**B-52: Changes in physical and biochemical attributes in papaya during ripening**

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It was previously shown that hot water treatment of unripe papaya fruits, both single dip (54.5°C for 3 mins.) and double dip (42°C for 30 min transferred within 3 mins. to 49°C for 20 mins.), significantly reduced the developemnt of anthracnose (*Colletotrichum gloeosporioides)*, stem-end rot (*Botryodiplodia theobromae, Phomopsis* sp.), fusarium rot (*Fusarium* sp.) and cladosporium rot (*Cladosporium cladosporioides*) during ripening, double dip being more effective. The present work was carried out to examine if hot water dip (double) alters the fruit quality and composition during ripening.

Treated and control fruits were allowed to ripen and the peel and pulp tissue were collected separately 1, 3 and 5 days after treatment. Aqueous extracts were taken to determine pH and titratable acidity. Total soluble solids (TSS) were measured with a refractometer. Total and reducing sugars were analysed by phenol-sulfuric and dinitrosalicylic methods respectively. Peroxidase isozyme pattern was determined by Polyacrylamide gel electrophoresis.

In both treated and control fruits the TSS, total and reducing sugars in the peel or pulp increased in a similar pattern with ripening and showed no significant alteration due to hot water treatment. The pulp contained more of the above than the peel, at all stages of ripening. The titratable acidity in the peel and pulp of both treated and control fruits decreased progressively during ripening and the pH increased slightly. The peel was more acidic than the pulp at all stages. There was no detectable difference in the taste between the treated and control fruit after ripening. There was, however, an additional ionically bound peroxidase isozyme in the extracts of treated fruit then in the extracts of controls. Although it appears that the hot water treatment has affected the fruit metabolism as shown by the peroxidase isozyme assay, there was no significant alteration of attributes which are

generally considered to determine the quality of ripe fruits. Hot water treatment could therefore be recommended for local papayas.