

## **Efficacy of Plant Extracts on Insect Pests of Watermelon and Their Effects on Nutritional Contents of the Fruits**

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**Abstract :** This experiment was conducted at Ladoke Akintola University of Technology, Ogbomoso, Teaching and Research farm during the major and minor planting season , 2017 to determine the effects of *Annona squamosa* (Linn.) and *Moringa oleifera* (Lam) extracts on insect pests of watermelon and their effects on nutritional contents of watermelon fruits. Synthetic insecticide and untreated plots were included in the treatments for comparison. Selected plants were prepared with cold water and each plant extracts was applied at three different concentrations (5,10 and 20% v/v). Data were collected on population density of insect pests, number of aborted fruits, number of defoliated flowers , the yield was calculated in t/ha, nutritional and fatty acid contents were determine using gas chromatography. The results show that the two major insects were observed - *Diabrotica undecimpunctata* and *Dacus cucurbitae*. The tested plant extracts had about 65% control of the observed insect pests when compared with the control and the two plant extracts had the same insecticidal efficacy. However, the applied plant extracts at 20% v/v had higher insecticidal effects than the other tested concentrations. Significant higher yield was observed on the plant extracts treated plants compared with untreated plants which had the least yield() but none of the plant extracts performed effectively as *Lambdacyhalothrin* in the control of insect pests and yield. Meanwhile, the tested plant extracts significantly improved the proximate and fatty acid contents of watermelon fruits while *Lambdacyhalothrin* contributed negatively to the nutritional contents of watermelon fruits. Therefore, *A. squamosa* and *M. oleifera* can be used in the management of insect pests and to improve the nutritional contents of the watermelon especially in the organic farming system.

**Keywords :** *Annona squamosa*, *Dacus cucurbitae*, *Diabrotica undecimpunctata*, *Moringa oleifera*, watermelon

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