Title Effect of vapor heat on the export quality of fresh tomato (*Solanum lycopersicum* L.)

Author M. Hurtado S., G.M. Vidal, E. Flórez, A. Herrera A. and J. García

Citation ISHS Acta Horticulturae 821:249-256. 2009.

Keyword postharvest treatment; quarantine treatment; sensory evaluation

Abstract

Postharvest heat treatments have been used for fruit disinfestation of insects, disease control, and modification of reactions of the fruits to physiological stress produced by postharvest treatments with low temperatures. The present study evaluated the effect of the application of vapor heat at 46°C on the quality of the 'Long Life' variety tomato at two maturity stages and two fruit sizes; fruit sizes chosen were: a) between 280-450 g, and b) between 200 and 279.9 g; the evaluated maturity grades were breaker stage and green stage. The measured parameters were the quantitative: weight loss, firmness, soluble solids, pH, and citric acid and qualitative ones: external appearance, internal appearance, and flavor. The treatment with vapor heat did not produce satisfactory results in respect to the quality of the tomato fruits. Some of the quantitative parameters revealed statistical differences when comparing the treated fruits with the control, but not all of these fruits were rejected in the sensory evaluation. The main parameters of rejection were the qualitative variables and the external appearance was the major factor of non-acceptance. The results presented in this investigation showed that the 'Long Life' variety of tomato grown in Colombia did not tolerate the vapor heat treatment applied.