Title The control of black rot disease and the application of a novel wax formulation for extending storage life of pineapple

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Abstract

A cost-effective wax formulation that could be manufactured in Sri Lanka was developed by the Industrial Technology Institute (ITI) and tested on Mauritius ('Queen') and Kew ('Smooth Cayenne') pineapple fruits. Kew pineapples harvested at the 10% yellow stage of maturity and treated with the ITI formulation had no symptoms of internal browning when stored for 21 days at 10°C and 48 hours at 28 ± 2°C. Similar results were obtained for fruit treated with FMC 7055 pineapple wax while 30% of untreated control fruits were lost when held under similar storage conditions. The chilling-sensitive Mauritius fruits had an 80% loss when harvested, treated and stored as above, while a 100% loss occurred in FMC wax-treated fruits and the untreated controls after 23 days. Complete inhibition of spore germination of *Chalara paradoxa* (De Seyn.) Höhn, the pineapple Black rot disease pathogen, occurred at 2% acetic acid (AA) (v/v) and radial mycelial growth of the organism was inhibited at 3% AA. Black rot disease of Mauritius pineapples was minimal after a 7-day storage period at 28 ± 2°C only when fruits were subjected to a three minute dip at either 4% or 5% AA. Disease symptoms occurred in untreated inoculated controls.