



## Determining the Relationship Between Distribution Temperatures and Strawberry Quality

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### Abstract

Temperatures were monitored using real-time data loggers placed in flats for eight strawberry truck shipments from fields in Plant City, Florida, to a distribution center (DC) in Georgia, and from Salinas, California to DCs in Georgia, Maryland, Pennsylvania, Virginia, South Carolina, North Carolina, and Texas. The strawberry temperatures were further tracked from the DCs to the retail stores. In order to understand the relationship between temperature management during distribution and strawberry quality, the collected data was used to construct four, 7-d logistics scenarios for two trials using programmable temperature-humidity storage rooms at the University of Florida, Institute of Food and Agricultural Sciences Postharvest Lab. The scenarios were: 1) control (constant 1.1 °C/34 °F for 7 days); 2) warming during transport to DC (warm from 1.1 °C to 4.4 °C/40 °F during days 1–4); 3) ambient retail display (warm to 22.4 °C/72 °F on days 6 and 7); and, 4) warming during transport/ambient retail. For farm/DC/retail assessments, strawberry clamshells were subjectively evaluated using a 1–3 “Would I purchase?” scale; for at-home assessment a 1–3 “Would I eat?” scale was used. Individual fruit were also evaluated as marketable, or as bruised, mold/decay, or calyx browning based on the primary defect present. Strawberries were also objectively evaluated for color, firmness, soluble solids content, total titratable acidity, and pH. Sensory evaluations were conducted during the at-home period (final 3 evaluation days) by a panel of five strawberry experts.

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