

SANTA BARBARA COUNTY AVOCADO SITUATION

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Avocados have become a major orchard crop in the South Coastal portion of Santa Barbara County. In 1958, about 1,500 acres were devoted to avocados, of which about 900 acres were bearing. This acreage has been reached in the past ten years from a modest total of about 350 acres, which had been the size of plantings during the 1930's and until after World War II.

During 1958 about 5½ million pounds of fruit were harvested, bringing an F.O.B. value at the County line of \$837,000. These figures and the acreage figures above were from the 1958 Crop Report prepared by the Agricultural Commissioners Office. The 1959 crop is estimated at between 6½ and 7 million pounds.

LATER MATURITY

Santa Barbara County's avocado industry is characterized by several factors which are not the same as other producing areas in California. First, most of the production is in late spring, summer, and early fall maturity fruit. This stems, in part, from the fact that the cooler, more northern climate, brings on a delay in maturity of six weeks to two months for any given variety as compared to the heavily concentrated plantings in inland San Diego County. Usually, our harvesting is the last for any variety in the industry.

The producing area in the county is scattered throughout the narrow strip of land (ranging from 1 to 5 miles) between the Santa Ynez mountains and the Pacific Ocean. A mild subtropical climate prevails. This strip runs from the eastern county line to Gaviota, a distance of 40 miles. The orchards range in size from back yard plantings to over 100 acres. About 450 growers are interested in avocados; most of these growers also raise lemons. Thus, the average size avocado orchard is about 4 acres. This is increasing each year as the industry becomes a mature agricultural venture.

MacARTHUR AND HASS, LEADING VARIETIES

Another reason for later shipping of fruit is that the varieties planted are of the Guatemalan type that mature, generally, in the summer. The MacArthur is the leading variety with production accounting for 32% of the total crop in the county during the two seasons 1957-58 and 1958-59. The second variety is Hass with 23%. Rincons and Fuertes provide 15% each, while all other varieties account for 15%.

Based on young orchard plantings, we would expect Hass to become the dominant variety, producing about half of the County's production in a few more years. No new

plantings of MacArthurs have been made during the past 5 years, but nearly all the older orchards are expected to remain, since they are heavy producers and profitable.

Rincon and Fuerte fruit are usually harvested in May and June and come from orchards that are well located climatically for satisfactory yields. They are expected to about hold their own in the next few years.

Many other varieties have been developed and planted in Santa Barbara County. Among the older varieties that still account for some of the production are Anaheim, Dickinson, Edranol, Nabal, and Ryan. These are rapidly being topworked, mostly to Hass.

EXPERIMENTAL VARIETIES

Of the newer varieties, still considered experimental, the Corona is a leading contender for the early summer market, mainly because of its heavy, consistent yields. Other promising new varieties are the Regina, Mesa, Bacon, and Shepard.

Santa Barbara County is fortunate in having several leading growers that have experimented in the development of new improved varieties. Outstanding is Stanley L. Shepard of Carpinteria, who has contributed the Rincon, Mesa and Shepard Varieties, as well as having tested any and all varieties of promise. The Corona was developed on the T. B. Bishop Co., Corona del Mar Ranch in Goleta. Dr. Horace F. Pierce of Santa Barbara has given us the Bonita and Mundo varieties. These growers and many others have cooperated fully with the Farm Advisors Office and the California Avocado Society Variety Committee in testing varieties.

AVOCADO ROOT ROT DISEASE

Without question, the primary threat to the future of the avocado industry in Santa Barbara is the Avocado Root Rot disease. The causal fungus, **Phytophthora cinnamomi** has been cultured from over 80 orchards to date. We have estimated that 200 acres have been killed by it and an additional 400 acres are in various stages of infection. All acreage in the County is threatened.

Some of the earliest experiments in the control of this disease were conducted in this county, starting in 1939. Ever since then, numerous trials have been under way mostly in cooperation with Dr. G. A. Zentmyer, Plant Pathologist, University of California, Riverside. At present, four experiments in soil fumigation are under way, four trials of alfalfa meal have been started, resistant rootstocks are being tried in seven orchards, and the relation of irrigation practices to disease incidence is being studied in five groves.

In spite of all this work, no practical, economically sound control has been developed. This is one of the most difficult fungus diseases to control. The Farm Advisors Office has tried to pass on to all growers, everything learned about this disease so that they would be in the best possible position to prevent infections, limit existing infections, learn to live with it or to replant to a non-susceptible crop. Much more can and will be done.

IRRIGATION AND SALINITY STUDIED

Another major factor in avocado culture is the application of irrigation water. The types of soils found in the Santa Barbara area vary considerably from level recent alluvial valley soils to steep primary hillside soils. Many are red clay pans, others are weathered sand dunes, and still others are deep hillside clay soils. Often, several of these soil types will occur in a single orchard. The determination of the best irrigation practices for each soil and tree condition is a major job for many growers.

During the past four years, the Farm Advisors Office has conducted two avocado irrigation trials in cooperation with Dr. S. J. Richards, Soil Physicist, University of California, Riverside and the Agricultural Research Service of the USDA. The purpose of these studies has been to test the practicability of tensiometers in scheduling irrigations, to evaluate the effect of two moisture regimes on trees, to determine the evaporation-transpiration requirements, and to determine the needs for leaching in the use of saline irrigation waters.

Results to date show the desirability in the use of tensiometers. Guides for the Use of saline waters have been established. The use of more frequent, light applications of water than the practices previously followed has been demonstrated in improved tree condition and apparent production. This work is continuing. With the advent of the new plastic pipe and hose systems of sprinkler irrigation, many orchards will be markedly improved. Certainly, irrigation cannot be considered a limiting factor particularly with the availability of adequate water from the Cachuma Project.

MANY OTHER MINOR PROBLEMS

The practicability of the use of Monuron for weed control has been shown. Other weed materials have been tested, so that today and in the future, weed control is not the problem it used to be.

Control of microelement deficiencies have been studied. Control of Zinc deficiency is completely practical. Chlorosis, caused by a lack of Iron, is still a slight problem. Nitrogen studies are being continued.

Several flare-ups in pests, namely, Greenhouse Thrips and Avocado Brown Mite have occurred and have been corrected by sprays and dusts, but for the most part, no pest control measures are necessary, except for ant control as an aid to biological control.

FORECAST FOR THE FUTURE

The place of the avocado industry as an important agricultural crop has been well established. Two main threats cloud the future — Root Rot Disease and Urbanization. Our guess is that the present industry will continue at about its present size for the next 5-10 years. After that, if Root Rot hasn't taken many of the orchards, then subdivisions will. By the 1980's, population increases will have probably pushed out the avocado as a commercial agricultural industry.