

Effect on Texas Fresh Grapefruit Sales . . .

GRADE

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The Texas citrus industry accounted for about \$20 million income to producers during 1969. Of this total, grapefruit accounted for more than \$11 million. Texas' share of total United States grapefruit production was 14 percent. A major portion of the Texas production was marketed fresh.

Grade standards under which this fresh citrus has been marketed vary.* More recently, most fresh grapefruit have been packed under a U. S. combination grade consisting of mixed U. S. No. 1 and No. 2 fruit, with a specified minimum percentage of No. 1 fruit. Additional citrus has been marketed under the U. S. No. 2 grade, usually in 20-pound mesh bags. The Texas citrus industry accepted the combination grade as a means of obtaining the greatest return for fruit under conditions of limited supply.

Because of rapidly increasing grapefruit supply and greater market competition, in 1968 the industry decided that total returns for grapefruit would be improved by discontinuing the combination grade and marketing the best fruit as U. S. No. 1 grapefruit. This decision motivated the Texas Valley Citrus Committee to request an analysis of these two alternative grade systems for marketing grapefruit.

The Study Procedure

Because of their differing market environments, Dallas and Kansas City were selected for study. Texas grapefruit dominates the Dallas market while Florida grapefruit leads in Kansas City. Factors such as income levels and distribution, population, geographic location and availability of cooperating stores were considered in market selection.

The same supermarket chain participated in both cities, thus providing some uniformity in management practices and operational philosophy. Twelve stores were chosen in each city.

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TABLE 1. TEXAS GRAPEFRUIT AS A SHARE OF TOTAL GRAPEFRUIT UNLOADS, BY CITY, 1965-1968.¹

	Dallas	Kansas City
	Percent	
1965	53.2	6.5
1966	74.8	23.8
1967	88.6	25.5
1968	77.4	20.1
Average	74.8	19.6

¹Fresh fruit and vegetable unload totals for 41 cities. USDA, Consumer Marketing Service, Fruit and Vegetable Division. Washington, D.C., 1965-68.

The experiment extended over an 11-week period, beginning late in January 1969 and ending in mid-April. This period was selected because it coincided with the peak grapefruit marketing season and at the same time avoided conflicts with the Christmas and New Year holidays. During a 2-week trial period, data collection techniques were checked. Another week was used to make planned design switchovers at midpoint of the test. The other 8 weeks were divided into two 4-week periods which were used in the experiment.

The key variable considered was grade of fruit. Two grades were established for the test: (1) No. 1 grade conforming to the current market order standards and (2) a combination grade of 60 percent No. 1 and 40 percent No. 2 fruit. Rio Grande Valley packers supplied these to both markets.

Price was not controlled between the two cities. Within each city, however, grapefruit prices were uniform in all participating stores during a given week. Price of the "test grapefruit" relative to No. 2 grapefruit was varied so that several differentials, large and small, occurred. The term "test grapefruit" refers to grapefruit actually involved in the grade variation tested. Other fresh grapefruit items were for sale in the stores. Prices of other grapefruit items from Florida or Texas and the price of competing fruits offered in the stores were not controlled.

The twelve stores in each city were divided into two six-store groups. Each had a similar composition of stores in low, medium and high income

areas. All stores offered their normal line of fresh fruit except for the "test grapefruit" items. The grade of "test grapefruit" offered was varied according to this design:

		Time Period	
		Period 1	Period 2
Store group	A	Combination grade	No. 1 grade
	B	No. 1 grade	Combination grade

Information for the analysis was collected to provide weekly observations for each store on sales of all fresh grapefruit products, and several competing fresh fruit items and their price, shelf space, advertising and customer count. For each of these factors, 96 observations in each city were obtained (the multiple of the twelve stores and 8-week test period).

Findings of the Study

The major difference in the two test markets was the relationship between Texas and Florida grapefruit sales. During this study, Texas grapefruit made up 98 percent of grapefruit sales in Dallas test stores and 60 percent of Kansas City test store sales. "Test grapefruit" comprised 22 percent of Dallas' market sales and 17 percent in Kansas City.

The largest share of the grapefruit market in test stores in both cities was composed of No. 2 grapefruit in 20-pound bags. No. 2 grapefruit was not sold in any other form in either market. The 20-pound bag represented over 55 percent of grapefruit sold in Dallas test stores and about 42 percent of that sold in the Kansas City test stores.

Analysis results indicate that grapefruit grade affected sales per customer in Kansas City, but not in Dallas. This may be explained by the difference in the market previously noted. In the Kansas City market where Florida grapefruit competed the strongest, U. S. No. 1 Texas grapefruit indicated a significantly higher level of per customer sales than the combination grade. In the Dallas market where competition from Florida was much less important, effect of grade was insignificant.

This relationship is important to the industry when it attempts to build a quality image. This is especially true where attempts are being made to regain markets lost because of short supplies or where new markets are being developed. Where strong competition from other producing areas exists, quality becomes increasingly important.

Conclusions

1. Sales per customer of U. S. No. 1 grade grapefruit were 28 percent greater than sales per customer of combination grade in Kansas City.
2. Change in grade of "test grapefruit" caused no significant difference in sales volume of U. S. No. 2 grapefruit in 20-pound bags.
3. The change in grade of "test grapefruit" from combination to U. S. No. 1 resulted in an increase in total Texas grapefruit sold per customer in Kansas City.
4. There was no significant effect of the grade change on sales per customer of Texas grapefruit in Dallas.
5. Grade of grapefruit is significant in a market where there is competition from other grapefruit with a relatively well-established quality reputation.

These conclusions have important implications for the Texas citrus industry. This industry has been recovering from short supply years in the early 1960's. It currently is moving toward a situation where new markets will have to be carved out in areas that in recent years have not used Texas citrus. Meanwhile, strong preferences and supplier arrangements have developed for grapefruit from other areas. This competition will continue to be strong.

This study indicates that in markets such as Kansas City the value of high quality is most apparent. A strong quality reputation is a necessary foundation for any well-organized marketing program designed to regain lost markets or develop new ones.

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