

## **A Laboratory-Designed Activity in Ecology to Demonstrate the Allelopathic Property of the Philippine Chromolaena odorata L. (King and Robinson) Leaf Extracts**

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**Abstract :** This study primarily designed a laboratory activity in ecology to demonstrate the allelopathic property of the Philippine Chromolaena odorata L. (hagonoy) leaf extracts to Lycopersicum esculentum (M), commonly known as tomatoes. Ethanol extracts of C. odorata leaves were tested on seed germination and seedling growth of L. esculentum in 7-day and 14-day observation periods. Analysis of variance and Tukey's HSD post hoc test was utilized to determine differences among treatments while Pre-test - Post-test experimental design was utilized in the determination of the effectiveness of the designed laboratory activity. Results showed that the 0.5% concentration level of ethanol leaf extracts significantly inhibited germination and seedling growth of L. esculentum in both observation periods. These results were used as the basis in the development of instructional material in ecology. The laboratory activity underwent face validation by five (5) experts in various fields of specialization, namely, Biological Sciences, Chemistry and Science Education. The readability of the designed laboratory activity was determined using a Cloze Test. Pilot testing was conducted and showed that the laboratory activity developed is found to be a very effective tool in supplementing learning about allelopathy in ecology class. Thus, it is recommended for use among ecology classes but modification will be made in a small - scale basis to minimize time consumption.

**Keywords :** allelopathy, chromolaena odorata l. (hagonoy), designed-laboratory activity, organic herbicide students' performance

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