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The effect of biological microorganism products on maize vegetation and productivity

Ernestas Zaleckas

Aleksandras Stulginskis University, Lithuania

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 mobilize 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(N) in the soil. The aim of the experiment—to find out the effectiveness of the biological product for maize growth in three different soils: 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 the biological product, 3–treated with the biological product, fulvic, humic acids, 4–treated with the 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 the biological product, fulvic and humic acids, therefore, root mass was higher when seeds were treated with the biological product, amino acids, and seaweed extract. It is noticed, that the use of biological compounds has a positive influence on maize chlorophyll index and yield.

Biography

Ernestas Zaleckas has completed his PhD at the age of 29 years from Lithuanian University of Agriculture and postdoctoral studies from Kaunas Technology University. He has published more than 25 papers in scientific journals.

ernestas.zaleckas@gmail.com

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