

TYPES OF CLASSICAL AND MODERN ORGANIC FERTILIZERS

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Humanity's demand for food is growing every year. Like the progress of science and technology, the increase in population does not leave a negative impact on the world around us, nature and its factors.

Preserving nature and its wealth, providing high-quality food products to the population poses great challenges for our scientists. This will certainly advance the issues of rational use of plant and animal products and their processing.

During our scientific research, we used classical and modern fertilizers to increase plant productivity.

For normal development, plants require a certain set of nutrients, which they receive from the soil through their roots. Each crop grown reduces the soil's potential productivity unless its nutrients are restored. The right plant fertilizers can eliminate nutrient deficiencies.

Fertilizing provides plants with three main nutrients necessary for their development: nitrogen (N), phosphorus (P) and potassium (K), as well as essential microelements. The main parameters for classifying types of fertilizers for agriculture are the presence of these nutrients and the method of obtaining them.

The choice of the type of crop feeding is determined by many factors, including the quality of the soil, the type of crop and the method of application to the fields. The many varieties of fertilizers available today create a nutrient-rich environment for your crops.

Classic fertilizers are organic fertilizers, fertilizers containing plant nutrients mainly in the form of organic compounds. These include manure, composts, peat, straw, green manure, sludge (sapropel), complex organic fertilizers, natural zeolites, industrial and household waste.

Organic fertilizers contain nitrogen, phosphorus, potassium, calcium and other plant nutrients, as well as organic matter, which has a positive effect on the properties of the soil.

Classic fertilizers consist of substances of animal and plant origin, which, when decomposed, form minerals, while carbon dioxide, necessary for plant photosynthesis, is released into the ground layer. In addition, organic fertilizers have a beneficial effect on the water and air nutrition of plants, promote the development of soil bacteria and microorganisms that live in symbiosis with the roots of vegetable crops and help them obtain available nutrients.

Manure is an organic fertilizer consisting of the excrement of farm animals. It has a characteristic smell and consistency. It is obtained as a result of enzymatic and microbiological processing of animal forage and other feed by the body. In addition to being used as fertilizer, manure is used for the production of biogas, as biofuel in

greenhouses, for paper production, for construction purposes, as fuel for heating residential premises.

Bird droppings are a waste product of birds, released from the cloaca at the time of defecation. Raw materials for the production of valuable, potent fertilizer.

Typically, the droppings of chickens, ducks, quails, pigeons and geese are used to make fertilizer. The most effective fertilizer is pigeon droppings.

Peat is a loose sedimentary rock that is used as a combustible mineral. Peat is formed in the process of natural death and incomplete decay of marsh plants under conditions of excess moisture and difficult air access. Here they do not decompose completely, as in the soil, but only partially; their remains accumulate from year to year. The intensity of accumulation of excess moisture and the development of the peat-forming process depend on climatic, geological, hydrogeological and geomorphological conditions.

Sapropel is a gil, centuries-old bottom sediments of freshwater reservoirs, which were formed from dead aquatic vegetation, the remains of living organisms, plankton, as well as particles of soil humus, containing a large amount of organic substances, humus: lignin-humus complex, carbohydrates, bitumens and others in a colloidal state.

Sawdust is one of the types of shavings, which are wood particles formed as sawing waste, a type of chopped wood. The length of sawdust particles depends on the type and technological parameters of the cutting tool, as a result of which they are formed. Sawdust should not be confused with wood chips, which are specially produced.

Sawdust contains about 70% carbohydrates (cellulose and hemicellulose) and 27% lignin. Chemical balance: 50% carbon, 6% hydrogen, 44% oxygen and about 0.1% nitrogen.

Green manures are plants grown for the purpose of subsequent incorporation into the soil (green manure) to improve its structure, enrich it with nitrogen and inhibit the growth of weeds.

Typically, green manure is plowed in before or shortly after flowering begins as a green fertilizer rich in nitrogen, proteins, starch, sugars, and microelements; At the same time, compost is formed on the surface, the soil is protected from erosion and blowing away. Plant roots improve the mechanical structure of the soil: a system of root tubules is created, and worms and microbes that accumulate nitrogen feed on dead roots.

The fact that all living things are made of cells was discovered only 350 years ago. Today, a person is exploring the next micro level, where he comprehends the nature of hormones (we talked about them in the previous article), the enzyme Enzymes (or enzymes) are specialized catalysts of protein origin, with the help of which most biochemical reactions are carried out in the cells of living organisms. They play a huge role in the metabolism of any living organisms, including plants.

The terms “enzyme” and “enzyme” have long been used as synonyms (the former mainly in Russian and German scientific literature, the latter in English and French). Enzymes are present in all living cells and help convert one substance into another. For each transformation of one compound into another, its own enzyme is responsible.

It is noteworthy that enzymes retain their activity not only in the microspace of the cell, but also outside the body. The biological product Mikrozim- COMPOST contains a highly concentrated complex of living natural thermophilic aerobic microorganisms and natural food-grade enzymes - extracellular proteins with the ability to break down organic substrates: cellulose, lignin, hair, fats, protein, fibers.

These are natural food grade enzymes obtained by growing microbiological producing cultures. In addition to the enzyme complex, the biological product contains a living consortium of 12 species (strains) of aerobic facultative thermophilic microorganisms-saprophytes: actinomycetes, fungi, molds, yeast bacteria, starter cultures, scientifically selected from nature (soil), and improved by scientific methods of stepwise selection biotechnology to obtain effective producers of organo-degrading substances enzymes that can grow and produce high productivity under various conditions. Microorganisms actively synthesize specific enzymes, using them to decompose organic substrates water and carbon dioxide.

This has a very good effect on and stimulates plant growth, and due to this function, micrazim is used in agriculture.

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