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Research Article

ECOLOGICAL CHARACTERISTICS OF GLYCYRRHIZA GLABRA L., ITS IMPORTANCE IN AGRICULTURE AND MEDICINE

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ABSTRACT

In this article, a deep scientific analysis of the unique properties of the medicinal plant Glycyrrhiza glabra L., its importance and necessity in agriculture is given, based on which the relevance of this topic is scientifically explained in a wide way.

KEYWORDS

Polymorphic plant, environmental conditions, waterside areas, naturally, plants, vegetatively, disappeared, main factors, agricultural farming, technology and agrotechnics of growing.

INTRODUCTION

Smooth, Glycyrrhiza glabra L. is a polymorphic plant, the appearance of which is slightly different depending on the environmental conditions. About 30 forms of the smooth Glycyrrhiza glabra L. species growing in the basins of Central Asia and Kazakhstan, Caucasus, Volga and Don, Dnieper and Dniester rivers were studied in natural and cultural (in Tashkent and Mirzachul conditions) and it was found that their morphological characteristics have characteristics of preservation in different ecological conditions. (Tashmukhamedov, 1974; Ashurmetov, 1987).

Licorice is a typical forest plant, naturally, it grows mainly in waterside areas with sufficient moisture. A. Bakhiev (1976) adapted to grow as the main edifier in moist areas where Glycyrrhiza glabra L. is prone to forest plants (willow, sedge, reed, sedge, etc.). It is also

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found as an edifier in grassy forests where there are no trees or shrubs.

METHODS

The research used a systematic-structural approach based on the principles of objectivity, universality, concreteness, logical and historical practical systematic analysis. This makes it possible to see the environmental problems presented in the article as a whole system.

RESULTS AND DISCUSSION

Glycyrrhiza glabra L. is a salt-tolerant plant, but it is rarely found in naturally high salinity areas, because Glycyrrhiza glabra L. naturally reproduces mainly by generative means, while in highly saline soils, sprouted grasses die, due to manure or cattle manure, and water runoff. Seedlings can survive in clean or low salinity soils. However, we can find sweet saffron growing well in areas with strong saline soil. This is due to the fact that if there are few Glycyrrhiza glabra L. plants, the salinity level of this soil may increase and reach a high level of salinity, but Glycyrrhiza glabra L. that has passed one vegetation period can grow well in saline soil.

It can be propagated vegetatively in areas with strong salinity. When planted, the roots of "liquorice" pierce the gypsum layer in the soil, enriching the soil with nitrogen, humus and other useful elements. By increasing the grain size of the soil, it reduces the level of salinity (dry residue in 4-5 years) by 2.0-2.5 times.

Due to the fact that the roots of smooth Glycyrrhiza glabra L. penetrate deep into the soil layer and reach underground water, planting this plant is an incomparable plant in stopping the movement of soil, sand and salt, in creating new pastures for cattle in places where forage plants have disappeared due to the rise of flood waters and soil salinity. is considered

According to N. Khaidarov, the rate of evaporation in the period from April 1 to the end of September is 2319 t/ha in the area of Glycyrrhiza glabra L. in the moderately saline area, and 4334 t/ha in the open area, as well as 3364 t/ha in the area of Glycyrrhiza glabra L. in the area of strong salinity. , in the open area was 5085 t/ha. During four months (June, July, August, September), smooth licorice plants grown in medium salinity areas lost 10,808 t/ha, and smooth licorice plants grown in high salinity areas lost 6,365 t/ha. This, in turn, is one of the main factors that reduce salinity (Khaydarov, 1990).

In general, it is very beneficial to plant Glycyrrhiza glabra L. not only as a raw material, but also in agricultural farming, as a plant that assimilates the land using the botanical method, and restores the ecological balance. The scientists of the Republic of Uzbekistan, mainly the scientists of the Institute of Botany, developed the technology and agrotechnics of growing this plant together with ameliorative fodder plants, and created the method of botanically developing saline lands. Along with its ability to grow well on saline, gypsum soils, it has been proved that it has a strong ability to reduce the amount of salt in the soil and increase its productivity, and it can be grown with natural moisture in the lands near seepage water (Zokirov et al., 1970; Pauzner, Muinova, 1970, 1973; Nigmatov, 1972, 1977; Tekaev, 1977; Badalov, 1979; Komilov et al., 1991; Kuziev, Streltsovav, 2008).

Like other legumes, the roots of this plant contain azotobacterial nodules, which enrich the soil with nitrogen. In addition, 9-12t/ha of plant residues remain on the ground and rot, enriching the soil with organic humus. As a result, the structure and physical condition of the soil improves and its graininess increases.

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There is no end to the variety of uses of the Glycyrrhiza glabra L. plant in different fields. It is used in many branches of agriculture. Livestock: The above-ground part of Glycyrrhiza glabra L. is a good fodder for livestock and can also be used as silage. In this case, knowing the standard of feeding cattle will have a good effect. Glycyrrhiza glabra L. contains 1.5-2 times more protein, protein, fat and sugar than alfalfa, wild alfalfa and spartate. In naturally growing sweet potato, there are 11-18% protein, 10-15% protein nitrogen, 3-9% fat, 6000-20000 ME/kg of phytoestragens - equal to 0.40-0.45 nutritional units. The quality of these indicators is even better in the above-ground parts of the planted sweet potato, having 8.2-24.0% protein, 10.5-19.7% protein, 3.2-9.1% fat and other substances. Glycyrrhiza glabra L. contains 11 different useful substances, including sorrel (shavelovaya), grape (vinnaya), lemon, apple, amber and fumaric acids. Free nutrient acid in it is 4.6-6.0%, and the sum of phenolic compounds is 1.5-2.8%. Its nutritional properties are highly valued for livestock, it has a biologically active substance that regulates the metabolism and plays a major role as a phytoestrogen.

The use of "liquorice" in medicine began very long ago, 2800 years before our era. During the time of Hippocrates and Theophrastus, who lived in the 4th century BC, it was called "the Scythian vein from the coast of the Sea of Azov". The great and famous scientist, physician Abu Ali Ibn Sina used sweet pepper in the treatment of many ailments and wrote it down in his works. In general, Glycyrrhiza glabra L. has been widely used and is still being used up to our time. The root contains biologically active substances: hydrocortisone, antiseptic, antidontic, used against colds, and also has an effect on the treatment of glandular swellings in the body. At the same time, it has been used since ancient times in folk medicine for cough, chest pain, shortness of breath, respiratory tract colds, anemia, kidney, liver, fever, gums, lungs, voice disorders, stomach inflammation, chronic constipation, kidney and bladder ulcers and various other ailments. widely used in treatment (Holmatov, Kasimov 1994; Ibn Sino, 1993; Tolstikov and others 2007 and others).

In modern medicine, the roots of Glycyrrhiza glabra L. are used in the preparation of glyciram, liquiriton, likurazid, flakorbon and more than 100 other preparations. Preparations, dry and liquid extracts and juice made from Glycyrrhiza glabra L. raw materials are used for colds, lung and respiratory tract diseases, expectorant, diuretic, metabolism regulating, asthma, eczema, allergic, food poisoning, stomach and duodenal ulcer and inflammation. It is used against diseases and infections. It is used when the skin is burned, injured and inflamed. The flour, thick and liquid extracts and juice prepared from the roots are used in pharmaceuticals for the preparation of compound medicine. Also, in folk medicine, the decoction is used for chest pain, shortness of breath, dry throat, gastrointestinal tract, cough, expectorant, diuretic, and mild expectorant for chronic constipation (Nabiev et al., 1989; Taganov, Karimov, 1991; Irismetov, 1991).

Glycyrrhizic acid in the root of Glycyrrhiza glabra L. is the main medicinal substance. This substance has a very sweet taste and is 50 times stronger than sugar in terms of its sweet taste. Glycyrrhiza glabra L. roots and rhizomes contain many chemical compounds, including mono- and disaccharides, starch, pectin, fiber, protein and nitrogenous compounds, organic acids, flavonoids, coumarins, gums, oil, essential oil, steroids, ascorbic acids, macroelements - K , Sa, Mg, Fe, trace elements — Mn, Cr, Al, Va, N, Sr, Pb and other elements. Liquiritin, liquiritoside, licuroside, glabroside and other 30 different compounds were isolated from flavonoids obtained from underground parts

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(Kholmatov, Kasimov, 1994). The surface of Glycyrrhiza glabra L. contains protein, protein, saponins (steroid, triterpene), flavonoids, coumarins, ascorbic acid, essential oil, flavoring agents, sugars, pigments, fiber, organic acids, carotene, chlorophyll, etc. Quertetin and its glycosides, kaempferol, astrogollin, glyphoside, saponaritin, vitexin, glabranin, etc. were isolated from the flavonoids obtained from the upper part of the earth (Streltsova, Muinova, 1991).

CONCLUSION

It was found that the drug prepared from glycyrrhizinic acid obtained from the roots of Glycyrrhiza glabra L. is superior to the drug "Azidothymidine" when used against HIV infection - AIDS, and the drug made from flavonoid substances is 25 times stronger than "Azidothymidine" (Tolstikov et al., 1991). . An anti-cold medicine was produced from saponin and flavonoids obtained from the surface of the earth, and its use was found to be effective (Shitov, 1980). According to the results of the analysis carried out jointly by the countries of China, Korea and Japan, on an electronic computer, among the 233 medicinal plants included in 158 complex recipes, the product obtained from Glycyrrhiza glabra L. took the first place in terms of its medicinal benefits and the few negative effects (Grinevich, Brachman , 1977).

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