

IMPORTANCE OF BIOHUMUS IN NATIONAL ECONOMY.

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Abstract: *This article provides information on the preparation of biohumus, its use, and the benefits of biohumus over chemicals and other fertilizers.*

Key words: *biohumus, organic, worm, fertilizer, microelement, vitamin, nitrogen, phosphorus, potassium, biological, colony, bacteria.*

Biohumus is a biologically active, environmentally friendly and natural organic fertilizer. Biohumus is produced by the California red worm in the process of processing organic matter in the soil. By digesting organic matter, earthworms release coprolites into the soil, which are the most suitable form of organic matter for plant uptake.

Biohumus has been found to have a positive agrochemical, physicochemical and biological effect on the soil. Biohumus contains macro and micronutrients that are easily absorbed by plants, while biohumus contains substances that promote rapid plant growth, vitamins, antibiotics, 18 amino acids and beneficial microflora. The pH indicator of biohumus is neutral. It removes *fuzari* and *mojil* viruses.

Humus can be used for all plants because it contains all the nutrients necessary for plants. The effect is especially high on plants that require complex fertilizers for nutrients. In addition, biohumus is environmentally friendly and has a good effect on obtaining high yields from agricultural plants. Biohumus also reduces anthropogenic impact.

The acidity of biohumus decreases as a result of worms squeezing out calcium from the substrate. Substrate humification is about 25%, and manure is about 10%.

Due to the active fermentation process in biohumus, biologically active substances (auxin and heteroauxin, etc.) are formed in it. Under the influence of these substances, plants are less stressed, it is easier for seedlings to survive when they are transplanted into the soil, the germination of seeds is accelerated, and the susceptibility of plants to diseases is reduced. Their growth and development are accelerated, all this allows to get tomorrow's biologically high-quality product, the obtained product does not spoil when stored for a long time. In addition, biohumus has other valuable properties, i.e., it is superior to other organic fertilizers with higher moisture retention, moisture resistance, hydrophilicity, mechanical resistance, and the absence of weed seeds. As a result of laboratory analysis of the biohumus produced by us, its composition was as follows: humus - 18-22%; acidity - pH - 6.5-7.2; total nitrogen - 1.8-3.2%; phosphorus P₂O₅ - 2.2-2.6%; potassium (K₂O) - 1.3-3.3%; copper - 3.5-5.1 mg/kg; manganese - 60-80 mg/kg; zinc - 28-35 mg/kg and there are millions of bacterial colonies.

Since nutrients in biohumus are in the form of organic matter, it is not quickly washed away by water, which serves as nutrients for plants for a long time. As a result of its decomposition, macro and microelements and carbon are released, which participates in photosynthesis. Since biohumus has buffer properties, excess salts do not accumulate in the soil solution. This phenomenon occurs when a large amount of mineral fertilizers are applied to the soil. According to the researches of Ukrainian and Italian scientists, humic acid in biohumus is 5.6-17.6% in dry matter, which improves the quality of vermiculture. The quality of biohumus is evaluated according to the amount of humic acid in its content. In Italy, the price of vermocompost is determined by the amount of humic acid in it. In addition to decomposed organic matter, vermocompost contains dead earthworms, which further improve flour quality.

The advantages of biohumus over other organic fertilizers differ in the following three factors.

1. Biohumus contains a lot of bacterial flora, 1 g of it contains 2000 billion colonies. Until now, animal manure, considered the most natural fertilizer, has 150-300 million colonies, which means there are hundreds of times more bacteria in biohumus.

2. There are many elements that are easily absorbed by plants.

3. Since its acidity - pH - 6.5-7.2 is close to neutral, there will be no disease-spreading microorganisms.

Biohumus contains a lot of biologically active substances, and 1 m³ of it corresponds to the biologically active substances of 70 thousand m² of land. Vermocompost significantly affects the acidity of the soil and participates in the normalization of its environment.

Compared to other organic fertilizers, biohumus has more mobile elements, 11 times more potassium, 7 times more phosphorus, 2 times more calcium and magnesium than other organic fertilizers.

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