Allelopathic Effect of Leucaena leucocephala on Lactuca sativa Subsp. Crispa, Cecropia pachystachya and Campomanesia adamantium

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Leucaena leucocephala, popularly known as "Leucena", is an exotic plant that has spread throughout the country, after being introduced in Brazil to complement the feeding of cattle. In Campo Grande - MS, L. leucocephala and native plants are in interspecific competition in relation to space, luminosity and nutrients. Some of the affected plants are Cecropia pachystachya (Embaúba) and Campomanesia adamantium (Guavira). L. leucocephala directly affects the productivity of vegetable farmers that cultivate Lactuca sativa subsp. crispa (lettuce) near the streams where the exotic species is located. The goal of this project was to analyze the impact caused by L. leucocephala on L. sativa, C. pachystachya and C. adamantium. Ten replicate tests were performed with 12,000 L. sativa seeds to improve the data analysis in relation to the variables of tests carried out in the previous year. In those tests, the seedlings received the solution treatments of leaves, seeds and roots of L. leucocephala in concentrations of 0%, 25%, 50%, 75% and 100%. Three tests were performed simultaneously on the natives C. pachystachya and C. adamantium. We used 3,200 seeds of the aforementioned plants, treating them with the same concentrations of the previous stage. Thus relating the variables of growth and mortality, we observed that the most affected seedlings were the ones treated with seed solutions. The concentrations of this solution provokes effects according to each species, with mortality and significant growth interference up to 99.99% of both when compared to the control. Therefore, L. leucocephala causes biodiversity imbalances through the release of allelochemical substances and damages the local economy.

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