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THE EFFECT OF BIOSTIMULATORS ON THE GROWTH AND DEVELOPMENT OF AGRICULTURAL PRODUCTS

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ANNOTATION

Agricultural biostimulants are considered biological and include biologically beneficial fertilizers and similar products used in the production of plant products to increase the growth, health and productivity of plants. This article provides extensive information on what biostimulants are and the effects of biostimulants on the growth and development of agricultural products.

Key words: agriculture, product, development, growth, biostimulant, plant, biological additives.

The experience of countries shows that in order to ensure competitiveness and find a place in the world markets, first of all, consistent reform of the economy, deepening structural change and diversification, ensuring the rapid development of new enterprises and production sectors based on high technologies, it is being realized at the expense of ensuring high-quality and competitive product preparation by accelerating the processes of modernization of the operating capacities and technical-technological updating.

World practice has shown that the clustering of the economy is determined in advance and it has a decisive effect on increasing competitiveness and the processes of accelerating the innovative activities of enterprises.

Agriculture is the main source of food for the population. At the same time, it supplies raw materials for several sectors of the consumer goods industry. For example, the share of agricultural raw materials (in terms of value) makes up 60 percent of all material costs in the spinning industry, about 70 percent in the confectionery industry, and about 80 percent in the oil and milk industry. All this shows that if the agricultural production is not developed at the desired pace, no best program for raising the standard of living of the people can be implemented. The importance of agriculture is determined by the fact that 27% of the employees of the national economy work in this field.

About a third of the country's national income is created in agriculture. Therefore, the rate of growth of the entire economy of the country and the improvement of the welfare of workers largely depend on the level of development of agriculture. At the same time, it is important to take into account the socio-political aspect. The development of agriculture is the most important condition for strengthening the union of the working class and the peasants. V.I.Lenin pointed out the importance of agriculture and stated that without a solid agricultural base, there can be no agricultural development.

Agriculture is one of the main branches of material production. and engages in planting crops and raising livestock to obtain livestock products, provides the population with food products and raw materials for several sectors of the national economy. Agriculture also includes various

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branches of primary processing of plant and animal products. Unlike other areas of production, agriculture is carried out on very large areas and in geographically diverse conditions. It uses land (the main means of production), light, heat, water and living organisms - plants and animals.

The production period of agriculture does not coincide with the working period. The main branches of agriculture are farming and animal husbandry. They, in turn, are divided into somewhat smaller branches (in agriculture - field farming, vegetable growing, policing, horticulture, forestry, etc.; in animal husbandry - cattle breeding, sheep breeding, sheep breeding, pig breeding, poultry breeding, beekeeping, cocoon breeding, etc.); In turn, agricultural and animal husbandry sectors are grouped by crops (cereal, rice, cotton) and types of livestock (cattle, sheep, horses, camels).

Agriculture. - one of the first types of human economic activity. Its origin dates back to the end of the Stone Age. During this period, human economy, etc. To meet his needs, he worked the land with simple tools and started to domesticate some animals. Over the centuries, under the influence of various conditions, the farming system has changed and improved; the beneficial properties of animals have been maintained, and many breeds have been bred.

45.2% of the world's economically active population (1316.7 million people) is employed in world agriculture. 13387.0 mln. of land used in Kazakhstan. ha, including arable land 1380.8 mln. ha, total irrigated land is 271.4 million ha (1998). In 1999, 583.6 million tons of wheat, 596.4 million t of rice, 600.4 mln. t of corn, 130.0 mln. t of barley, 294.3 mln. t potatoes, 444.6 million. t of fruits, including 60.6 mln. t grapes were grown. 225.9 million in animal husbandry. t of meat, 562.4 mln. t milk was prepared. 1338.2 mln. cattle, 912.7 mln. pigs, 1068.6 mln. sheep and 709.9 mln. head goat, 14139.0 mln. the chicken was raised.

V.P. Filatov is considered the founder of biogenic stimulants. For the first time, when he kept the cornea of the corpses at a temperature of 2-40C and surgically transferred it to the eyes of patients, he noticed that the preserved organ was well absorbed. According to V.P. Filatov, if the tissues isolated from animal and plant organs fall into unfavorable conditions (cold, dark, etc.) produce some kind of substance. V.P. Filatov called these substances biogenic stimulants, derived from the words "Bios" - life, "genesis" - birth, appearance, "stimulo" - awakening.

Biogenic stimulants accelerate vital processes in the body, improve metabolism, increase the body's resistance to diseases. Cold and high pressure (underwater) are unfavorable conditions for plants. The theory of production of biogenic stimulators in plants and the work of P.A.Gnedkov (1983) on the preparation of drugs from them are important. He isolated biosed, lekosed, flavosed, and sedoglucid drugs from 12 types of succulent plants, which are used in the treatment of inflammation and cancer.

G.A. According to Gnedkov, monosaccharides are variable and take part in the formation of organic acids in the dark, and in their decomposition in the light.

Currently, bicarbonic acids, unsaturated aromatic and oxyacids, macromolecular aromatic acids, which are part of the fat category, have been isolated from preparations containing biogenic stimulants. From its physical and chemical properties, it is known to be resistant to high temperatures, soluble in water, and partly soluble in water.

Preparations containing biogenic stimulants are classified according to their composition:

1. Preparations obtained from plants (Extractum Aloyos, Extractum herbae meliloti, Biosedum, lecosedum, Flavosedum, Sedoglucidum).

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2. Preparations obtained from microorganisms and plants belonging to the lower class (Peloidinum, Peloidodestil¬latum, Fibs, Gumisolum, Torfotum).

3. Preparations from animal organs (Corpus Vitreum, Apilacum, Luronitum, Chonsuridum, Spleninum, Plasmolum, Chole conservata medicata, Haemotogenum liquidum).

4. Preparations obtained from microorganisms (molds) (Pyrogenalum, Proper - myl).

The term "agricultural biostimulants" encompasses a diverse group of product technologies and may include bacterial or microbial inoculants, biochemical materials, amino acids, humic acids, fulvic acids, algae extracts, and more.

Currently, the local understanding of biostimulants is that they are neither pesticides nor traditional fertilizers. However, the purpose of biostimulants is the crops themselves. They can improve the physiological and biochemical condition of plants, increase the efficiency of the use of pesticides and fertilizers, increase the resistance of crops to stress, and also improve the final yield of crops and the quality of agricultural products.

The following points will help you better understand what biostimulants are:

1. Biostimulants are found in nature and are rich in certain active substances. They can directly affect plants without artificial chemical synthesis. For example, we are familiar with seaweed extract, humic acid and amino acids, etc.

2. Unlike plant protection products and fertilizers, these substances do not have any harmful effects on people, animals and the environment.

3. Biostimulants are a category, and each substance is very different from each other.

4. Biostimulants do not directly affect plants, but through indirect conversion, they encourage plants to absorb and protect themselves, and at the same time, they stimulate the development of beneficial organisms in the soil.

Agricultural biostimulants are considered biological and include biologically beneficial fertilizers and similar products used in the production of plant products to increase the growth, health and productivity of plants. Their tasks are:

• It helps to improve the efficiency of using food products
• Facilitating growth under abiotic stresses such as heat, cold, drought and too much water
• Helps improve quality attributes such as nutritional content, appearance and shelf life

A substance derived from organisms that, when applied to plants, seeds, soil, or culture media, improves nutrient utilization, reduces nutrient loss to the environment, or directly or indirectly benefits plant growth and stress. brings

A substance containing certain components and microorganisms. If these ingredients and microorganisms are applied to plants or rhizospheres, their effect is to stimulate the natural process of plants, including enhancing the absorption of nutrients, enhancing the nutritional effect, resistance to abiotic stress, and the nutritional content of the crop quality. has nothing to do with it.

A substance obtained from environmentally and ecologically friendly organisms that doubles the metabolism of plants, improves the absorption and utilization of nutrients, increases the resistance of crops, increases production and quality. It can be called a biostimulant.

Biostimulants are combination products of biostimulants. Biostimulants are divided into seven categories: humic acid, amino acids, seaweed extracts, chitin and derivatives, microorganisms and metabolites, plant extracts and inorganic salts (phosphoric acid). Biostimulant is neither a pesticide nor a traditional fertilizer. Its purpose is the harvest itself. It can increase the

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use of fertilizers or increase the effectiveness of pesticides, improve the physiological and biochemical condition of crops, increase resistance to stress, improve crop quality and increase productivity.

The global biostimulants market is valued at USD 2.638 billion in 2020 and is expected to reach USD 5.04 billion by 2026. The annual growth rate from 2021 to 2026 is 11.71 percent, which is much higher than most agricultural products. Among them, in the Asia-Pacific region, China and India, Australia and others will become the main growth areas. The increase in demand for organic, stable, safe and environmentally friendly agricultural products is the main reason for the rapid development of biostimulants.

CONCLUSION. Biostimulants are easy to use, precisely targeted, less harmful to the environment and human health, can reduce the use of harmful chemicals, and other properties are preferred. Thus, biostimulants have formed a global concept and product type in a few years, attracting the attention of large companies around the world and containing strong business opportunities.

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