

WHAT SIZE AVOCADO ORCHARD TO SUPPORT FAMILY

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"How many acres do I need to support my family?" This is a question frequently asked the Farm Advisor. And now the program committee of this institute has posed the same \$64 question for the information of the 300 growers present this morning.

We hasten to answer that we do not have a specific figure to offer but we can present a formula based on long time records conducted by the Agricultural Extension Service in this county and San Diego County. There are several variable factors that obviously enter into the problem, such as (1) possible yield per acre, (2) cost of production, (3) returns per pound and (4) income needed by the family.

Let us examine each of these factors in the light of available sources of information bearing on them.

Yield per acre. Your experiences and our production studies over the nineteen years that we have conducted in Orange County reveal a wide range of yields—which are naturally influenced by the variety or strain selected, the soil on which the orchard is planted, climatic conditions, and of course the management given. For the purpose of our discussion today, I have taken four levels of production or yield per acre and will let you select the yield most likely to be obtained in the location you have selected, and with the management you plan to give it. These four levels are (1) the County average of 3,400 pounds per acre as reported in recent years; (2) our avocado production cost study average of 4,500 pounds per acre for the past ten years; (3) a good yield of 6,000 pounds per acre which is a reasonable goal to achieve in a good location, on good soil and a suited variety; (4) an exceptional average yield of 9,000 pounds per acre •which has been attained in very few orchards, and is the avocado grower's dream.

Cost of Production. We have drawn on the long time avocado cost study to project our cost factor in the formula we are developing here to help us answer the question at hand. We have taken the average per acre cost of production over the past ten years, and adapted it to the various levels of yield per acre. The greater the yield the higher the harvesting costs. Thus for the four levels we have assumed the following cash and depreciation charges not counting the grower's own labor and supervision:

9,000 pounds	—	\$195 per acre
6,000 pounds	—	170 per acre
4,500 pounds	—	158 per acre
3,400 pounds	—	148 per acre

Grower's own labor. Our great volume of records reveals that the average grower puts in about 50 hours of his own labor per acre per year. What value should be placed on this labor would probably receive as many estimates as there are people in this audience. Today our study credits his labor at the going price for hired labor—about one dollar per hour. Several years ago it was as low as thirty-five and forty-five cents per hour. If we would use the recent Congressional figure of 75 cents per hour -we might assume then the value of his labor at \$38.00 per acre per year. And this is reflected in all orchard levels. We will add this amount to the fruit income per acre in computing the total farm income.

Returns per pound is of course another important factor in the formula. What will be the price trend in the near future? Planting statistics tell us that there are about 2,000 acres yet to come into bearing in Southern California, the total acreage is about 15,000. Small crops in recent years have held the price of avocados at high points. Let's examine the prices to growers from 1930 to 1948 and see what impression we get from retrospection.

Year	Cents per lb.	Year	Cents per lb.
1930	13.0	1940	5.3
1931	8.3	1941	5.0
1932	8.6	1942	10.6
1933	8.4	1943	11.4
1934	4.4	1944	26.1
1935	8.6	1945	14.9
1936	6.5	1946	19.4
1937	7.6	1947	20.0
1938	4.3	1948	18.5
1939	7.2		

Note that 11 years out of the 19 above returned between 4.3 cents and 8.6 cents per pound to the grower. The average for these 11 years was 6.8 cents per pound. The other eight years due to war prices and short crops ranged from 10.6 cents to 26.1 cents per pound to the grower. The average for these high years was 16.4 cents per pound.

Anticipating greater production and marketing of avocados ahead of us, and the impact of supply and demand on future prices, several consultants believe that 8 cents per pound may not be too far off from a reasonable expectation of an average farm price in the future—barring of course economic upsets due to war or depression.

For our purpose, today, therefore we are using the 8 cent basis in the formula. If one would prefer to use 10 cents or 5 cents in his computation, that is his privilege.

Cost of Living. The University of California recently released the results of a survey made to determine the average cost of maintaining a farm or rural family. For present conditions they report a total cost of approximately \$3,000 for a family of four. We have therefore selected that figure. Here again, any other amount may be inserted that might more fairly represent the actual needs of a given family.

Mortgaged vs. paid up property must also be reckoned with in this problem. If one has to meet a mortgage and divide the income with his banker, that will require additional production or acreage. In the summary table below, two sets of acreages have been computed, one to support the family alone and the other to provide for both the family and the mortgage. A typical Land Bank mortgage of \$750.00 per acre at 4½ percent interest and amortized in 20 years has been used for an example.

Size of avocado Enterprise. Now we are ready to summarize the various factors described above and line them up in the four levels of expected yield per acre.

	Exceptional Yield	Good Yield	Average Yield Cost-Study	Average Yield County
Yield per Acre	9,000#	6,000#	4,500#	3,400#
Returns per lb.	8c	8c	8c	8c
Income per Acre	\$720	\$480	\$360	\$272
Cash Costs & Deprec.	\$195	\$170	\$158	\$148
Capital & Mgt. Income	\$525	\$310	\$202	\$124
50 hrs. Operators Labor	\$ 38	\$ 38	\$ 38	\$ 38
Total Farm Income	\$563	\$348	\$240	\$162
Acres to earn \$3,000 (free of debt)	5 acres	9 acres	12.5 acres	18 acres
If debt of \$750 per Ac. Amortize @ 7.7% (4½% @ 20 yrs.)	\$ 58	\$ 58	\$ 58	\$ 58
Net for Living Costs	\$505	\$290	\$182	\$104
Acres to earn \$3,000	6 acres	10 acres	16 acres	29 acres