Propagation of Allelopathic Properties Present in Ailanthus altissima and Juglans nigra for Efforts in Circumventing Holistic Debilitation in Response to Occupational Herbicide Exposure

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The advent of epidemiological concerns within recent years has promulgated a thorough premise for research rooted in preventative measures and protections of public health. This study was conducted with the intent of exploring the capacity of allelopathic properties in tree of heaven (ailanthus altissima) and black walnut (juglans nigra) to function as alternative bioherbicide constituents to displace currently mass-marketed herbicides linked to trends of assorted inductions of cancer, as well as secondary and tertiary associated conditions such as non-Hodgkin's lymphoma and myeloma. It was hypothesized that a study of herbaceous perennial flowers cultivated with an aqueous solution variant containing disseminated allelopathic extract - either ailanthone or juglone - would prolifically yield a healthier group in comparison to a benchmark plant group grown with standard unpurified water. For a gestation period of four months allotted to the subjects, the subdivisions were respectively watered with a decocted solution of either ailanthone or juglone thrice weekly, and subsequent variables were then recorded with the intention of observing the experimental interactions. The study noted two primary variables: the average germination of the groups in response to allelopathic exposure, and the invasive species developmental frequency. A differential invasive percentile of over 13% was procured between the control and ailanthone group, and a gap of 19% was garnered between the control and juglone-yielded plants.The results demonstrated a tangible decrease in the likelihood of the allelopath-treated plants developing an invasive species, thus conveying the capacity of the aforementioned biochemicals to potentially function in lieu of artificial and carcinogenic herbicides.

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