

# Harvesting Avocados

## ***Oil Content***

The main criteria and most reliable method for determining maturity of avocados in California is by oil content. California state law has established minimum oil requirements.

Oil content is determined by laboratory test and can be made by most marketing organizations.

## ***Appearance of the Fruit***

By observing the fruit on the tree, an experienced grower can tell much about its maturity.

Dark-colored varieties are usually mature when they start to turn from green to dark color.

Green-colored varieties become smoother, may develop corky spots, and develop a yellow tint to skin and stem.

## ***Seed Coat***

The appearance of the seed coat is a valuable check of maturity. If the seed coat is dark brown and tissue-thin, the fruit is probably mature.

**Remember** - Immature fruit may be rejected at the market by State inspectors. An oil test is the most reliable method to determine maturity. Determining maturity is most important early in the season. After the season for a variety is well under way in your area, you should be able to pick for size only.

## ***How to pick***

Remember that by careful harvesting you will receive a higher price per pound for your fruit.

Remember that avocados are easily bruised or scratched.

## ***Care in Picking***

Wear cotton gloves

Do not drop fruit

Do not lay fruit on the ground without some protection underneath it.

Use proper picking equipment such as ladders, poles, clippers and canvas picking bags.

Do not pull fruit from the stem. Clip the stem as close as possible without injuring the fruit.

## ***Care in Handling***

Do not overfill field boxes as top fruit will be bruised.

Store the picked fruit in shade or cover the top box with an empty box or avocado branches with leaves.

Haul fruit to processing plant as soon as possible.

Source - U.C. Leaflet 108, Harvesting and Marketing Avocados by Richard E. Puffer

## ***Apparatus***

1. Scale or balance (accurate to .01 grams)
2. Microwave oven
3. Glass dish or unwaxed paper container
4. Paring knife

5. Potato peeler
6. Pencil and paper for calculations

### **Procedure**

1. Weigh container and record weight (c)
2. Cut avocado lengthwise into quarters
3. Remove seed, seed coat and peel
4. With potato peeler cut slices off each cut surface of each quarter of avocado
5. Transfer approximately 10 grams of fresh slices into container
6. Weigh container with fruit slices and record weight (F)
7. Place container in microwave oven and cook until dried to a constant weight. Usually 10 to 15 minutes. Start with 5-minute intervals and reduce to 30 second intervals until no more weight is lost. Slightly burnt samples will still produce satisfactory dry-weight figures.
8. Quickly weigh container containing dried slices and record the weight (D).
9. Calculate the percent dry weight.

### **Calculation**

$$\% \text{ Dry Weight} = \frac{D - C}{F - C} \times 100$$

D = dry tissue weight plus container  
 C = container tare weight  
 F = fresh tissue weight plus container

### **Example**

A fresh sample weighing 16.9 grams including a container weighing 4.5 grams was dried to a constant weight of 6.9 grams. Calculate dry weight.

D = 6.9 grams  
 C = 4.5 grams  
 F = 16.9 grams

$$\begin{aligned} \% \text{ Dry Weight} &= \frac{6.9 - 4.5}{16.9 - 4.5} \times 100 \\ &= \frac{2.4}{12.4} \times 100 \\ &= .193 \times 100 \\ &= 19.3 \end{aligned}$$

Dry weight and oil content increase at a constant ratio. Preliminary unofficial results indicate that percent dry matter minus 10 equals oil content. Hence, above sample would have a 9.3% oil content.

### **Precautions**

- When using a balance of low sensitivity, i.e., .1 gram, use a larger container and a 100-gram sample instead of 10 grams and record weight to nearest .1 gram.
- When using a conventional oven for drying, set oven at 212 F and cook sample for about 5 hours or until dried to constant weight.
- Postal scales are not accurate enough for this test.

A number of balances or scales are available for making dry-weight analysis.

<b>Minimum dry matter standards for some major varieties:</b>	
17.7 Bacon	21.6 Pinkerton
19.0 Fuerte	18.7 Reed
24.2 Gwen	20.4 Rincon
20.8 Hass	18.4 Susan
19.3 Jim	18.7 Zutano

Source - Seung Koo-Lee, Plant Physiologist, UCR