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DISTRIBUTION AND APPLICATION OF BIOGUM IN AGRICULTURE

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Abstract: This article discusses the current norms, timing, methods, and role of biohumus application in agriculture. Information is provided on methods for producing biohumus and its application in the agricultural sector.

Keywords: California earthworm, bedding manure, laboratory, preparations, reagents, water, thermometer, humus, biohumus, compost, beneficial properties in soil, impact on soil structure and fertility

Introduction: Scientific research has established that an increase in the concentration of Cl in saline soils accelerates the swelling rate when a large amount of organic matter - compost - is applied. This causes the salts dissolved in water to transition from a sol state to a gel state, leading to coagulation [1;2]. The use of various amounts of compost in irrigated fields affects the quantity of harmful water-soluble salts in the plow layer during crop cultivation in saline soil conditions.

It has been determined that the application of various types of compost in irrigated fields leads to a decrease in the amount of harmful salts that are easily soluble in water within the plow layer of the soil when cultivating crops in saline soil conditions [3;4].

Additionally, composts prepared with bentonite play a significant role in increasing soil fertility and obtaining high crop yields [5;6;7;8;9;10;11]. Bentonite can be used not only as a component of compost but also for seed encapsulation. This measure increases crop productivity [12;13;14;15;16;17;18;19;20;21;22;23;24].

Research methods. All observations, analyses, and calculations were conducted based on the methodological manual "Methods for Conducting Field Experiments."

Analyses; It doesn't matter on what day or month you start feeding the California caterpillars. The most favorable time is spring, autumn, and summer. The worms are sensitive to ammonia and high temperatures, so only fermented and cooled manure can be used for feeding. Other organic waste must also rot. Biohumus is a type of fertilizer that is close to natural soil and is obtained by passing decomposing waste: manure, cutlery, bird droppings, sawdust, straw, plant accumulations through the organism of the California red worm. Manure, weeds, leaves, tree branches, apilka, straw, kitchen waste, washings in the pit, poultry, animal waste, paperboard, etc. are worm food.

Currently, biohumus is being prepared at the small enterprise "Odil Khol" under the leadership of Shakir Ernazarov in the village "Choshiyan" of the "Obizarang" neighborhood of B. Omonov QFY "Obizarang" in Uzun district. More than 100 tons of biohumus and more than 60 million pieces of California wormwood were grown in this enterprise. After the rain, worms crawl into organic masses and come to the surface of the earth. There are 97 types of worms in our country, only a few of them are suitable for feeding. Worms produce many seeds, 4-5 out of 20 seeds survive. The California red worm is a very active pest compared to the common "wild" worm. If it has enough food, it will not leave its home. Its length is up to 99 millimeters, its body diameter is 3-5 millimeters, it spawns every 7 days in favorable conditions. After spawning (up to

20), it lays a seed capsule and after 14-20 days a new generation is born. Newly born worms reach adulthood after 90 days. Under favorable conditions, one California worm can give birth to 1,500 worms. This type of worm eats its own weight of organic matter every day. One ton of organic waste produces 600 kilograms of biohumus and 100 kilograms of protein-rich biomass.

Worms can be fed up to 30-100 thousand in the seats. One ton of hummus can be prepared in one seat (2×1 m) in a year. For the life of worms, 40% of nutritious substrate is consumed, 60% of biohumus is produced in the form of copromide. Thus, 0.4-0.6 tons of biohumus and about 0.1 tons of worm biomass are obtained from one seat per year. Seats are built on slightly sloping areas so that puddles do not form when it rains. Worms should be especially protected from bats, they are the worst enemies of worms.

Experiments show that with the help of earthworms, organic substances can be turned into biohumus, which is quickly absorbed by plants. . Manure, weeds, leaves, tree branches, sawdust, straw, kitchen scraps, laundry, birdhouse, animal waste, cardboard, etc. are food for earthworms. Manure, weeds, leaves, tree branches, sawdust, straw, kitchen waste, laundry, birdhouse, animal waste, cardboard, etc. are food for earthworms. Manure, weeds, leaves, tree branches, sawdust, straw, kitchen waste, laundry, birdhouse, animal waste, cardboard, etc. are food for earthworms.

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Useful properties of biohumus:

• significantly accelerates the germination of seeds;
• actively stimulates seedling growth and root formation;
• enriches the soil and improves the absorption of nutrients;
• reduces acidity and improves soil structure (water and air permeability);
• increases the immunity of plants against various diseases and helps to recover from them;

helps increase resistance to adverse environmental conditions (lack of moisture, temperature changes, etc.);

• significantly increases the total vegetative mass;
• stimulates plant flowering;
• accelerates ripening of fruits, increases their productivity and quality.

It is necessary to pay attention to the norms of applying biohumus to the soil. The soil with low productivity is subjected to laboratory analysis and biohumus is applied in the specified amount based on the recommendation of experts. Crops grown in soil with biohumus are also important for their resistance to diseases and early ripening. There are several ways to do this. Adding biohumus to the ground while planting seeds is also effective. When and how much biohumus should be applied to the soil should be done based on the recommendation of agrotechnological experts.

Biohumus is a high-quality organic fertilizer made from manure and can be used for all agricultural crops. It contains 40-50% dry organic mass, 10-12% humus, 0.8-0.3% nitrogen, 1.3-2.5% phosphorus, 1.2-3.9% potassium, 4.5-8 Contains 0% calcium and other trace elements.

CONCLUSION

A valuable feature of biohumus is that it is resistant to water washing away with its granular structure. Biohumus contains 10 times more nutrients for plants. If this amount of organic matter is used for the production of biohumus, it is possible to feed 1000 hectares of land.

Applying biohumus at the rate of 4 tons per hectare before plowing has a good effect, the soil becomes granular, agrophysical and agrochemical properties are improved, plant diseases and soil compaction are reduced, crop yield increases by 15-20%. Biohumus is dark in color, dry (dispersed) and liquid (dissolved in water). Microorganisms contained in it create conditions for enrichment of the soil with aerobic, anaerobic and trace elements. Avallo also normalizes the mechanical density of the soil. If the farmer adds earthworms to the farm trenches, the price of the product will decrease.

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