

Status of the Avocado Industry in San Diego County

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There are approximately 7,000 acres of avocados planted in San Diego County, of which 4,800 are under five years of age and are considered in the non-bearing class. Of the balance of 3,200 acres of older trees, only 200 acres are over eight years of age and consequently cannot be considered as full bearing. The age at which maximum production will be secured is not yet established but probably will not be before trees are fifteen years old.

ACREAGE

The distribution of this acreage in the county by districts is about as follows:

South and East of and including the City of San Diego	1,380 Acres
Escondido	217 "
Vista	2,821 "
Fallbrook	282 "
Carlsbad	611 "
South Coast (Encinitas, Cardiff, Solano Beach)	1,237 "
Rancho Santa Fe	346 "

VARIETIES

Fuerte is the leading variety by a wide margin in both the older and younger plantings. Puebla and Dickinson are second and third in the older plantings but have not maintained their lead in recent years. Dickinson has only been planted on the coast, and Puebla only in inland sections. Anaheim, Itzamna, and Nabal would probably rank next to Fuerte in plantings made in the last four years. At present, Nabal is most popular and new plantings will carry a large proportion of this variety. Nabal is also being widely used in top working. The recommendation of the Benik by Dr. Coit for San Diego County coast conditions will undoubtedly lead to considerable planting of this variety.

Many poor and obsolete varieties are being top worked.

YIELDS

Most yield records, particularly those used by avocado land salesmen and avocado enthusiasts, have been obtained from a few trees and are probably authentic, so far as those trees go, in the productive years in which they were taken. These good individual production records, when combined, through a good sales talk, with the science of

mathematics, have given truly phenomenal acreage yields. Trees have been known to produce over a thousand pounds of fruit; multiply this by seventy-five trees per acre and you have an acreage yield of 75,000 pounds, and at the conservative price of 25 cents per pound (I am quoting from existing literature), you have a gross income of \$18,750.00 per acre!

Actual mass figures of known accuracy are more illuminating, however. Taking the bearing acreage of trees in the Calavo organization for 1931, we find that they recorded a production of 80,225 field boxes or 3,209,000 pounds of fruit delivered, from 2,617 acres—an average of 1608 pounds per acre, or about 21½ pounds per tree. At an average price of 12 cents per pound, this would amount to a gross return of \$192.96 per acre, which would not sell much avocado land at four, five, or six thousand dollars per acre. Actual tree records of 71 five-year-old Fuerte trees in excellent condition, in a good Fuerte district, in 1930 yielded an average of 61.7 fruits per tree, weighing 15.4 pounds. The range on these trees varied from 0 to 266 fruits or about 198 pounds.

Seventy-five trees per acre, yielding 198 pounds per tree and selling as low as six cents per pound, would give the very satisfactory gross return of \$891.00 per acre for trees in their first bearing year. This crop has possibilities.

To continue with actual tree records—46 eight-year-old Taft trees produced a total of 336 fruits weighing 315 pounds. The Taft variety is notoriously a shy bearer, however. Twenty-eight Puebla trees produced for five years as follows:

1927	2 years old	177 fruit		
1928	3 “ “	13 “		
1929	4 “ “	99 “	56 pounds	
1930	5 “ “	12 “	10 “	
1931	6 “ “	7 “	3.8 “	

A better yield reported is from 248 three-year-old Fuertes which produced 68 fruit per tree. No weights given. Also, 34 Fuertes, six years old, 241 fruit per tree, 70% Calavo grade. Both above yields were obtained in 1931.

Nineteen hundred thirty-one was considered a good productive year in this district. The Fuerte is not considered a reliable bearer, but it is the most desirable market variety at the present time.

CONDITION OF ACREAGE

In my opinion 75% of the avocado acreage in San Diego County is planted on soils and in locations where it should succeed horticulturally. Such acreage is for the most part in excellent condition. The other 25% will probably pass out of the picture in the next five years, particularly if we have a few more wet, cold winters. Probably 40% of the acreage in San Diego County that can be successful culturally cannot succeed economically because of too high an original investment or too small a unit base, or both.

CULTURAL PROBLEMS

There is much individuality in cultural practices among avocado growers. There is not time to go into detail in this paper. Economic conditions will soon eliminate most of the freaks or fads in cultural practice. There is no great essential difference in avocado culture from that of citrus fruits. The avocado apparently is somewhat thirstier and hungrier than citrus and therefore will require more water and fertilizer.

PESTS

Insects. The following insects have proven damaging to the avocado: Fruit Tree Serica; Fuller's Rose Beetle; Harlequin Plant Bug, attacking leaves of young-trees; Brown Mite, attacking leaves; Thrips, attacking leaves and fruit; occasional damage from Red Scale and Mealybug. The most serious insect pest that has appeared to date is the Latania Scale; an apparently uneconomic insect has become a major pest, attacking leaves, branches and fruit. Control by fumigation has been developed but has certain very practical drawbacks, due to the large size of the more mature trees.

DISEASES

The disease situation appears even more serious than insect infestations. Several distinct diseases have been recognized but so far no control developed. Among the most serious are, "Sun Blotch", a virus disease transmitted by budding and grafting; and Dothiorella Rot, attacking twigs, but more particularly fruit. This may probably be controlled by fungicides. Other apparently minor diseases exist.

MARKETING

This is the major problem of the industry. First, **because of the rapidity with which production is developing**. It is estimated that the acreage now owned by Calavo members only in Southern California will produce

During the 1932 season				4½ million pounds		
"	"	1933	"	7	"	"
"	"	1934	"	9	"	"
"	"	1935	"	13½	"	"

Second, **the large number of varieties**. There are well over four hundred named varieties, not to mention unnamed seedlings. Quoting from the Manager of the "Calavo" growers, "Ten leading varieties of last season made up 91½% of our sales and in the remaining 8½% there were 115 named varieties and many, many unnamed seedlings." Also quoting from the same source, "It is desirable to secure a variety similar to Fuerte that matures from July to November. This variety, with the Fuerte, would be absolutely

all that is needed on our variety list."

The ideal new variety should weigh from 8 to 16 ounces, should be green in color, somewhat pear shaped, with a thin, but tough skin, good quality, long keeping, and maturing from July to November.

Third, **competition**. A tariff of 15 cents per pound shuts out competition from all sources except the two in which competition really exists, that is, Florida and Cuba. Costs of production are much lower in these two sections than in California.

Fourth, **educating the public**. It is not easy to introduce a new food, or to change the food habits of a nation. It can be done, but national advertising is expensive and a heavy burden on a relatively small industry. To get the avocado out of the luxury class into the staples will require an educational campaign not only for consumers, but for producers and retailers as well. The producer is learning fast, but the retailer is slow to learn that avocados should be sold two or three for a quarter, and not twenty-five or more cents apiece.

The avocado industry needs help from the University and the United States Department of Agriculture. Although the acreage is relatively small, the tonnage value is high, and is an important economic crop in the counties in which it is established, and particularly in San Diego County. The first step is a more complete survey of the industry than has yet been made. This is already under way, under the auspices of the Giannini Foundation, and will be completed in the early summer. The industry needs this new variety that Manager Hodgkin has described, and it needs the elimination of most of our present varieties. This can be helped by top-working demonstrations. It needs research on insect and disease control—control measures that not only control the troubles but do it economically and practically. It needs information on good cultural practices, particularly on irrigation and fertilization. The industry as a whole, and in San Diego County in particular, needs more and better cooperation of growers in their marketing problems.