



Comparative Growth Of Cereals Species Under Lead Stress

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ABSTRACT

Cereals are the most important staple foods for mankind worldwide and represent the main constituent of animal feed. Their toxicity depends on several factors including the dose, route of exposure, and chemical species, as well as the age, gender, genetics, and nutritional status of exposed individuals..

The objective of this work is to study the effect of metal stress on four varieties of cereals. For this we carried out a comparative study of the physiological responses through some parameters on the germination between four different cereals previously grown on a nutrient solution for 10 days undergoing treatment with lead acetate with three concentrations (0.15 g / l, 0.3g / l and 0.6g / l) in order to assess the action of different concentrations of lead on the speciation of these species. The results obtained show a stressful effect of lead on the four studied varieties from 0.3g/l and 0.6g /l. We found variable results from significant to very highly significant in all studied parameters. In fact, we recorded a very highly significant reduction in early germination in durum wheat, soft wheat, barley and maize, a highly significant and very highly significant decrease in germination rates in durum wheat and soft wheat and maize. The barley variety was more tolerant with a germination rate of 92% under the most severe stress conditions (0.6 g / l). With regard to the germination rate, the decrease is very highly significant in soft wheat and barley, highly significant for maize, only for the high dose of lead. This study concludes that the varieties studied can be grouped into two categories: varieties tolerant to lead exposure (durum wheat, barley and maize), and stress-sensitive variety (soft wheat).

Key words: Cereals, lead, metal stress, growth