

Abstract

Queen and Smooth Cayenne pineapples at both immature and mature stages were stored at 10°C and 25°C for 0, 7 and 14 days, then transferred to room temperature for one day. Chilling injury symptom, electrolyte leakage, lipid peroxidation as shown by the MDA content, ORAC values and ABTS scavenging capacity were measured. Both Queen and Smooth Cayenne pineapples showed greater severity of internal browning with time of storage, but none when stored at 25°C in both stages. Queen pineapples developed symptoms earlier and three times more severe than Smooth Cayenne pineapples (80% versus 25% at 14 days of storage, respectively). Queen pineapple had the higher electrolyte leakage (55.18%) compared to Smooth Cayenne pineapple (37.27%) after storage at 10°C for 7. Queen pineapple also had the higher MDA content (43.02 nmol/g fresh weight) compared to Smooth Cayenne pineapple (31.28 nmol/g fresh weight). Smooth Cayenne pineapple showed higher antioxidant capacity than Queen pineapple: 14.8 versus 9.1 mmol TEAC/g Fresh weight for ORAC values and 44.8 versus 36.3 mmol TEAC/g Fresh Weight for ABTS scavenging capacity. The ORAC values and ABTS scavenging capacity decreased when pineapple was stored for longer periods in both types and stages. These results indicate that the level of antioxidant capacity in pineapple is involved in the difference in chilling injury symptom shown in both types of pineapple