

Cold Chain Study
300 word summary
Draft for review 3/10/04

In 2003, the Mushroom Council asked the Perishables Group to conduct a study to understand the impact of maintaining the cold chain and its ultimate impact on consumer purchase of mushrooms. The study documented the impact of the cold chain on overall mushroom quality.

The study included three retail chains, each using a different distribution method: direct store delivery, shipment to stores via retailer controlled warehouse/trucking and shipment via independent warehouse/trucking. Mushroom temperatures both in and out of display cases were audited as well as the effectiveness of the in-store refrigeration display units. This data for total time and temperature of mushrooms from farm to shelf was used by researchers at Penn State University to create models of performance impacts showing average, best and worst case scenarios. Finally, an on-line survey was utilized to document how mushroom color and cleanliness impact consumer purchase intent.

Across the chains studied, the cold chain showed extreme variations in performance that negatively impact quality. Temperature recorders placed within retail displays documented that most refrigeration units are set too high to maintain mushroom quality or prevent additional product degeneration. Store inventory, ordering and re-supply frequency played a significant role in accumulated temperatures for total mushroom time to shelf.

Only 28 percent of consumers describe themselves as “generally satisfied” with the quality of mushrooms on display in the supermarket. However, when shown mushrooms that match quality expectations, 92 percent of consumers said they are likely to purchase mushrooms.

Based on the modeling scenarios, stores with “worst case” cold chain performance could improve volume and dollar sales by as much as 156 percent for sliced mushrooms and 35 percent for whole. Improvement from “worst” and “average” to “best” case scenarios showed a possible gain up to \$368,484 for the mushroom category per year for a 100-store chain.

For a complete copy of this research report please contact the Mushroom Council.