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TECHNOLOGY OF GROWING SWEET CLOVER (*MELILOTUS OFFICINALIS* (L.) LAM) IN THE CONDITIONS OF KARAKALPAKSTAN

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ANNOTATION

The article discusses the features of the technology for growing sweet clover (*Melilotus officinalis* (L.) Lam). *Melilot officinalis* is grown as a medicinal plant, also as a green manure. Sweet clover does not have very high demands on the soil composition, has the greatest love for light, and is very resistant to drought.

KEY WORD: plantation, green manure, drought, soil, coumarin, nitrogen, phosphorus, pests, disease.

Today, 112 species of medicinal plants are allowed to be used in medicine in Uzbekistan. About 80% of them are naturally growing plants, but in recent years large areas of artificial plantations have increasingly appeared. According to the World Health Organization, 60% of medicines used in modern medicine are prepared and produced on the basis of medicinal plant materials.

In recent years, the republic has been implementing consistent reforms on the protection of medicinal plants, the rational use of natural resources, the construction of plantations for the cultivation of medicinal plants and their processing. In this regard, Resolution of the President of the Republic of Uzbekistan dated April 10, 2020 No. PP-4670 "On measures for the protection, cultural cultivation, processing of wild medicinal plants and rational use of available resources" was adopted.

Among the medicinal plants, sweet clover *Melilotus officinalis* is of great importance. Medicinal clover (lat. *Melilotus officinalis*) is a biennial herbaceous plant, a species of the genus Sweet clover of the legume family of the Moth family. The herbaceous young plant sweet clover (*Melilotus*) is a member of the Legume family. Sweet clover is a valuable green manure and fodder plant, and is also grown as a plant with medicinal properties.

Sweet clover (yellow clover) grows in Europe, the Caucasus, Asia Minor and Central Asia, and is common in Iran, Northwestern China, Tibet, and Russia. Medicinal sweet clover is undemanding to soil and grows in wastelands on embankments, along railways and highways, in gardens and vegetable gardens as a weed, in disturbed meadows; Sweet clover can withstand light salinity, is frost-resistant and drought-resistant.

The height of the branched stem of sweet clover can vary from 0.5 to 2 meters. Tap root. The leaf blades are trifoliate (similar to clover) and consist of serrated leaflets. The apical, loose, elongated racemes consist of small flowers of yellow or white color. The fruit is a naked bean, round in shape, and reaching 30–40 millimeters in length. The seeds remain viable for a relatively long time, more precisely, for 14 years.

The composition of the herbaceous plant *Melilot officinalis* includes coumarin, tannins and fat-like substances, essential oil, flavonoids, ascorbic acid, carotene, tocopherol, sugars, mucus and glycosides; in the process of their breakdown, coumarin is obtained, which is a crystalline substance with a rather pleasant hay aroma.

Preparations based on sweet clover are used in the treatment of bronchitis, hypertension, constipation, hysteria, migraine, insomnia, rheumatoid and gouty arthritis, cough, dropsy, atherosclerosis, flatulence, neurasthenia, increased nervous excitability, diffuse toxic goiter, and They are also used for purulent wounds, inflammation of the genital organs in women, abscesses and boils.



Sweet clover is grown as a green manure because it helps improve the structure of the soil and saturate it with a substance such as nitrogen. It is also grown as a forage plant, because it forms a nutritious biomass, which contains a very large amount of vitamins. The plant is used in the perfume industry; it is used to fix the aroma. This plant is one of the best honey plants. From the nectar collected from the flowers of such a culture, white or amber honey is obtained, which has a very pleasant vanilla aroma.

In the conditions of Karakalpakstan, the territory of the meeting of citizens of the mahalla (MCM) "Kutly Makan" was chosen as the place of experiment. During the experiment on May 5, 2022, seeds were sown on well-plowed and leveled areas. At a temperature of 25°C, the seed sowing depth was 2-3 centimeters. 20-24 kg of seeds were planted per hectare. Seed germination was 55-60%. On May 20, 2022, the length of the leaves was 1.5-2 cm. In the first year, the plant produces only one pod 90-100 cm. On May 25, 2022, the plant already had 3 leaves, 2-2.5 cm long. On May 30, 2022 the plant had 4-5 leaves, the length of which was 3-3.5 cm.

In the first year they water 2-3 times, they grow well. In the second year, it begins to grow in early spring, and by the summer months its height is 200-250 cm and even higher, and it produces a lot of flowers. Flowering of sweet clover lasts 20-25 days, starting from the first five days of June, the seeds ripen in July-August.

Sweet clover is not very demanding on soil composition. This herbaceous plant grows well on chernozem, solonetz, slightly podzolic and carbonate soil.

Sweet clover has the ability to accumulate nitrogen, as well as extract nutrients from poorly soluble soil compounds, as a result of which it is able to grow and develop well even on poor or depleted soil. Plants have the greatest light-loving properties.

Before planting, the area should be carefully prepared. To do this, it must be dug up with the application of phosphorus and potassium fertilizers, so 50 grams of superphosphate and 20 grams of potassium salt are taken per square meter.

Sweet clover, like almost all agricultural crops, is susceptible to a wide variety of diseases, and various pests that damage the plant can also settle on it. Most often, this plant is affected by powdery mildew, ascochyta blight, downy mildew, root bacteriosis, septoria blight and yellow mosaic. As a rule, bushes are affected by fungal diseases only in cases where they are grown in conditions that are not entirely suitable for a given crop. It is recommended to treat diseased plants as soon as possible with a fungicide solution, for example, Fundazol, Maxim, Bordeaux mixture, Abiga-Peak, etc. Such pests can settle on this plant; in order to get rid of such harmful insects, experts advise using systemic insecticides, for example, such as: Aktellik, Aktaru, Karbofos or other products that have a similar effect.

Thus, according to the results of the study, it is recommended to plant sweet clover in the conditions of Karakalpakstan, since this plant, having healing properties, improves the health of saline areas and improves the soil. Sweet clover is not very demanding on the composition of the soil, has the greatest light tolerance, and is very resistant to drought.

LITERATURE

1. Resolution of the President of the Republic of Uzbekistan dated May 20, 2022, volume PP-251
2. Atabaeva Kh.N., Khudaykulov Zh.B. "Crop production" Tashkent 2018 pp. 245-247.
3. Fedoseeva L.M., Kharlampovich T.A. Study of some water-soluble compounds of the herb melilot (Melilotus officinalis L.) - Chemistry of plant materials 2013, p. 153-157.
4. Mukhtorov M. "A thousand medicines for a thousand diseases", treatment with medicinal plants, p. 225.
5. Rakhmatov A.A. "Honey-bearing plants of the Fergana Valley and their bioecological characteristics" Dissertation for a master's degree Scientific supervisor: candidate of biological sciences, associate professor Naralieva N.M. Andijan - 2016 p. 34.
6. Shemelinina T.V., Sorokina A.A. Composition of ascorbin and organic acids in Kashgarbeda herb - Pharmacy 2015, pp. 22-24.