Title Postharvest Characteristics of Breaker and Red Fruit of Different Chili Cultivars at Ambient and Low Temperature

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Abstract

Fruit quality and shelf life attributes of three chili cultivars (CCA321 and 9955-15 from AVRDC and Ox horn, a local cultivar) grown under Vietnam conditions and harvested at breaker and red stage were evaluated during storage at 25°C and 10°C. Color difference values (CDV), determined by integrating colorimetric a*, b* and L* values before and at specific period in storage, showed more pronounced increases in breaker fruits as a result of red color development than fruits harvested and stored at full red stage. CDV increased progressively with storage at 25°C in breaker fruit of all cultivars while in red fruit, it increased during the first 6 days and leveled off up to the end of the 15-day storage period. A different trend was exhibited at 10°C as CDV initially increased and then decreased on the 9^{th} day of storage before increasing again thereafter. These changes were greater in magnitude in breaker than red fruit, particularly in 9955-15 and Ox horn cultivars. Incidence of storage disorders was higher at 25°C than at 10°C. Wide cultivar differences were noted in breaker fruit stored at 25°C in which more 9955-15 fruit developed disorders than the two other cultivars after 9-15 days storage. Soluble solids content (SSC) and titratable acidity expressed as percent citric acid (PCA) did not change much with storage except for the increased in PCA after 12 days at both storage temperatures regardless of cultivar and harvest maturity. SSC and PCA were highest in Ox horn and lowest in CCA321. Red fruit of Ox horn had higher SSC than breaker fruit. SSC of breaker and red fruit of CCA321 and 9955-15 slightly differed only. Sensory flavor of both breaker and red fruit was maintained or slightly improved during the first 6 days of storage before it decreased at a higher magnitude at 25°C than at 10°C. Flavor differences among the three cultivars were not considerable.