

Title Effect of hot water treatment on the control of papaya (*Carica papaya* L.) Post harvest diseases

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Abstract

Two of the most common post harvest papaya (*Carica papaya*) pathogens are *Colletotrichum gloeosporioides* (anthracnose) and *Phoma caricae-papayae* (stem rot). Two isolates of *C. gloeosporioides* (Cg 32 and Cg 78) and one of *P. caricae-papayae* (P 725) were inoculated on fruits of both ‘Solo’ and ‘Formosa’ groups in two different types of trials: (1) Fruits submerged in water at 48°C for 10, 15, 20, 25 and 30 min; (2) Fruits submerged in water at 44, 46, 48 or 50°C for 20 min. Afterwards, the fruits were cooled down in water (13±1°C/20 min) and stored for 14 days in a cold chamber (13±1°C and R.H. 85–100%). A physical-chemical analysis of the fruits was done (firmness, total soluble solids, pH and titratable acidity) and no significant difference between the control (no treatment) and the treatments was observed on this analysis. On the trials with hot water treatment period variation, the 10 min treatment did not reduce disease severity (Cg 78 and P 725), while the other treatments did. The 10 and 15 min treatments were not efficient in reducing disease caused by Cg 32. On the trials with temperature variation, the 48 and 50°C treatments reduced disease severity (Cg 32 and P 725). Fruits (‘Solo’ group) inoculated with Cg 78 and submerged at 50°C had significant disease reduction.