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Effect of increasing doses of aluminum on mahogany plant growth

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Workshop Information

I Workshop of Plant Biology (I Workshop de Biologia Vegetal) was held in the Bioscience Institute – UNESP, campus of Rio Claro, Brazil, during August 20 and 21, 2012. Workshop was a scientific event organized by Post-graduate students from that Institute aiming to integrate Post-graduate and Graduate students from different areas related to Plant Biology (Anatomy, Ecology, Evolution, Morphology, Physiology, and transitional areas) from different Universities. Workshop Organization offered a large number of speaking activities, scientific discussions, and extra short-courses to improve the knowledge and formation of students in Plant Biology.

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The Brazilian mahogany (*Swietenia macrophylla* King) is a plant of great economic importance. However, it is endangered due to intensive exploitation. Therefore, the cultivation of this specie is relevant. Studies also are needed to prove the efficiency of its use in Savanna soils, due to high levels of aluminum. The present study aims to evaluate the effect of aluminum concentrations in the growth of mahogany seedlings under hydroponic cultivation. The experiment was carried out at University Center of 'Patos de Minas' (UNIPAM), State of 'Minas Gerais', using hydroponic system with partially controlled environment. The completely randomized design was used, consisting of six treatments (aluminum doses: 0, 2, 4, 8, 16 and 32 mg L^{-1}) and four replications. The dry matter of stem, leaf and root were evaluated. The organs were separated according to the time they were issued (old organs: those issued before the treatments, new organs: those issued after the application of treatments). Increasing concentrations of Al promotes a decrease in the growth of roots, stems and leaves of mahogany. The greatest decrease was observed in the growth of stems and leaves, for doses of 2 and 4 mg L^{-1}, respectively. However, even higher doses (16 and 32 mg L^{-1}) were not sufficient to result in the plant senescence.

Review process and quality of English writing is responsibility of Workshop Scientific Committee.