INFLUENCE OF ETHANOL AND HEAT ON DISEASE CONTROL AND QUALITY IN STORED MANGO FRUITS.

ABSTRACT

Pestalotia mangiferae and *Curvularia lunata* are the main postharvest fungi of mango cv. 'Tommy Atkins' causing serious economic losses during storage. Two substitutes of synthetic postharvest fungicides were tested: ethanol and heat, separately and combined at different concentrations and temperatures. Experiments were carried out *in vitro* to evaluate mycelial growth and spore germination and directly on mango fruits to evaluate the combination of ethanol with heat on disease incidence and on fruit quality. Storage period was of 12-days at 25°C. Response of *P. mangiferae* and *C. lunata* towards the application of ethanol and temperature was very similar. When trials were carried out separately, ethanol at 400 ml/L completely inhibited growth of both fungi while mycelial growth reached approximately only 35 mm or less at concentrations up to 400 ml/L. Germination was severely affected by ethanol application at concentrations up to 100 ml/L. The combination of both factors also influenced fungi development affecting their conidia more than their mycelium. A complete disease control of mango fruits was achieved at 300 ml/L ethanol with 50°C temperature. The changes in weight loss, firmness, color, acidity, SSC and, pH values of the treated and untreated mango fruits followed the normal ripening evolution.

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