

The California Prune Board's Promotion Program: An Evaluation

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The California prune industry, through the California Prune Board (CPB) and Sunsweet Growers, the largest marketer of California prunes, has invested substantially in the promotion of prunes to consumers. This study analyzes the effectiveness of these expenditures. The study focused on applying the economics of demand analysis to the California prune industry. Three data sets were used to estimate prune demand. These included monthly observations for the period from September 1992 to July 1996, annual observations on domestic prune shipments and prices for the period 1949 to 1995, and results of a test market analysis of television advertising for prunes conducted in six U.S. cities.

Results from analysis of the monthly data indicate that prune promotion has increased the demand for prunes. Across several alternative model specifications examined, the expenditure on prune promotion had a consistently statistically significant, positive impact on retail prune sales. For the various models estimated using ordinary least squares (OLS), the elasticity of sales with respect to promotion generally ranged from 0.17 to 0.22, meaning that a 10 percent increase in expenditures on promotion would have induced about a 2 percent increase in sales, holding price and other explanatory variables constant. The models based on the annual data series did not perform as well and were not used further in the analysis. Diagnostic tests led to the conclusion that, because of data deficiencies or an incorrect model form, the annual models were not specified correctly. Analysis of the test-market data indicates that the television advertisements had a positive and statistically significant effect on prune demand both during the period

of the advertising campaign and during a post-test period. Print advertisements and in-store displays used during this time in conjunction with the television advertising campaign did not appear to have any independent impact on prune sales.

A simulation approach was used to translate the effects of promotion on prune demand into estimates of the resulting marginal benefits to prune growers. The marginal benefit-cost ratio for promotion of California prunes was calculated using the results of the monthly analysis of demand and alternative supply specifications in a simulation model for the industry. Promotion of California prunes by the CPB and Sunsweet Growers has significantly increased the demand for prunes and returns to prune producers. Over the four-year period analyzed, investments by prune growers in promotion yielded them marginal returns of at least \$2.65 for every dollar spent. Moreover, marginal benefit-cost ratios in the range of 2.7:1, and higher, indicate that the industry could have profitably invested even more in promotion during this period.

Figure 1. U.S. Per-capita Consumption of California Prunes, 1949 - 1995 (in pounds)

