

SAN DIEGO COUNTY AVOCADO INDUSTRY

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GENERAL SITUATION

The avocado acreage in San Diego County constitutes a large proportion of the total avocado acreage in the State of California. In 1958 the total acreage of avocados in the state was approximately 26,000 acres. Of this amount 15,000 bearing and non-bearing acres are in San Diego County. The value of this crop is such that it is always in the upper five agricultural crops produced in the county each year. In 1958 avocados were second to tomatoes in plant crops and fourth, following eggs, tomatoes, and milk. The total returns, according to the Agricultural Commissioner's San Diego County crop report for 1958, were \$8,730,000.

In 1936 San Diego County had approximately 7,900 acres. This compares with 15,000 acres in the 1958 census. It is felt that there is sufficient land in the county for this acreage to double.

PRODUCTION

In 1936 California produced about 800,000 flats of avocados, compared with approximately 2,150,000 in 1956. In San Diego County approximately 4,365,000 flats were produced in 1958. Many growers are top-working non-producing trees, as well as those varieties that are no longer acceptable by the trade.

In San Diego County in 1936 avocado land and orchards were selling for from \$1,500 to \$3,000 per acre. In 1958 the land and orchard prices have risen to from \$3,500 to \$8,000 per acre. For virgin land where water is not available the price is considerably less, but these prices are for established groves. In 1936 it cost approximately \$265 per acre, excluding picking and hauling, to produce avocados. Today it costs about \$700 per acre, including picking and hauling charges.

CULTURE

Avocados are grown in four out of five climatic zones in San Diego County. These zones are: Coastal, coastal valleys, intermediate areas, and the inland areas. The only area in the county where avocados are not grown commercially is on the desert. Avocados are grown successfully along the coast in the districts surrounding Carlsbad, Oceanside, Leucadia, Encinitas, and Solana Beach. Even though subdivision has encroached upon agricultural land in the southern part of the county, there are still many avocado acres in Spring Valley, La Mesa, El Cajon, Winter Gardens, and some parts of

Lakeside, Fallbrook, Escondido, Vista, and the Rincon Springs-Pauma Valley areas represent the largest percentage of the plantings. Soils will vary from a uniform loam soil on the coast, called an Elkhorn sandy loam, to the decomposed granite type soils of the Vista sandy loam and the Fallbrook fine sandy loams, found around Vista, Escondido, and Fallbrook. Soils are generally acid in reaction and range from a depth of six inches to six feet.

VARIETIES

The two recommended varieties in San Diego County are Fuerte and Hass. On the coast will be found the largest number of varieties, some no longer recommended for commercial planting. The Hass is the only variety which does well in all climatic zones. The Hass is replacing such varieties as the Itzamna, Dickinson, Nabal, and some Anaheims, on the coast. The Hass is also being planted in other districts, and as a result production is increasing. Fuerte is not recommended as a coastal fruit, but is the No. 1 commercial variety in other districts. Three varieties, Bacon, Zutano, and Jalna, have been planted on land too cold for Fuerte or Hass. These three are not recommended for commercial planting, however, but are grown only in areas too cold for other varieties.

PROBLEMS — WHAT IS EXTENSION DOING?

No industry is without problems. The avocado industry has had its share of problems. They can be listed as follows:

1. Avocado root rot disease.
2. Irrigation and salinity.
3. Market development.
4. Marketing techniques.
5. Sun-blotch disease.
6. Varieties.
7. Clonal rootstocks.
8. Fertilization.

Listing these problems does not mean that they are the only problems the industry faces. At the present time these seem to be the most important. Answers to some of them will take a long time, such as rootstocks and varieties, but with others the work now being conducted should give an answer soon. The University of California, through the Research and Agricultural Extension Service divisions, has worked on all of these problems and will continue to do so. Many research and Extension field trials are being conducted throughout the county. Some test plots now established include the following:

Fertilization

1. Three Research-Extension plots to determine the amount of nitrogen avocado trees need.
2. An Extension plot on timing of fertilizer application.

Avocado Root Rot

1. Many Research plots testing fumigants, rootstock resistance, barriers, and organic matter treatments.
2. Four Extension test plots testing the effectiveness of alfalfa meal in retarding the spread of this disease in orchards.

Irrigation and Salinity

1. Four irrigation and salinity test plots were established by Extension in cooperation with growers to determine the best irrigation program to reduce salinity injury.
2. As a result of these tests, a change in the irrigation program has been made by many growers.
3. The test results showed the need for more frequent irrigations, resulting in better tree health and a reduction in the amount of tip burn.
4. Ten test plots were established using tensiometers in connection with the irrigation project.
5. Information obtained on these tests is the basis for how growers use tensiometers in their own irrigation programs.

Marketing

1. Extension held a number of meetings during the past two years informing the growers of the marketing situation both in the avocado industry and in agriculture generally.
2. As a result of these meetings numerous groups have availed themselves of the services of the University to become better informed on marketing techniques, marketing orders, cooperatives, independent buyers, and handling procedures.

Zinc Deficiency

1. Extension test plots prove the effectiveness of using zinc sulphate on the soil to correct and control zinc deficiency.
2. Up until these tests were made, foliage sprays were used.
3. These tests were necessary because spray rigs were unable to get into steep hillside orchards or crowded orchards.
4. As a result of these tests, many growers are now using zinc regularly. Improved tree health is apparent.

This is a brief rundown of some of the problems facing the San Diego County avocado industry and what the University of California Agricultural Experiment Station and Agricultural Extension Service have done in cooperation with growers.

FUTURE OUTLOOK

The future outlook for the avocado industry in San Diego County is based upon past experience and in talking with many people who are in the business of land development. The future of the industry looks bright, and some reasons for this feeling are as follows:

1. Production will continue to increase.
2. Acreage will expand.
3. Improved varieties will be developed.
4. An answer to root rot should be forthcoming.
5. Clonal rootstocks should give an answer to the variability problem.
6. Improved marketing techniques will be developed to handle increasing crops.
7. Expansion of markets will make more people acquainted with avocados.
8. Improved irrigation systems and the use of water measuring devices will play an important part in more efficient irrigation operations.
9. Change in attitudes of growers to graft over non-producing trees.

In addition to these comments about the future, there are two things that must be considered:

1. **Costs will continue to be high.** If growers can increase their production through (1) additional acreage, (2) use of varieties producing greater yields, or (3) planting the trees closer together, resulting in more trees per acre and higher yields in the early age, this high cost of production can be offset.
2. The **must** in production of any crop is that it be of the **highest quality** possible. This is true of the avocado industry. Therefore, the production of high quality fruit will in the long run return the greatest number of dollars.

CONCLUSIONS

In viewing the industry today, it can be said that avocados are here to stay. The type of individual that constitutes the industry is typified by being enthusiastic, energetic, intelligent, and with a determination to see that this industry becomes a big one. With the tremendous changes taking place in agriculture throughout the country, it might be well to look at some of these changes and how they possibly can affect the avocado industry. The experts tell us that in the years ahead there will be fewer small farms and more larger farms. Fewer people will be employed on the farm or ranch because of technological advances reducing the need for a large agricultural force. More capital will be needed for the production of crops. A successful grower in the future will need a greater technological know-how. He will have to be a plant scientist, mechanic, electrician, construction engineer, nutritionist, chemist, economist, and marketing expert. With all this, he must acquire increased managerial ability. Problems will always be with us. Solving them will result in a stronger and healthier industry. The future of the avocado industry looks bright if all growers work together.