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INVESTIGATION OF PLANTS GERMINATION IN SOILS CONTAMINATED WITH CHLORIDES USED FOR WINTER ROAD MAINTENANCE

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Abstract

Different chemical reagents are used for winter road maintenance which are selected according to economic indicators and de-icing properties. During the winter season are used high amounts of chemicals, which have a negative impact on soil and plants. Chlorides directly pollute the soil, have negative impact on plant germination and growth. It is well known that road salt (sodium chloride) is dangerous to vegetation, but the effect of other de-icing agent - bischofite on vegetation is poorly investigated. The germination of white clover (*Trifolium repens L.*), ryegrass (*Lolium perenne L.*) and meadow grass (*Poa pratensis L.*) seeds in soil irrigated with chlorides (1%, 2%) under laboratory and field conditions was tested. It was found that germination of plants under laboratory and field conditions remained similar. It was noticed that germination of ryegrass was the best and germination of meadow grass seeds was the worst under field and laboratory conditions. Herbaceous plants are more resistant to the effect of chlorides under field conditions comparing to laboratory conditions. This suggests that plants respond differently to chloride stress. For that it will be very important to select appropriate plants for growing in soil contaminated with chlorides.

Key words: chloride, germination, meadow grass, ryegrass, white clover

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