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Role of Selenite and Selenate Uptake by Maize Plants in Chlorophyll A and B Content

Authors: F. Garousi, S. Veres, É. Bódi, S. Várallyay, B. Kovács

Abstract : Extracting and determining chlorophyll pigments (chlorophyll a and b) in green leaves are the procedures based on the solvent extraction of pigments in samples using N,N-dimethylformamide as the extractant. In this study, two species of soluble inorganic selenium forms, selenite (Se(IV)) and selenate (Se(VI)) at different concentrations were investigated on maize plants that were growing in nutrient solutions during 2 weeks and at the end of the experiment, amounts of chlorophyll a and b for first and second leaves of maize were measured. In accordance with the results we observed that our regarded Se concentrations in both forms of Se(IV) and Se(VI) were not effective on maize plants' chlorophyll a and b significantly although high level of 3 mg.kg-1 Se(IV) had negative affect on growth of the samples that had been treated by it but about Se(VI) samples we did not observe this state and our different considered Se(VI) concentrations were not toxic for maize plants.

Keywords: maize, sodium selenate, sodium selenite, chlorophyll a and b

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