

Abstract

Black rot of pineapple (*Chalara paradoxa* (De Seyen.) Sacc.) is a common postharvest problem in many countries. Consumer resistance to the use of fungicides has precipitated the need for alternative means of controlling the disease. In vitro studies on heat-treated (50 °C for 3 min) spores of the pathogen showed a mean colony count of 11 ± 0.7 , following 48 h incubation at 28 °C, while plates with heat-treated spores at 54 and 58 °C showed a mean colony count of 1 ± 1.0 and 1 ± 0.7 , respectively. Pineapples inoculated with 10^4 spores/ml, *C. paradoxa*, followed by a hot water dip treatment at 54 °C for 3 min were free of disease when stored at 10 °C for 21 days followed by 48 h at an ambient temperature (28 ± 2 °C). Inoculated dip-treated fruit held at 28 ± 2 °C for 6 days also remained healthy. However, characteristic symptoms of the disease were observed in fruit that were inoculated and held as controls under similar storage conditions, with no hot water dip treatment. No significant difference occurred between hot water dip-treated and untreated controls with respect to flesh and shell colour of fruit, ascorbic acid levels and titratable acidity. Mean ascorbic acid level was 18.8 mg/100 g in fruit stored at 10 °C compared with 9.3 mg/100 g in fruit stored at 28 ± 2 °C, irrespective of whether they were inoculated or non-inoculated fruit. A significant difference ($p < 0.05$), in total soluble solids (mean Brix of 14°), occurred in hot water treated fruit compared with untreated fruit (mean Brix of 11.5°), irrespective of storage temperature.