

Title Effects of chlorine on fruit decay and shelf life of two tomato cultivars stored at ambient and evaporative cooling condition

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Abstract

Tomato cv. CLN1462A and TLCV15 harvested at breaker and turning stage were washed for 3 min in water or 200 ppm chlorine prepared using sodium hypochlorite before storage at ambient (27-33°C; 61-90% RH) or in simple evaporative cooler (EC) (24-27°C; 91-99% RH). Fruit decay developed more rapidly in CLN1462A than TLCV15. Chlorine wash reduced decay only in turning fruit of CLN1462A stored at ambient and in breaker and turning fruit of TLCV15 stored in the EC. EC promoted red color development of breaker fruit of both cultivars and turning fruit of CLN1462A. It also reduced weight loss regardless of treatment. Chlorine had no considerable effect on fruit reddening and weight loss. At the ripe stage, firmness decreased to about 1.0-1.5 kg force in both cultivars. TLCV15 had generally higher soluble solids and acid contents than CLN1462A. Fruit pH did not show a clear trend in response to the different treatments. Overall sensory quality of TLCV15 fruit was rated better than that of CLN1462A fruit.