

Title Polyphenol oxidase and peroxidase activities in mangoes stored at chilling temperature
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Abstract

Mangoes are tropical fruits and therefore chilling-sensitive. Storage of these fruits at low temperature can cause chilling injury. Since peroxidase (POD) and polyphenol oxidase (PPO) are involved in the metabolism of phenolic compounds and in the development of several physiological disorders, as chilling injury (CI), we have undertaken to study the effect of low temperature storage on the activation of these enzymes in mangoes. Some characteristics of PPO and POD were investigated. Maximum activities of PPO were found at pH 8,0 and 7,5 for skin and pulp respectively. In both cases the optimum temperature was 40°C. Maximum activities of POD were found at pH 5,0 while the optimum temperatures were 60°C and 30°C for peel and pulp. 'Kent', 'Keitt' and 'Manila' mangoes were stored at 5°C during 25 days and rewarmed at 20°C until ripening. CI symptoms in peel were more severe than in pulp. PPO activity increased in peel and pulp of mangoes stored at 5°C. PDO activity increased in pulp and showed lower activity in peel. Correlation was found between CI index and PPO activity in mangoes.