California citrus acreage response to income tax reform

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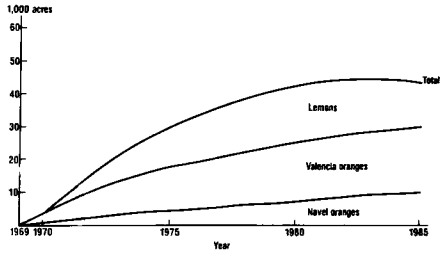

Estimated decrease in total acreage of three California citrus crops due to the federal Tax Reform Act of 1969.

The citrus provision in the Tax Reform Act of 1969 requires capitalization of all citrus grove development costs for the first four tax years after planting. This provision was sponsored by industry participants who were fearful of the long-term impact on acreage, production, and prices of large syndicated developments sold to nonfarm investors as a tax shelter. Capitalization requirements, effective January 1, 1970, significantly increased after-tax costs of developing citrus groves and effectively terminated the tax shelter advantages of grove development. After a decade of experience with changed accounting requirements, sufficient data are now available to evaluate the impacts on California citrus acreage, production, and prices.

A quantitative study was conducted of citrus supply response to changing tax laws, focusing on California navel oranges, Valencia oranges, and lemons (source: "The Estimated Impact of Orchard Cost Capitalization Provisions on California Orchard Development," by Hoy F. Carman, submitted to the U.S. Department of Agriculture Structure Project, September 1980). Economic models were used with components to explain annual new plantings, changes in acreage, production, and price for each crop. Annual new plantings and acreage changes are related to profit expectations, which are based on future prices, production costs, labor availability, income tax laws, and total acreage of the crop. Farm-level prices are a function of crop production, production of competing crops, population, consumer income, and tastes. Total production is the product of bearing acreage and average yields. These components, when joined together, form a simulation model for estimating annual acreage, production, and prices during the period 1970-1985.

Estimated Percentage Impact of The Tax Reform Act of 1969 on Total Acreage, Production, and Price of California Citrus Crops, 1973, 1978 and Projected 1985.

		Difference between no reform and reform		
Crop	Year	Total acreage	Production	Price
		%	%	%
Navel Oranges	1973	-2.78	-3.75	3.85
	1978	-5.12	-7.06	3.78
	1985	-7.54	-10.46	7.89
Valencia Oranges	1973	-10.10	-11.69	3.34
	1978	-17.39	-21.15	3.25
	1985	-19.03	-27.18	4.92
Lemons	1973	-11.70	-7.27	6.90
	1978	-21.36	-18.90	14.96
	1985	-21.04	-27.42	31.81

Source: "The Estimated Impact of Orchard Cost Capitalization Provisions on California Orchard Development," by Hoy F. Carman, submitted to the U.S. Department of Agriculture Structure Project, September, 1980.

All percentage calculations use without-tax-reform simulated results as the base.

Results

The immediate effect of the 1969 Act was to decrease new plantings and total acreage of California citrus. Decreased plantings are reflected in changing bearing acreage, production, and prices over time. The estimated immediate impact of tax reform was to reduce average total acreage of navel oranges by 3,068 acres, Valencia oranges 3,174 acres, and lemons 2,869 acres annually (see graph).

The impact on navel orange acreage is estimated at just over 6,500 acres in 1978 and over 10,700 acres in 1985. Estimates for Valencia orange acreage show decreases of 16,000 acres in 1978 and 19,800 acres in 1985 due to tax reform. The impact of tax reform on lemon acreage reaches a maximum of 17,400 acres in 1980 and then decreases to 13,400 acres in 1985. The combined effect is 39,100 acres in 1978 and 44,000 acres in 1985. The data for lemons illustrate that prices increase as production decreases, leading eventually to increased new plantings and acreage. Thus, the impact of tax reform occurs over an extended time period.

The projected values for 1985 in the table are based on several assumptions. Population increases are the Census Bureau's series II projection, and 1979 values for per capita income, prices, and costs are used. Production of substitute crops is the five-year average, 1975-1979. Lemon yields are assumed to trend upward, but orange yields are the average for 1960-1978.

California navel orange acreage increased from 73,668 acres in 1960 to a peak of 129,494 acres in 1972 and then decreased to 119,527 acres in 1978. Estimated acreage would have decreased slightly from 1976 to 1978, even without tax reform. As shown in the table, estimated 1978 navel orange acreage with reform was 5.12 percent less than acreage without reform. The 7.06 percent decrease in production increased average prices 3.78 percent with reform, and the impact is projected to increase through 1985.

Valencia orange acreage increased from 86,452 acres in 1960 to 102,682 acres in 1967 and decreased steadily to 76,409 acres in 1978. Acreage would have decreased without tax reform but not as sharply. Estimated 1978 acreage with reform was 17.39 percent lower than without tax reform. The estimated 3.25 percent increase in prices due to tax reform is understated, because it does not include the estimated impact of decreased Florida orange production due to tax reform.

California lemon acreage decreased from 58,837 acres in 1960 to 45,144 acres in 1964, then increased to 65,389 acres in 1975 before decreasing to 59,406 acres in 1978. The estimated 1978 impact of tax reform on lemons was a 21.36 percent decrease in total acreage, an 18.90 percent decrease in production and a price increase of almost 15 percent.

Conclusion

In response to federal income tax reform requiring capitalization of citrus grove development costs, which increased the after-tax costs of establishing new groves, California producers decreased new plantings and total acreage of oranges and lemons. Reduced production results in higher prices at both the farm and retail levels. Because of lagged responses, the full effect of tax reform on acreage, production, and prices may not occur for many years. Decreased acreage due to tax reform is reflected in the number of farms with citrus and average acres of citrus per farm. The overall impact on the structure of agriculture is difficult to ascertain, however, since these decreases may be offset by increased plantings of other perennial crops, such as walnuts and grapes.

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