Allelopathic Soil Sickness: Theory of Evolution and Methodology. (C03-golovko142847-Oral)

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Abstract:

Experiments on allelopathic soil sickness were effectively carried out on the basis of the global priority and actuality. Grodzinsky et al. (1991) has shown that soil sickness is caused by a complex of factors, among which were allelopathic activity, tolerance of growing crops, and similarity in composition of post-harvest and root residues. These compounds exist preferably in the form of intermediate products of humus mineralization and plant remains decomposition: organic acids, phenolcarboxilic acids, and other phenol compounds. Modern ideas of microorganisms' role in plant allelopathy and soil sickness have been formulated. Our investigations are based on the analysis of biochemical properties of dominant microorganism species isolated from rizosphere of winter wheat, sugar beet, and corn. Fifty-one species belonging to 15 genera (Aspergillum, Alternata, Botrytis, Penicillium, Cladosporum, Trichoderma, Mortierella, Gliocladium, Fusarium, Gloesporum, Absida, Rhizopus, Acremonium, Scopulariopsis, and Sporocybe) were identified.

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