A COMPARATIVE STUDY ON THE EFFECTS OF MALATHION AND *Caesalpinia pulcherrima* L (CABALLERO) LEAF EXTRACT ON THE GROWTH, LEAF DEVELOPMENT AND BIOMASS OF *Lycopersicon esculentum* L. (TOMATO)

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ABSTRACT

The study was conducted to compare the plant growth of *Lycopersicon esculentum* (tomato) using different concentrations of malathion and *Caesalpinia pulcherrima* (caballero) leaf extract. The comparative test was done by spraying of different concentrations of malathion and caballero leaf extract externally to one hundred forty four tomato plants. The application was done during the eighth week until twelfth week to ensure that the plants can tolerate the effects of such insecticides. The findings showed that both malathion and caballero leaf extract had effects on the growth of tomato, though plants treated with the latter gave only satisfactory results. During the first application of insecticides, leaf curling was observed mostly in plants treated with varying concentrations of malathion and leaf spots were observed mostly in plants treated with varying concentrations of caballero extract. The different concentrations of malathion and caballero leaf extract had effects on the growth, leaf development and biomass of tomato. Using malathion, T_2M obtained the highest height (118.40 cm), number of leaves (81.94) and biomass (23.4 g) of tomato plants compared to the height of T_2E (107.63 cm), number of leaves (81.58) and biomass (10.8 g) of tomato plants treated with caballero leaf extract. In terms of leaf development, 57.3% of the plants from T_2M had the highest incidence of leaf curling compared to 55.2% of plants from T_2E. The results concluded that the minimal concentration of malathion and caballero leaf extract enhances growth and development of tomato plants, and an increase in concentration can be toxic to plants. Based on statistical analysis, plants treated with malathion and caballero leaf extract exhibited equal averages in terms of height and number of leaves.

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