International Agrophysics 2008 vol.22 N1, pages 71-74

Effect of extremely high frequency Electromagnetic fields on the microbiological community in rhizosphere of plants

Ratushnyak A., Andreeva M., Morozova O., Morozov G., Trushin M.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Electromagnetic fields (EMF) are widely used to stimulate germination of seeds, improve their quality and speed up the growth of plants. This research was aimed at investigation of the influence of EMF and extensively used seed disinfectant (thiram) on the content of rhizosphere microflora of Pinus sylvestris seedlings. For this purpose, pine seeds were treated with EMF (alone or in combination with thiram), and the rhizosphere microflora was analysed. Various growth media were used to classify bacteria originated from pine rhizosphere. We found that EMF treatment resulted in proliferation of agronomically useful microorganisms including nitrogen-fixing ones. The suggested approach allows improving the microbiological content of soils and to avoid the use of a big amount of mineral fertilizers.

Keywords

Electromagnetic fields, Presowing treatment, Rhizosphere microflora