. fed with superphosphate fertilizer. Kashgarbeda is propagated from seeds in autumn or early spring. It can be planted in the land freed

from various plants. Seeds that meet state standards of quality are planted. The land is harrowed and leveled with a trowel, and the seeds are sown in early spring with a grain seeder, 20-25 kg of seeds are used per hectare. The planting depth should not exceed 2-3 cm. It is often planted in *Melilotus officinalis* together with cover crops. Its growth period lasts 85-140 days. A plant planted in spring will sprout in 5-6 days. During the breeding season, it grows rapidly, its daily growth is 3-5 cm. It begins to grow in early spring. The flowering period lasts 14-15 days. When the fruit is ripe, it is shed. Mineral nitrogen is not often used for Kashgarbeda, because it accumulates nitrogen itself. Therefore, more phosphorus and potassium fertilizers are required. During the initial development period, its need for phosphorus is high. If there is enough phosphorus in this period, it will develop well in the following periods as well. The effect of potassium is less than that of phosphorus. Therefore, it gives a good result if used together. 90-110 kg during the growing season, depending on the type, fertility, and mechanical composition of the soil planted in Kashgar. phosphorus and 50-60 kg. it is recommended to use potassium. If these fertilizers are added to organic fertilizers or given before planting and after the first harvest, its development will be accelerated and the yield will be high. If the soil does not contain enough nitrogen, if its fertility is low, 40-50 kg before planting. nitrogen fertilization is recommended. The use of micro-fertilizers (molybdenum, boron and manganese) in the growth and development of *Melilotus officinalis* is appropriate.

Microfertilizers are mixed with other mineral fertilizers and seeds. Fertilization of *Melilotus officinalis* should be done before watering.

Preparation of the product. Combing the plant for hay is done during the flowering period. The seed is collected before the second harvest. Harvesting begins when 30% of the beans are harvested. They can be crushed and cleaned in combine harvesters. Leaves and flowers are separated, and the stem is discarded. The seeds are stored well when the moisture content is 15%, 10-12 centners of seeds per hectare are prepared from one harvest. It is recommended to water Kashgarbeda 5-6 times during the growing season.

The vegetation period of *Melilotus officinalis* was equal to 115-125 days in Khorezm conditions. Caring for *Melilotus officinalis* is similar to quail. It requires a lot of moisture and heat. It should also be noted that due to the presence of aromatic substances in the green mass of *Melilotus officinalis* during flowering-seed ripening, its nutritional value decreases slightly. *Melilotus officinalis* can also be used as a siderate during flowering.

Preliminary phytochemicals of the aerial parts of *Melilotus officinalis* as a result of examination, it was found that it contains coumarins, flavonoids, phenolic acids, additives, alkaloids, essential oil, carotenoids, organic acids, water-soluble polysaccharides and ascorbic acid. As a result of pharmacological investigations, it

was found that the main active substances among them are coumarins and partially coumarin, coumaric acids (phenocarbonic acids). Therefore, it was considered necessary to study these compounds in depth.

In conclusion, it can be said that the *Melilotus officinalis* plant is considered promising for the Khorezm region, and in the future, it can be used in the treatment of various diseases from the raw materials prepared from it in the soil and climate conditions of the Khorezm oasis.

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