Effect of Pb and EDTA-Pb in roots of *Vigna unguiculata* (L.) Walp cultivars.

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Lead (Pb) is a toxic metal of widespread occurrence in both terrestrial and aquatic ecosystems. The aim of this work was to evaluate the effect of lead nitrate (Pb(NO₃)₂) with and without ethylenediamine tetraacetic acid (EDTA) in roots of two *Vigna unguiculata* L. Walp cultivars: Setentão (SET) and Sempre Verde (SV).

The seeds were germinated in vermiculite during seven days and transferred to a hydroponic system containing Hoagland solution, staying seven days before the application of Pb stress. After seven days SET and SV plants were supplemented with 0.5 mM Pb(NO₃)₂ in the presence or not of EDTA 0.5 mM and the roots were collected. The size, fresh and dry weights for both cultivars and conditions were determined as well as the lead content measured by ICP-OES.

Preliminary results showed that the size roots in SET cultivar was inhibited c.a. 50% in the presence of Pb(NO₃)₂ with or without EDTA application. Differently, SV revealed an inhibition by Pb(NO₃)₂ of 22% and 39% with EDTA. The mean Pb content with Pb(NO₃)₂ in the presence or not of EDTA 0.5 mM for SET were 4.06, 7.04, and for SV were 2.76 and 5.23 mg Pb g⁻¹ respectively. The highest values for fresh and dry weights inhibition were reached in the presence of EDTA. These results revealed differences between cultivars and treatments. Apparently, the Pb uptake was regulated by EDTA and this approach could be an available tool for remediation of soils contaminated with Pb.

Key words: Chelate, lead uptake, *Vigna unguiculata*. 