



## INFLUENCE OF MICRO ELEMENTS ON GROWTH, DEVELOPMENT AND PRODUCTIVITY OF SAY

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### Abstract:

Currently, the demand for food products is increasing day by day along with the increase in world population. As a result, providing the world's population with food is one of the urgent issues of today. Currently, as a result of climate change, there are unfavorable conditions for growing plants. In such a situation, it was possible to grow under any conditions without any difficulties. Creates an optimal nutritional regime for soy nutrition of microelements. The amount of mineral nitrogen, mobile phosphorus and exchangeable potassium in the soil is high as a result of the use of nitrogenous, phosphorous and potash fertilizers from macroelements. As a result of creating favorable conditions for the nutrition of soybeans with the use of microelements, the growth and development of soybeans improved dramatically.

**Keywords:** Microelement, macroelement, nitrogenous, phosphorous, potassium, fertilizer, soy, mineral nitrogen, mobile phosphorus, potassium, soil nutrition regime, variety, Gavhar

**RELEVANCE OF THE TOPIC.** According to the decision of the President of the Republic of Uzbekistan dated March 14, 2017 No. PQ-2832 on the implementation of the decision on improving soybean planting and providing processing technologies in 2017-21. to provide, to strengthen the export potential of the industry, increasing investment attractiveness, as well as meeting the needs of the population of our country for soybeans and soybean products and developing soybean farming in our country. the effect of microelements on soy was studied. Currently, the main directions of world agriculture are aimed at obtaining high and quality crops due to the introduction of resource and energy-saving technologies. Because 35-40 percent of the world's land areas are losing humus, nutrients, and the process of erosion is observed, which leads to a decrease in soil fertility and crop yield. Eliminating these situations is achieved by using microfertilizers in feeding agricultural crops in the USA, Germany, Austria and other countries.

In our republic, extensive measures are being taken to preserve and increase soil fertility, to grow many types of agricultural products based on the effective use of mineral fertilizers. It is important to use energy-saving technologies in agriculture, to provide plants with macro and microelements in favorable proportions, to maintain and increase soil fertility. Research on the effectiveness of trace elements in plants and the development of methods for their use in plants is carried out by the world's leading research centers and higher education institutions, including the Department of Agriculture (USDA), The University of Texas School of Iowa (USA), University of Cordoba (Spain), SCPA; ITCF; EDP Sciences (France), Herbert Publication Limited; Inderscience Enterprises Ltd (England), Springer, Part of Springer Science+Business Media; Physiological and Pharmacological Society (Germany), Agricultural Academy of It is conducted in Bulgaria, Chinese Cotton Research Institute (China), Soil Science and Agrochemical Research Institute (Uzbekistan). Deficiency of trace elements in the soil, as well as their excess, can cause a number of diseases in plants, animals, and humans. K. Kruglova, M. M. Aliyeva, G. I. Kobzeva, T. P. Popova, B. M. Isayev, M. A. Rish, J. S. Sattarov, K. Mirzajonov and A. Gafurov, A. A. Karimberdiyeva, F. Kh. Khoshimov, A. L. Sanakulov, A. Rajabov and others studied . Therefore, the study of microelements in the soil and plants and the development of the theoretical basis for the use of microfertilizers are the main basis for obtaining a high-quality, competitive crop. . Soybean is an annual plant belonging to the family of leguminous crops, native to Central Asia. Soybeans play an important role in the preparation of food, fodder and soil fertility. Soybean contains 38-52% protein, 22-25% fat, oil contains various vitamins, and husk contains 4-5% protein and up to 5% fat. Soybean grain has 2.5 times more protein than wheat grain and 3.5 times more than corn grain, and soybean protein contains more than 10 amino acids. Blue mass is food for livestock. Soybean roots, like the roots of all legumes, develop nodules that can use nitrogen from the air. Thanks to the nodules formed by rhizobial bacteria in the roots of the soybean plant, it accumulates up to 150-250 kilograms of pure nitrogen per hectare. Shadow

light, It is a very ancient plant that loves heat and moisture. Soybean planting areas in Uzbekistan are expanding year by year. In 2022, 146,500 hectares, of which 82,500 hectares are open fields, are planned to be planted with soybeans. By the end of this year, a total of 165,000 tons of soybeans are expected to be grown in the republic. 34,000 tons of vegetable oil and 128,000 tons of soybean meal will be produced from it. Soybean meal will be directed to 38 million poultry that are raised in an industrial way. For information, it can be said that today in many countries of the world soybeans are grown on a total area of about 122 million hectares. It is worth noting that soybeans can be planted mechanized between cotton rows. That is why, before planting the plant in the ground, seed drills and inter-row processing units are adjusted. So, shade fat-free flour is used as a source of protein in the diet of poultry and small domestic animals (sheep, goats), dairy and meat cattle. At the same time, soybean oil is also important because it is easy to digest in the human body. Milk, yogurt, cottage cheese, cheese, various meats, environmentally friendly oil are obtained from soy protein. Bread products made from soy flour can be kept soft for several days and are nutritious.

**MATERIALS AND METHODS.** Field experiments were conducted in the soils of the educational experimental farm "Extension center" of Samarkand branch of Tashkent State Agrarian University. Grassy gray soils and soybean "Gavhar" were selected as research objects. In order to study the growth and nutrition of the main crop, the field was planted in the experimental area and biometric measurements were taken during the growth phases.

The agrochemical composition of soils, nutrient balance, dynamics, amount of humus, influence on amaranth growth, development, nutrition, productivity, and product quality were studied in the study. The system of applying micro-fertilizers to soybeans was studied.

Planned works and research methods. All soil, fertilizer, and plant analyses, biometric measurements, and phenological observations performed in the study were conducted using generally accepted standard methods used in agrochemistry, soil science, and plant science.

In order to implement the goals and tasks indicated above, field experiments were conducted on the basis of experimental structures:

To study the growth and nutrition of soybean as a main crop, it is planted in the field and growth phases biometric measurements and phenological observations were carried out.

The experiment is conducted according to TAITI methods. Analyzes were performed according to generally accepted standard methods. The yield is determined by summing the product in the calculation lines of all the paypals. The obtained data are analyzed mathematically and statistically by means of dispersion analysis. (B.A. Dospekhov, 1985). Methodology of conducting field experiments and laboratory analyzes "Metodi agrokhimicheskikh, agrofizicheskikh i mikroobiloicheskikh issledovaniy v polivnikh khlopkovikh rayonakh" (Tashkent. SoyuzNIXI, 1968. 440 p), "Metody agrokhimicheskikh issledovaniy pochv", "Praktikum po agrokhimii" (A.S. Radov and others) , 1971), (under the editorship of B.A. Yagodin, 1987).

To increase the effectiveness of fertilizers, it is possible to nest them in the places where the main roots are located. But this agrotechnical event has not been studied in Payyariq district. Therefore, studying it is an urgent problem. At the same time, the effect of mineral fertilizers on the productivity of soybean plants has not been studied. Development of the period and methods of application of these fertilizers is one of the urgent problems of today. In our research, we are devoted to elucidate the effects of mineral fertilizers and micronutrients, which are one of the main elements in the cultivation of soybean varieties, as well as the rate and application method and application periods on the productivity and quality of soybeans, as well as the most effective methods for farms.

**IN CONCLUSION,** in our scientific work, the influence of mineral and micro fertilizers on the productivity of soybean plants is determined. From this point of view, the possibilities of soybean plant growth, development and crop quality are evaluated. As a result, the plant effectively absorbs soil nutrients. Due to this, productivity increases by 20-25%.

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