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INCREASING SOIL FERTILITY FOR THE LICORICE (GLYCYRRHIZA GLABRA) PLANT

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Abstract: This article provides information on the interaction between licorice plants and soil, and methods for increasing soil fertility. It also presents general concepts of soil cultivation through the application of agrotechnical measures, as well as information on the chemical and mineral composition of the soil.

Key word: Glyrrhiza glabral. Salinity, fertilizer, salt leaching, reclamation crop, nitrogen-fixing nodule bacteria.

Login: Scientists have established that the application of various agro-ores at different times and rates in the conditions of saline soils, among various reclamation measures, leads to a decrease in the amount of water-soluble salts in the plow layer of the soil and does not have a negative impact on the plant [1-27].

Research methods. All observations, analyzes and calculations in the research were carried out on the basis of "Methods of conducting field experiments", the amount of nutrients in the soil and agrophysical analyzes "Methods of agrochemical, agrophysical and microbiological research and irrigation of agricultural districts " (1963) .

Results and analyses. Licorice (Glycyrrhiza glabra L.) is a perennial herbaceous plant belonging to the legume (Fabaceae) family. Its stem is erect, 50-120 cm tall, branched or unbranched, and covered with hairs. The root is a taproot, branched, reaching a depth of 5-6 meters. Leaves are dark pinnate, 8-20 cm long. The flowers are zygomorphic, bisexual, blooming from late April to June, and bearing fruit in August. The fruit is a pod containing 3-7 seeds; the seeds are small, smooth, and brown in color. Licorice root contains hormonally active glycyrrhizin, sucrose, fructose, glucose, tannins, about 30 flavonoids, and a number of other active substances. It has long been known as a medicinal plant. In medicine, preparations made from its root and rhizome are used to treat inflammation, allergies, poisoning, Addison's disease, gout, pertussis, diphtheria, tuberculosis, and eczema. Licorice also has expectorant properties.
Licorice is sold in pharmacies in the form of syrup. It is especially recommended for young children with colds.
To increase the fertility of saline soils, it is recommended to use the following precise and effective methods: Fertilization and addition of mineral substances: Saline soils may lack the necessary mineral substances for plants. Therefore, to improve the chemical composition of the soil, it is important to apply fertilizers containing phosphorus, potassium, and other

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micronutrients. This supports the growth and development of plants. Leaching saline soils: The accumulation of salts in saline soils can be harmful to plants. By leaching salts, it is possible to reduce soil salinity and create favorable conditions for plants. For this, it is necessary to regularly irrigate the soil and improve the drainage system. Use of organic matter:

The addition of compost, manure, and other organic substances to the soil improves soil structure, increases water and air permeability, and supports microbiological activity. This creates favorable conditions for the growth of plants. Implementation of crop rotation: Through crop rotation, soil fertility can be preserved and increased. Sequential planting of different plants improves soil structure and prevents the spread of pests. Planting halophytic plants: Planting halophytic plants in saline soils helps reduce soil salinity.

These plants absorb salts from the soil, reduce soil salinity, and create favorable conditions for other plants. Use of microorganisms: By increasing the activity of soil microbes, it is possible to accelerate the decomposition of organic matter and increase soil fertility. For this purpose, the use of microbiological preparations is recommended.

Glycyrrhiza glabra L. (Lamia, licorice plant) is a plant with sweet and medicinal properties, the roots of which are mainly used in the production of sweets and pharmaceuticals. The licorice plant requires certain fertilizers for good growth in the soil. Nitrogen (N) - Nitrogen is one of the main components of plant growth and development. Glycyrrhiza glabra plants grow well in soils rich in nitrogen. Nitrogen supports the development of plant leaves and roots. A high level of nitrogen contributes to the rapid growth of roots. Phosphorus (P) - Phosphorus supports the development of the root system of Glycyrrhiza glabra plants and increases root productivity. Phosphorus also helps improve the plant's energy metabolism and fruit yield.

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Potassium (K) Potassium increases the stress resistance of Glycyrrhiza glabra plants and helps plants retain water. Potassium also helps strengthen the health of the plant's root system and improves the process of photosynthesis in plants. Calcium (Ca) - Calcium strengthens plant cell walls and improves root health. It also helps plants grow in fluctuating pH environments during their growth process. Magnesium (Mg) Magnesium plays an important role in the production of chlorophyll in plants, therefore it improves the photosynthesis process of Glycyrrhiza glabra plants. This has a positive effect on the overall growth of the plant. Sulfates (SO_4–) Sulfates are important in the synthesis of amino acids and proteins in Glycyrrhiza glabra plants. This supports the healthy development of plants and a strong root system. Organic fertilizers.
Compost (Compostum) - is produced by the decomposition of organic substances by microorganisms and makes the soil of Glycyrrhiza glabra plants fertile.Manure (Manure) - used as a fertilizer, enriches the soil composition and positively affects the growth of Glycyrrhiza glabra plants.

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