

## THE AVOCADO IN TULARE COUNTY

**James H. LaRue**

*University of California, Farm Advisor, in Tulare County California.*

The avocado industry, long established as a staple crop in southern California, is now in its infancy in the central part of the state. Present variety trials have shown that the avocado has promise of success in some areas of Tulare County where citrus is now in a period of rapid expansion.

At the present time there are about 43,000 acres of citrus in Tulare County. This acreage consists of approximately 27,000 acres of Navels, 12,000 acres of Valencias and 4,000 acres of lemons and miscellaneous other citrus varieties.

The thermal belt in which the citrus plantings are located is situated on the extreme eastern edge of the cultivated valley floor next to the Sierra foothills. This belt is roughly 5 miles wide and 75 miles long extending from Orange Cove in the north to Ducor in the south.

Located within this area and particularly on the western slopes of the Sierra foothills are areas that are relatively free from damaging radiation frosts in the winter. In fact, a few of these areas are less affected by normal winter frosts than are many areas located in the avocado growing sections of southern California. Of course, this temperature advantage cannot be counted upon in the occasional "freeze years" that affect thermal belts in both central and southern California.

This thermal belt, therefore, supports production of subtropical fruits primarily because of its temperature advantages. Part of this area has soil which is of the red hardpan type, of which the San Joaquin series is a typical example. With modern equipment for ripping and leveling, these red hardpan soils should be considered excellent for avocado production with no particular problem from impaired drainage.

Unfortunately, most of the soils on the slopes of the foothill portion of the thermal belt, where normal winter temperatures are even warmer than on the red soil areas, the adobe-clay soils predominate. These heavy soils, the Porterville and Ducor series being examples, are as yet unproven as far as commercial avocado production is concerned. With proper management they support excellent citrus production.

Soils of the Hanford and Vista series are located in scattered areas along the foothills and would be good soils for avocados.

Since many potential avocado sites are located at the edge of the foothills where the soil texture is predominantly heavy, the problem of potential root rot conditions arises. Drainage, in most cases, is good, but the moisture holding capacity of these soils is high. Most growers who are now planting trees are aware of this danger. Most trees being brought into the county are from reputable nurseries in southern California. Those

growers who are raising their own trees are heat treating seed being sent from the south. The importance of establishing and attempting to maintain a root rot free avocado growing section of California cannot be overemphasized.

Adequate water is available to most potential avocado growing areas in Tulare County. Friant-Kern Canal water is available through irrigation districts to most land adjacent to the foothills. Well water, ditch company water and other sources of irrigation water are available in some areas not receiving district canal water.

Commercial avocado production, although limited in size, is not new to central California. The Case and Case Ranch near Orange Cove has been shipping Fuertes from several acres of large, old trees for many years. Several large Mexican seedling trees on the Foran Ranch in Success Valley, 10 miles east of Porterville, are reported to have supplied the hotel trade in San Francisco with fruit at about the turn of the century.

Large, old Mexican seedlings are not an uncommon sight on many ranches and in many back yards throughout Tulare County. The Duke has been a standard, successful back yard tree for many years in such towns as Visalia, Porterville, Tulare and Dinuba.

Several growers in Tulare County are now actively engaged in testing avocado varieties which they feel may be suitable to this area. The farm advisor has helped to establish variety plots in order to test fruit quality, maturity time and bearing habits on a number of varieties in several locations throughout the county. It is our feeling that if fall maturing varieties, which are generally less subject to frost damage than the winter and summer varieties, will bear satisfactorily, there is a place for limited avocado production in Tulare County.

Pat Foran, of Success Valley, is now testing about fifteen avocado varieties. The farm advisor and Foran are working closely on maturity studies and varietal observations. The following appear to be the most promising varieties checked thus far:

Zutano—This variety was mature by the middle of September in 1958. Production has been good and to date there appears to be little or no blossom end cracking or checking.

Nowels—This variety also exceeded 8 per cent oil by the middle of September in 1958. The fruit is produced in large numbers and is very small, usually three to six ounces.

Jalna—1958 tests showed this variety to be mature early in September. It appears to have good quality but does not hold as well as the Nowels.

Decem—This variety has perhaps the highest quality and is the best appearing fruit on the Foran Ranch. It was mature the second week in November in 1958 and looks to be very promising.

Fuerte—The erratic bearing habit, similar to some areas in southern California, appears to hold true in Tulare County. However, since the fruit was maturing early in October in 1958, further tests in several locations are warranted. Bacon—No maturity tests have yet been made on this variety. However, from observations made on a few young trees in the county it appears as if the fruit quality is good and will apparently hang on the tree for a considerable period of time after maturity without cracking or checking on the blossom end.

We see no reason for continuing extensive tests on varieties such as the Hass, even in the warmest areas of the county. There is no particular advantage to be gained in competing with winter, spring and summer fruit from southern California. It is felt that the marketing season for Tulare County fruit should be in the period from September to the middle of December.

There is no doubt but what Tulare County avocados mature earlier than comparable varieties in the south. Thus far it appears as if the quality of some of the fall maturing varieties is also superior to fruit produced in southern California.

An early maturing, frost resistant, high quality fruit with good keeping quality on the tree and good market acceptance is the ideal goal. Probably more than one variety will have to be grown to fulfill this fall marketing period.

The big question yet to be answered is what kind of commercial production can we expect from these varieties in central California? This, of course, will not be answered until those who are now pioneering the avocado industry in Tulare County have had commercial plantings for a few years.

The interest in avocados is high in central California. From information gathered thus far from tests on several varieties, it looks as if they have good commercial possibilities in Tulare County. Little is known about the commercial production to be expected from these varieties; however, based upon their performance thus far, we feel that trial plants are warranted.