

# Market Fruit Quality Study

## New Project; Year 1 of 1

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*Cooperators: CA Avocado Commission, CA Avocado Handlers, Retail Distributors*

### **Benefit to the Industry**

This project will develop the database that can be used to determine the minimum maturity standard for the 'Lamb Hass' cultivar. Simultaneously, we will also collect information on the comparative ripening and storage characteristics of the 'Lamb Hass' at various points of the commercial season. This information will help both growers and packers to develop harvesting and marketing plans for the variety. In this way, we can hopefully insure that the maximum profitability for the variety can be achieved.

### **Objectives**

Evaluate from the time of harvest through retail purchase where quality losses can occur in the 'Hass' avocado.

### **Summary**

This was a cooperative effort coordinated through the PRC Postharvest Subcommittee chaired by Dana Thomas (Index Fresh). It involved the efforts of various packers, field representatives, CAC and the retail trade to carry out the experimental design. The purpose of this project was to sample fruit from the time of harvest through the time, which the fruit was purchased by the consumer. The goal was to ascertain if possible, when handling problems arose during handling. We designed a sampling scheme, which required sampling fruit in the grove, at the packinghouse, at the distribution center and at the store level. Three studies were conducted using variations on this sampling scheme. When the fruit was evaluated we examined the fruit for shrivel, skin color, presence/absence of physiological disorders and decay, the ease of fruit peeling and seed germination. A fruit sample consisted of 24 fruit.

**Test 1 - January 2000.** The first test was conducted using fruit from the Rancho California area in Riverside County. After packing the fruit was treated with ethylene for 48 hours then transported to the retail distributor and then on to the retail store in Orange County. Fruit was sampled at the store level 0, 24, 48 and 72 hours after delivery. Upon ripening, after fruit sampling, symptoms of what is believed to be mechanical injury were noted below the peel of the fruit. These symptoms were more prevalent in samples taken at the store level.

**Test 2 - June 2000.** The second test used fruit from the Santa Paula/Fillmore area in Ventura County. The fruit was packed by two packinghouses then sent together to a retail distributor in Los Angeles. The fruit was marketed at 2 retail stores (the same chain; both packinghouses were represented at each store in separate displays) in Riverside County. Fruit samples were taken from the store after 0, 24, 48 and 72 hours. No major problems with fruit quality were encountered.

**Test 3 - August 2000.** The third test was conducted using fruit from two locations, Santa Paula and Carpinteria. The fruit were packed by a single handler then treated for 24 hours with ethylene. The fruit were transported to the retail distribution center in the Inland Empire and marketed at two stores in San Bernardino County (each store handled one grower lot). Fruit were sampled at the store level after 0, 24, 48 and 72 hours. No major problems with fruit quality were encountered.

**What did we learn?** We have entered the data from 2 of the 3 tests and the third is now being entered. The data from these tests still needs to be analyzed but overall we found more problems with fruit quality in the January 2000 test as compared to the other two tests. We also noted more seed germination in the August test and that the "ease of fruit peeling" diminished through the season and varied between growers (Test 3). A more complete summary of the results will be prepared upon completion of the data analysis.