

Influence of stevioside and heavy metals on physiological and biochemical parameters of winter wheat

Nevmerzhitskaya J., Mikhailov A., Strobykina A., Timofeeva O.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Diterpene stevioside glycoside ability to increase resistance to heavy metals influence on germinating seedlings of Mironovskaya 808 type winter wheat is studied. It is shown that CdSO₄, CuSO₄, and ZnSO₄ (10 μmol) inhibited the plant growth and caused accumulation of proline amino acid. Preliminary growing on stevioside solution (10⁻⁸ mole) for 5 days considerably decreased toxic effect of heavy metals on plant growth, amounts of heavy metals in roots and leaves of germinating seedlings and increased the proline level.

Keywords

Frost resistance, Growth, Heavy metals, Lectins activity, Stevioside, Winter wheat