Evaluation of the Effects of Packaging Materials and Storage Temperatures on Quality of Green Chili and Scotch Bonnet Chili

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This research was conducted to evaluate the effectiveness of packaging material and storage temperature in maintaining the quality of green chili (*Capsicum annuum* L.) and scotch bonnet chili (*C. chinense*) during household storage. Chilies were stored at three different storage temperatures, *i.e.,* room temperature (27.7 ºC), refrigeration (7.1 ºC), and clay pot cooler (25.6 ºC), using three different packaging materials (grocery bags, Ziploc bags, and paper bags) for two weeks. The average relative humidity was 76.1%, 58.2%, and 93.6% in room storage, refrigeration, and clay pot cooler, respectively. The average cooling efficiency of clay pot coolers was 66.7%. Soluble solids content (SSC), titratable acidity (TA), physiological weight loss (%), firmness, redness (%), decay (%), and visual quality of chilies were evaluated every other day. The minimum weight loss in green chili and scotch bonnet chili was observed in clay pot cooler storage using Ziploc bags. At all the storage temperatures, the TA increased while SSC was maintained between 1.5 to 3.0%. Firmness and visual quality were well maintained in the refrigerated temperature compared to the other storage temperatures. The % redness and decay of chili were higher *($P \leq 0.05$)* higher in room and clay pot storage temperatures. Chilies in Ziploc bags at refrigerated temperature showed the overall best quality during two weeks of storage. Paper bags were effective in maintaining overall quality of chilies stored at room temperature and in clay pot cooler.

Keywords: Chili, Packaging, Quality, Storage, Temperature

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