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Characteristics and cultivation methods of sweet brain plant.

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Abstract: In this article, the main characteristics of Shirinmia, its composition, territorial distribution in nature, the ways of reproduction, its use in medicine, what diseases it is used for, production of decision projects on the organization of plantations, and other information are fully presented.

Keywords: Plantation, to the family of the corner family, essential oils, vegetation, glycyrrhizin substance, red licorice.

Licorice or licorice (Glerrhizza glabra in Latin) is a perennial plant belonging to the family of sedges. It grows mainly on mountain slopes, groves, riverbanks, stream banks, salty and sandy lands, sometimes among crops. Licorice has been known as a medicinal plant since ancient times. In Chinese folk medicine, this plant was used to treat various diseases before 3000 BC. Its root is an arrow root, it forms underground rhizomes and penetrates to a depth of 5-6 meters. The stem is erect, branched or unbranched, covered with hairs, and reaches a height of 50 to 200 centimeters. The leaves are complex vine-like, green in color. The flowers are bisexual, yellow in color, forming a simple umbel inflorescence in the leaf axils. The fruit is a legume that does not open when ripe, with 3-7 seeds. The seed is hard, smooth, green. Licorice blooms from late April to May. The fruit ripens in August and September. On the territory of our republic, licorice is considered a typical forest plant and is found mainly in the lower parts of Syrdarya and Amudarya. Also, there is information about the healing properties of the licorice plant in Indian and Tibetan medicine. Our great-grandfather Abu Ali Ibn Sina, a famous scientist and healer of the Middle Ages, used the underground parts of licorice on a very large scale in his treatment practice. In particular, it was used in the treatment of stomach and intestinal ulcers, lung and respiratory diseases, and also as a diuretic. Shirinmia contains useful medicinal substances that cure various diseases. In particular, it contains a large amount of glycyrrhizin substance with a sweet taste, essential oils, 27 types of flavonoids, glucose, sugar, starch, ascorbic acid, protein and other useful substances. In medicine, glycyrrhizin has been found to regulate the amount of water and salt in the body, protect against colds, and treat various allergic and skin diseases such as itching, scabies, and urticaria. Juices prepared from the root have an expectorant, pain-relieving and soothing effect on inflammation of the respiratory tract. In folk medicine, decoctions made from the root are used as a diaphoretic, mild expectorant, and in the treatment of shortness of breath, cough, stomach and duodenal ulcers. That's probably why many people consume the tincture of the root of the plant. Licorice has medicinal properties such as refreshing, rejuvenating and normal vision. After 20-30 minutes after eating nutritious and high-quality food, after drinking the tincture 2 or 3 times a day for a month, its beneficial properties will be manifested. The role of this plant is incomparable in modern medicine, and it is processed in the pharmaceutical industry to produce various medicines. At the same time, it is one of the main components of many medicinal preparations. After our country gained independence, special attention was paid to the cultivation of

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medicinal plants, and today raw materials from our Republic are exported to a number of developed countries: USA, Great Britain, Germany, Japan, Korea and other countries.

According to the decision of the Cabinet of Ministers of the Republic of Uzbekistan: Supplement on the effective organization of cultivation and industrial processing of licorice and other medicinal plants, increasing the attractiveness of the industry for business entities, as well as increasing the volume of production of exportable products with high added value A decision was made on measures: The main tasks of the Association of Cultivation and Processing of Licorice and Other Medicinal Plants (hereinafter referred to as the Association):

formation of comprehensive development programs for the cultivation and processing of licorice and other medicinal plants and participation in coordinating their implementation, assisting in conducting a unified scientific-technical, technological, investment and export policy in this field;

establishment of special plantations in favorable areas for the growth of licorice and other medicinal plants, including by introducing intensive cultivation technologies and gradually increasing the volume of their cultivation by rationally using natural growing areas;

establishment of plantations, as well as industrial deep processing of licorice and other medicinal plants and production of exportable products with high added value, to assist in effective organization of cooperation of business entities with state administration bodies, local state authorities at all levels;

participation in the development of drafts of regulatory legal documents related to the development of the cultivation and processing of licorice and other medicinal plants, as well as the implementation of public environmental control;

participation in coordinating the implementation of investment programs and projects in the field of cultivation and processing of licorice and other medicinal plants;

active involvement of foreign investments, foreign experts and consultants in the processes of establishment of new facilities for cultivation and processing of licorice and other medicinal plants and development of existing ones, introduction of advanced technologies in this field;

the task of participating in training and retraining of specialists for this field, effective organization and coordination of higher and secondary special, vocational education institutions, as well as abroad, and monitoring the implementation of several other decisions was developed.

In the conditions of our republic, the licorice plant is propagated mainly in three different ways: from seeds, rhizomes and seedlings. The first method is done by sowing seeds. For this, it is necessary to select the areas with proper agrotechnics, well plowed in the fall, cleaned of weeds, ground, chiseled, and leveled. 70 cm spacing is taken on the prepared areas and the seeds are sown 1-3 cm deep. Seed sowing can be done by mechanization in autumn and early spring. 4-5 kg of seeds are planted per hectare. After the seed is planted, the field is irrigated and the topsoil is required to be kept moist until the turf is established. As soon as the soil temperature exceeds 100C, germination of grasses is observed. Grasses are mainly cultivated between the rows when they reach 20-25 cm. During vegetation, the plant area is watered 8-10 times. Cultivation is carried out after every 2-3 waterings, and the rows are hoeed and maintained. However, taking into account the low fertility of seeds in saline soils (1.5-2.0%), it is impossible to establish cultivated areas of industrial value by growing sweet potato seeds.

The second method is propagated from rhizomes. In this method, plant raw materials, i.e. rhizomes, are dug up from the fields. Cuttings of rhizomes 10-15 cm long are prepared using sharp tools. It is

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recommended to use 2000-3000 kg of rhizomes per hectare. On the pre-prepared and agrotechnical areas, the spacing is 90 cm, and the rhizomes are planted at a depth of 5-8 cm with the help of mechanization. This process is also carried out in autumn and early spring. Taking into account the soil moisture, it is effective to water the rhizome planted area frequently and maintain moisture in the soil. Agrotechnical measures are carried out in the planted areas depending on the state of the plants, and they are watered and cared for 6-8 times in the first year (during the growing season). From the 2nd year of plant vegetation, the rate of watering is reduced depending on the soil conditions. This method is mainly effective in the establishment of large cultivated areas of industrial importance. However, when propagated by this method, 2000-3000 kg of valuable raw materials are used per 1 ha.

The third method is to plant seeds in gray soil, grow seedlings from them, and then transplant them to saline soils. For example, when seedlings that have passed one vegetation period are transplanted to saline soils, their growth and preservation is 70-80%. Raw materials are used from the 4-5th year of vegetation. The industrially important raw material consists of roots and rhizomes, the bark is brown, the inside is orange, it has a characteristic smell and a very sweet taste. It is possible to grow 8-10t per hectare of the underground part of the ground that meets the requirements of the state standard, and 20-25t of nutritious fodder in the wet state. The underground part of the plant is dug from a depth of 0-50 cm, cleaned of soil and dried. Currently, sweet brain plant plantations are widely established in our country, and on this basis, practical work is being carried out for the production of natural medicine.

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