# Salt stress response and proline accumulation in Brachiaria humidicola plants with and without mycorrhizal inoculation.

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## Abstract

The experiment was carried out to investigate the effects of different concentrations of NaC1 on Brachiaria humidicola Rendle in the presence and absence of Glomus etunicatum Becker and Gerdemann, as well as to evaluate some growth parameters and the accumulation of free proline in the plant leaves. The soil used was an alluvial eutrophic with pH of 6.5 in which Brachiaria humidicola Rendle cv. 409 was grown. Five NaCl concentrations were tested 0; 0.22; 1.09; 1.96 and 2.84 g kg-1 of soil, whose electrical conductivity (EC) were 2.22; 4.00; 8.13; 12.53 and 16.50 dS m-1, respectively. Brachiaria humidicola showed salt tolerance when submitted to an electrical conductivity of 4 dS m-1. There was a reduction of leaf area, dry matter of shoots and roots for the soil treatments beyond EC at 8 dS m-1. Free proline content in the leaves increased with the increasing of soil salinity (EC at 8 dS m-1) demonstrating that plants submitted to EC of 2 and 4 dS m-1 were less affected by salt stress, and so, accumulated less proline in the leaves. The root colonization was not affected by the increase of NaCl dosage in the soil.