

Prospects in Development of Ecofriendly Biopesticides in Management of Postharvest Fungal Deterioration of Cassava (*Manihot esculenta* Crantz)

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Abstract : Cassava (*Manihot esculenta* Crantz) is an important food and cash crop that provide cheap source of carbohydrate for food, feed and raw material for industries hence a commodity for feature economic development of developing countries. Despite the importance, its production potentials is undermined by disease agents that greatly reduce yield and render it unfit for human consumption and industrial use. Pathogenicity tests on fungal isolates from infected cassava revealed *Aspergillus flavus*, *Rhizopus stolonifer*, *Aspergillus niger*, and *Trichoderma viride* as rot-causing organisms. Water and ethanol extracts of *Piper guineense*, *Ocimum gratissimum*, *Cassia alata*, and *Tagetes erecta* at 50% concentration significantly inhibited the radial growth of the pathogens in vitro and their development and spread in vivo. Low cassava rot incidence and severity was recorded when the extracts were applied before than after spray inoculating with spore suspension (1×10^5 spores/ml of distilled water) of the pathogenic organisms. The plant materials are readily available, and their extracts are biodegradable and cost effective. The fungitoxic potentials of extracts of these plant materials could be exploited as potent biopesticides in the management of postharvest fungal deterioration of cassava especially in developing countries where synthetic fungicides are not only scarce but also expensive for resource poor farmers who produce over 95% of the food consumed.

Keywords : cassava, biopesticides, in vitro, in vivo, pathogens, plant extracts

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