

Responses of wheat and cucumber plants on the treatment with newly developed humic substances containing fertilizer

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Abstract

© SGEM 2018. Humates are substances possessing high physiological activity, contributing to the photosynthetic yield in plants and having no carcinogenicity or mutagenicity. It is the combination of these unique properties that makes humates promising plant growth and development stimulators. Within the framework of the present investigation the efficiency of application of two humate products has been assessed, and a comparative analysis of their influence on the growth and development of agricultural crops has been carried out. Commercial peat based products EDAGUM®SM and HUMAT K have been chosen as the subjects of research. To study their influence on the growth and development of plants, laboratory-induced germination, germination, plant survival and morphometric parameters were determined in the course of the experiments. To evaluate the photosynthetic rate, total plant leaf chlorophyll (a and b) content has been determined. EDAGUM®SM has shown greater positive influence on the survival of both plants, compared to HUMAT K. The use of neither of the preparations influenced the germination, morphometric parameters or biomass of the plants. EDAGUM®SM influenced positively on total chlorophyll content in wheat leaves.

<http://dx.doi.org/10.5593/sgem2018/3.2/S13.057>

Keywords

Germination, Humates, Laboratory-induced germination of seeds, Morphometric parameters, Survival, Total chlorophyll

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