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THE IMPORTANCE OF THE PREPARATION RIZOVIT-AKS IN PRODUCING ECOLOGICALLY CLEAN GRAIN FROM SOYBEAN

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Abstract: The information presented in this article is analytically illustrated from the results of several studies conducted, and opinions are given on the importance of soybean, agrotechnology of cultivation, growth and development, requirements for light, soil, and the importance of Rizovit-AKS biological fertilizer in obtaining pure grain yields from soybean.

Keywords: Soybean, importance, cultivation technology, Rhizovit-AKS, growth, development, roots, nitrogen accumulation.

Currently, the acceleration of food and animal feed production requires an increase in soybean cultivation. Soybeans contain a valuable rare protein, which is not inferior to animal protein in nutritional value. They contain unique biologically active substances, lecithin, choline, vitamins A, B and E, macro- and microelements and other valuable substances. Its various varieties contain up to 57% dietary protein, easily digestible unsaturated fat and up to 30% carbohydrates (mainly mono- and disaccharides), which contain biologically active substances and vitamins: A, B1, B2, B6, E, C, D, QRR and others, as well as microelements such as Mn, Mo, Mg, B, Fe [1; 2;3].

The main products produced from soybeans are soybean meal and soybean oil. Soybean meal is used in the production of confectionery products, fillers, meat, milk, and cheese substitutes. The oil is used in food, in the production of mayonnaise, margarine, and spreads. Many scientists and manufacturers say that “soybean is food, feed is fodder, and the future” [4;5].

To increase livestock productivity, when feeding animals with soybean feed, their daily weight gain has doubled. In this case, the feeding period to achieve 100 kg of live weight is reduced by 10-15 days, and the quality of the product increases. Soybean hulls, meal, flour and bran are used for fodder. The hulls contain 38.7% protein and 5.5% oil. Soybean hulls and flour replace milk in the diet of calves [6;7;8].

For the production of industrial products, various products can be produced from soybean waste that is not used in the food industry and animal husbandry - building boards, fabrics, artificial fertilizers, and paint, soap, varnish, black paint, and rubber products from soybean oil production residues.

As an industrial crop, soybeans are used in the soap, paint, textile, chemical, and industrial sectors. Plastics, film, linoleum, technical oil, and many other products are made from soybeans.

Growth and development. The soybean plant goes through the following growth and development phases during the growing season: germination, tillering, tillering, flowering and ripening. For the germination and germination of soybean seeds, 130-160% of their dry weight of water is required. 2-3 days after the germination of the seeds, the shoots develop, and the shoots begin to grow into roots and shoots. The shoots emerge from the soil surface with 2 cotyledon leaves. This germination phase occurs 7-8 days after sowing. Soybeans develop slowly during the initial growing season. After germination, they grow to a length of 15-20 cm within 20-25 days. The first three pairs of leaves are formed 5-7 days after germination. The

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flowering phase begins 35-40 days after full germination, depending on the variety, different climatic conditions and planting time. With the onset of flowering, intensive growth also begins. Flowering begins first on the main lower branches of the stem and opens upwards. The grain is fully ripe after 15-20 days.

Light requirements. Soybean is a short-day plant, light plays a key role in the growth of the plant. When the plant is grown in a short day, the flowering phase begins quickly, otherwise the flowering period is delayed. For most soybean varieties, a light day length of 13-16 hours is considered optimal.

Soil requirements. Soybean can be grown in areas with different soil fertility. Soybean grows in other areas, except for acidic, highly saline or waterlogged soils. The soil reaction pH 6.7-7 is considered favorable for soybean cultivation. Regardless of the fact that soybean can grow on different soils, its mechanical composition is light, fertile, porous, rich in humus, and when planted in soil, the yield and its quality are good [9;10;11;12].

"Rizovit-AKS" biofertilizers are based on strains of nitrogen-fixing nodule bacteria, which fix atmospheric nitrogen and enrich the soil with pure biological nitrogen that is easily available to plants. And increase the yield of leguminous crops (soybeans, peas, alfalfa, lentils, peas, etc.). As a result of using this biological fertilizer, 250-300 kg of biological nitrogen accumulates in the soil per 1 hectare of cultivated area. The drug was developed by the Republican State Enterprise "Institute of Microbiology and Virology".

Rizovit-AKS is a biofertilizer that contains nodule bacteria that are beneficial for soybean plants. These bacteria bind atmospheric nitrogen, creating a natural source of nutrients for the plant.

Useful properties: increases soybean yield, improves soil fertility, reduces the consumption of mineral fertilizers, improves the plant root system.

Method of application: 700-800 ml of Rizovit-AKS solution is required to treat 100 kg of soybean seeds. To prepare the solution, Rizovit-AKS is mixed with clean water. The seeds are dipped in the preparation and mixed thoroughly. It should be dried and sown immediately.

Spraying the plant during the growing season: it is recommended to spray the leaves when the plant has 4-6 leaves, 250-300 ml of Rizovit-AKS biofertilizer is required per 1 hectare of area.

Increased yield: Experiments conducted in different regions of Uzbekistan show that the yield of soybean crops treated with Rizovit-AKS increased by 10-15%. This is due to the fact that the fertilizer helps the plant to better absorb nitrogen.

Conclusion. As a legume, soybeans, through their roots, absorb pure nitrogen from the air and enrich the soil with nitrogen. Soybeans are the most important crop in modern agriculture, improving soil structure, increasing biological productivity, and leaving behind 55-60 kg of pure nitrogen in the soil. When soybeans are treated with the drug Rizovit-AKS, their yield increases by 10-30%, improves soil condition, and makes them resistant to pests. Natural nitrogen accumulates in the soil, and the plant becomes resistant to diseases and drought.

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