Title Modifications on the enzymatic activity of pineapple cv. 'Smooth Cayenne' related to the storage temperature and stage of maturation

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Abstract

This study evaluated the activity of polygalacturonase (PG), pectinmethilesterase (PME), peroxidase (PER), polyphenoloxidase (PFO) and phenilalanine ammonium lyase (FAL) in pineapple cv. 'Smooth Cayenne', with the objective of investigating the changes in the metabolism of the fruits related with the stage of maturation and storage temperature, to obtain further information that could be useful for the control of chilling injury in pineapples. The fruits, produced in Canapolis-MG- Brazil and harvested in July 1998, were stored in a cold room at 7 a 10 deg C temperature and relative humidity of 90% a 93% for a 20 days period, and at room temperature (20 a 22 deg C) and relative humidity of 72% a 90%. With the exception of the activity of pectinmethilesterase, which was not influenciated by the storage temperature, the other enzymes analysed in the present work were all affected by the stage of maturation, storage temperature and by the interaction between stage of maturation and storage temperature. Except for polygalacturonase, the activities of all other enzymes analysed in the present work increased (PME, PER, PFO e FAL) in the fruits in stage 3 of maturation storaged under refrigeration, indicating that the refrigeration increased the enzymatic activity as the ripeness of the fruits proceed.