Geophysical Research Abstracts
Vol. 14, EGU2012-1278, 2012
EGU General Assembly 2012

Zinc and Liming Effects on the Development of Cerrado Forest Species

J. C. Casagrande, M. R. Soares, and M. I. M. Moraes

Federal University of São Carlos, Natural Resources and Environmental Protection, Araras - São Paulo, Brazil (bighouse@power.ufscar.br)

The Brazilian Cerrado is considered priority area for conservation of biodiversity. The biome has covered approximately 33% of the territory of the State of São Paulo, but, currently, there are isolated fragments of Cerrado that correspond to less than 7% of its original area. One of the consequences of the natural vegetation removal and soil degradation is the loss of fertility, reduction the nutrient content. There is limited knowledge of the nutritional requirements of native forest species from Cerrado, especially about micronutrients. The aims of this work are: (i) verify the influence of four levels of Zn in soil and three levels of liming on development of six forest species native to the Cerrado biome; (ii) assess Zn deficiency symptoms in native species of Savannah. The treatments were four levels of Zn (0.0; 2.0; 4.0;-1 6.0 kg ha of Zn) and three levels of base saturation (V% = natural, V% = 50% and V% = 70%), cultivated in green house. The forest species studied have different responses to soil correction and fertilization, and were not observed responses regarding biometric parameters (growth in height and dry matter) with respect to the correction of base saturation and soil fertilization with Zn, for seedlings of Tabebuia aurea, Eugenia dysenterica and Astronium graveolens, showing that these species are highly adapted to the conditions of low fertility and showing efficient physiology for Zn absorption, since there was satisfactory growth in conditions of low base saturation (36%), very low content of Zn in soil (0.3 mg dm-3) and ideal supply of other nutrients. The species Andira cuyabensis and Anacardium giganteum responded well to fertilization and soil remediation. The omission of Zn resulted in visual symptoms of nutritional deficiency only for the species Tabebuia aurea, Astronium graveolens and Anacardium giganteum. The content of Zn presented significance interaction between Zn doses and V% for species Hymenaea courbaril, Tabebuia aurea and Astronium graveolens, being the best treatment established on the V% natural and the dose of 6.0 kg ha-1.