

## More Regularity of Production Necessary in Avocado Industry

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More regularity of production is the greatest problem within the avocado industry. One can hardly expect an industry to be profitable that varies so greatly in production as avocados. Fluctuation in total yield complicates sales promotion and distribution. A marketing organization that has the problem of disposing of a hundred per cent crop one year and a fifty per cent crop the following year loses much of its efforts and money expended in disposing of the large crop, through not being able in the succeeding year to take advantage of the results secured in extending its markets to greater numbers of consumers. High prices with the small crop result in a delay in encouraging greater numbers of consumers to purchase avocados.

The following table shows the flats marketed through Calavo Growers of California. Using the year of highest production, 1938-39, as 100 per cent, percentages of the remaining years indicate wide fluctuations in output:

Fiscal Year	PRODUCTION MARKETED (13-Lb. Flats)	PERCENT (Basis of 1938-39 as 100%)
1933-34	255,964	18
1934-35	1,017,397	70
1935-36	554,537	38
1936-37	655,215	45
1937-38	564,042	39
1938-39	1,448,558	100
1939-40 (Estimated)	800,000	55

Individual orchards have fluctuated in yield even more than the above figures indicate. Such variations in yield make it exceedingly difficult for growers to plan on possible income for financing orchard operation costs.

### Profit Factors Analyzed

The ability of avocado growers to secure a profit is dependent on total production per acre, price received and cost of production. The average price received by avocado growers, according to Calavo records, during the period 1933-34 to 1938-39 inclusive, was 6 cents per pound. The lowest price received was in 1938-39, with 4.3 cents per pound. The highest price received, in 1935-36, was 9 cents per pound.

The cost of production studies conducted by the Agricultural Extension Service in Orange and San Diego Counties in the three year period, 1936, 1937 and 1938, showed that the average cash cost per acre in San Diego County was \$147.69, and in

Orange County, \$96.54. On the basis of the highest average price of 9 cents per pound during the six-year period, it would require, to pay all cash costs, an average production of 1,641 pounds per acre in San Diego County and 1,073 pounds in Orange County. On the basis of the six-year average return of 6 cents per pound, it would require 2,461 pounds per acre in San Diego County to pay all cash costs, and 1,609 pounds in Orange County. On the basis of the lowest return in any year, of 4.3 cents per pound, it would require 3,435 pounds per acre in San Diego County and 2,245 pounds in Orange County to pay all cash costs. If the grower expects to receive a reasonable return for his investment he must rely on considerable production above these figures.

With increasing production of avocados, we must expect prices in the lower brackets. On the basis of an average size of 5 acres per orchard, as given in the cost studies of Orange, Los Angeles, and San Diego Counties, it would require at least \$200 per acre above cash costs to provide a modest income.

With a return of 4.3 cents per pound as received in the lowest year, it would require an additional 4,561 pounds to return this amount, or a gross of 8,086 pounds per acre average in San Diego County, and 6,896 pounds in Orange County. The average yield per acre in San Diego County for 1936, 1937 and 1938, as given in the cost study, was 2,801 pounds, and in Orange County for the same period, of 1,842 pounds. The ten year average for Orange County was 2,836 pounds per acre. Individual orchards, however, even in the low price period, received a fair return per acre.

It is evident from the above figures that higher yields are required to make a profit in the avocado business, as well as to secure greater regularity in production.

### **Intensive Research Needed on Varieties**

To correct this problem of low and irregular yields in avocado production, it is essential that intensive research be directed to its solution. Two methods might be considered in research efforts: First, to develop new varieties which have the characteristics of high marketability in quality, production adequate to secure relatively high yields per acre, but not sufficiently high to weaken trees, thereby interfering with the production of succeeding crops, and vigor favoring longevity; and second, to determine cultural methods which might influence yields with existing varieties. The first method probably has greater promise of securing results.

Much effort has been expended in the development and study of avocado varieties. The first effort was mainly through the introduction of varieties from foreign countries by the United States Department of Agriculture. The Variety Committee of the California Avocado Association has rendered a great service to the avocado industry through its leadership in studying avocado varieties. It has under way a more intensive study than ever undertaken before. The Avocado Departments of the farm bureaus in avocado-growing counties, in cooperation with the Agricultural Extension Service, have also greatly contributed to the study of avocado varieties. Individual growers also have closely studied the problem. In recent years, the Division of Subtropical Horticulture of the University of California, through Prof. Robert W. Hodgson, has undertaken the study of certain phases of problems. The U. S. Department of Agriculture, through A. D.

Shamel, has in recent years introduced some selections from Mexico.

All of these efforts are constructive and should contribute to our knowledge of varietal responses. With the avocado acreage in California developed to a point where it shows promise of being a large industry, it is essential that even greater effort be expended on this problem of development of better varieties. It would appear that greater and more rapid results could be secured if more intensive efforts were expended.

The lemon industry is now having its strain or varietal problems attacked by the Citrus Experiment Station, with the comparative trial plantings of 28 selections in four climatic locations of about six acres each. It might be necessary to subsidize this research in avocados on a comparable basis to that of lemons. The problem is somewhat different with avocados than with lemons, because it is definitely known that each lemon strain is commercially good, while it would not be known for the avocados. The problem needs at least one well-trained research worker to correlate all efforts of those attacking the problem, as well as more intensive trial of many seedlings under a wide range of climatic conditions.

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