



## A COMPARATIVE STUDY ON THE ANTIFUNGAL EFFECTS OF TAMARIND (*Tamarindus indica*) AND GARLIC (*Allium sativum*) EXTRACTS ON BANANA ANTHRACNOSE.

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**ABSTRACT** This study was conducted to investigate and compare the antifungal activity of tamarind and garlic extracts against anthracnose in bananas. Using the 100mg:1L ratio, extracts of the plants were prepared as T<sub>1</sub> – tamarind and T<sub>2</sub> – garlic while T<sub>3</sub> – commercial pesticide, and T<sub>0</sub> – no treatment served as the controls. After inoculation with *Colletotrichum* sp. spores, five (5) banana samples were dipped in all the treatments and were observed for nine (9) days. Statistics revealed that VQR, Firmness, DDI, degree of shriveling, aroma, off-odor, incidence of disease, marketability, color index, off-flavor, sweetness are significantly different. T<sub>2</sub> was found to be the best treatment, even better than T<sub>3</sub> and much better than T<sub>1</sub>. For the peel quality and pulp quality ratings, T<sub>2</sub> was comparable to T<sub>3</sub> in terms of off-odor and color index, while the rest of the parameters showed that T<sub>2</sub> was still the best treatment. After the nine days of treatment, the anthracnose which started to develop on the third day was least in T<sub>2</sub> next in T<sub>3</sub> and T<sub>1</sub> while T<sub>0</sub> showed the highest incidence of the disease. Generally, for all the tests used, the samples treated with T<sub>2</sub> were the best, followed by T<sub>3</sub> and T<sub>1</sub>. Likewise, T<sub>2</sub> had the best quality banana samples. Based on these results, it can be concluded that the treatment with garlic (T<sub>2</sub>) is better than the treatment with tamarind (T<sub>1</sub>) in preventing anthracnose in bananas. Moreover, T<sub>2</sub> was found to be comparable or even better than the commercial fungicide (T<sub>3</sub>). In terms of cost and a negative effect on the environment, these plant extracts may be used by farmers as substitute to commercial fungicides in the natural prevention of the postharvest diseases of bananas. However, it is recommended that a study on the specific concentrations of garlic and tamarind which are best for treating the disease be made as well as considering naturally occurring diseases of bananas.

*Keywords: antifungal activity, anthracnose, postharvest disease, parameters*



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