Influence of beneficial microorganizms on the development of maize

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Agriculture is becoming more and more intense and farmers forget to take care of the soil, restore its fertility. One of the options is to use biological products, because different microorganisms are vital components of the soil. They mobilise nutrients, produce plant growth regulators, protect plants from phytopathogens, improve soil structure and degrade xenobiotic compounds. The use of biological products results in the higher biomass and seedling height of maize. It also improves organic matter content and total nitrogen in soil.

The aim of the experiment – to find out the effectiveness of beneficial microorganizms for maize growth in different types of soil: sandy loam, clay loam and black soil/natural peat substrate. Maize seeds were treated in three different ways: 1 – control (not treated), 2 – treated with biological product, 3 – treated with biological product, fulvic, humic acids, 4 – treated with biological product, amino acids and seaweed extract. The research results have revealed differences in maize green mass, root mass, height, chlorophyll index, area of the leaves and dry matter. Maize green mass was higher when seeds were treated with biological product, fulvic and humic acids, therefore, root mass was higher when seeds were treated with biological product, amino acids and seaweed extract. It is noticed, that the use of biological compounds have a positive influence on maize chlorophyll index.

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