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The increase of the fertility of soils using the liquid organic fertilizers and fertilizers based on sugar-beet wastes.

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The fertility of soil is a capacity for ensuring plants by water, nutrients, air and capacity for making optimal conditions for growth and development of plants. The result of it is a yield. The main characteristic of fertility of soil is maintenance of humus. The humus is important part of organic matter.

The supporting of soil fertility is impossible by traditional methods. The amount of receiving mineral fertilizers in agriculture will not increase in future, because mineral fertilizers are very expensive.

The mineral fertilizers don't influence on maintenance of total amount of humus in soil and improve the circulation of nutrients. Every hectare of fields have to receive no less than 8-10 tons of organic fertilizers, therefore we will have self-supporting balance of humus and the fertility of soils will be increasing. Consequently we are looking for new types of organic materials and we include them in modern agro technologies.

One of them is an organomineral fertilizer (lignitic materials). The humic chemicals in the form of lignitic materials of natrium, potassium and ammonium are permitted for using them in agriculture at the beginning of 1984. The Department of agriculture in Russian Federation considered the problem of using humic chemicals and made a decision to use them on the fields of our country, because the lignitic materials can restore the fertility of our fields. The lignitic materials increase the amount of spore-forming bacteria, mold fungi and actinomycete. Therefore the organic decomposition occurs more strongly, the processes of humification increase the speed and the amount of humus rises in the soil. The new forming humus has a high biological activity and it improves chemical and physical soil properties. The addition of lignitic materials in soil activates different groups of microorganisms, which influence on mobilization of nutrients and transformation from potential to effective fertility.

The inclusion of humic fertilizers improves physical, physicochemical properties of soils, its air, water and thermal rate. Humic acids with mineral and organomineral particles of soil form the soil absorbent complex. The inclusion of humic fertilizers promotes the process when humic substances form a very valuable water-stable clumpy-granular structure, which improves water-carrying and water-holding capacity, its air permeability by agglutination of mineral particles with each other.

The soils, where humic fertilizers are carried in soils regularly, are more stable for influence of chemical polluting substances (for example, radioactive nuclides, heavy metals, pesticides) than poor soils. The inclusion of humic fertilizers is very important in period of urbanization and cropping on the plough-lands not far from a big industrial area.

The lignitic materials tie together the detrimental compounds formed the insoluble complex in soil solution. The detrimental compounds don't go into plants, subsoil waters and atmosphere. The lignitic watering of soils (in concentration from 0.1 to 0.01%) increases biological activity of soil in a man-caused zones and it promotes to stability of plants to detrimental emission of enterprises.

Today the problem of processing of sugar-beet industry is very important. In the result of storing sugar-beet wastes the pollution of environment is occurred, examples of this pollution are gassing, salinization of soils and ground waters by filtrational sediments. One of these wastes is defecation sludge. The defecation sludge consists of $CaCO_3$, organic matter, nitrogen, phosphorus, potassium and microelements. The technology of receiving N-Ca fertilizer based on defecate was developed because of impossibility of using this waste in pure form. For available data, using of these fertilizers improves the soil fertility and degree of pollution by heavy metals don't exceed an acceptance

limits.