

Prices and Marketing Margins

studies show how retail stores price their fresh citrus, and what it means to growers, distributors, and consumers

Sidney Hoos

The following is the first of two articles based on a study of prices and retail margins for oranges, lemons, and grapefruit, reported in detail in Reports No. 168 and No. 170, published by the Giannini Foundation of Agricultural Economics, University of California, Berkeley.

To appraise the operation of the citrus marketing system, market prices and marketing margins for oranges, lemons, and grapefruit were studied in Denver, Colorado. Denver was selected for study because that market area is sufficiently distant from production areas so that a significant volume of unclassified or ungraded loose or bulk fruit would not be encountered. Also, it was deemed desirable to have a market which received substantial volumes of citrus from the three producing areas of California, Texas, and Florida; and Denver is recognized as a highly competitive citrus market. Over 50 retail stores, including independent and chain units, were selected to yield representative prices for the city area. The sample included small-, medium-, and large-sized combination grocery stores as well as specialized fruit and vegetable stores.

From the complete experience of the stores over a period of a year, various types of average prices and marketing margins were constructed to reveal how they behave in response to changing market conditions.

Daily Market Prices

The structure of and relationships among the daily retail and wholesale market prices of the citrus fruits, oranges, lemons, and grapefruit, are broadly similar. Although differing characteristics of price behavior are evident for the three fruits, the differences are less pronounced than the similarities.

In terms of broad trends, the retail and wholesale market prices of the citrus fruits move along together. During periods short as a week, however—and even more so on a daily basis—the retail and wholesale prices behave differently.

The different behavior is more pronounced when the daily retail prices are related to the current wholesale prices—those paid by stores for citrus they bought on various days—and to the lagged wholesale prices—those paid by stores for citrus they sold on various days. The day-to-day changes in the re-

tail market price are independent of the day-to-day changes in the current wholesale price but closely related to the day-to-day changes in the lagged wholesale price. The over-all evidence is reasonably clear that daily retail market prices of fresh citrus fruit follow more closely the historical cost of the fruit already purchased and being retailed than the present or current wholesale replacement cost of the citrus fruit.

Weekly Margins

The spreads between the weekly retail and wholesale prices—both the absolute in terms of cents per pound, and the relative spread in terms of per cent of the retail price—fluctuate from week to week but not always in the same direction or by the same degree. When longer periods are considered, such as those of four to six months in duration, the trend movements in the absolute spread correspond to those in the prices. Rather than following the price trend, the relative spread tends to return to its historical average after departing from it for a period up to several months.

The preceding general statements refer to the average prices and spreads for all retail stores—small, medium, and large—combined. When the store sizes are considered separately, differing behavior patterns emerge.

Store Types

In each of the three citrus fruits, the weekly prices in the large stores averaged lower than in the other stores. When the small stores and the medium-sized stores were compared, it was found that the small stores competed very strongly pricewise with the medium-sized stores.

When absolute retail margins—in cents per pound—are studied, differences among store types and sizes are again found. The large stores usually had the smallest absolute margins. But of significance and interest is that the small stores averaged smaller absolute margins than did the medium-sized stores. Thus, the small stores used their smaller margins to compete pricewise with the medium-sized ones.

When the relative margins—in per

cent of the retail price—are examined, store differences again appear. It is found that the small and large stores have about equal relative margins, with each being smaller than those of the medium-sized stores. The usual notion that lower citrus prices in large stores are due primarily to their accepting lower relative margins may be more of a marketing myth than a fact.

Margin Setting

The study uncovered many different methods of margin setting; the more widely used methods are the following.

Some retailers of fresh citrus follow the practice of consistently using a fixed margin of so many cents per pound—or per dozen. For example, if their purchase price is 9¢ per pound, they set the retail price at, say, 13¢ per pound, using the fixed margin of 4¢ per pound. The fixed margin of a certain number of cents per pound is applied consistently and may remain fixed for a considerable period of time.

The fixed absolute margin procedure is used more by the small- and medium-sized stores where a single individual—the manager, or most frequently, the owner-manager—does the buying, most if not all the selling, and also the setting of prices.

In another method of setting retail prices of fresh citrus, the retailer sets his selling price so that it bears some fixed percentage relation to the wholesale price he pays. The percentage margin does not vary with the wholesale price paid by the store. The fixed percentage margin may be in terms of the retail price or in terms of the wholesale price, although to yield equivalent profits in cents per pound the fixed percentage is different when in terms of the retail price than when in terms of the wholesale price.

As with the fixed absolute margin, the fixed percentage margin procedure yields a retail price which is directly tied to the merchant's wholesale price. During periods of a comparatively high general level of prices, when operating costs are relatively high, some merchants feel that margins in cents per pound should also

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Navel Orangeworm

field control of walnut pest in northern California aided by restrictive measures

A. E. Michelbacher and Norman Ross

The navel orangeworm has been increasing as a pest of walnuts and almonds.

The insect is primarily a scavenger but—under favorable conditions—it severely infests sound walnuts. The navel orangeworm breeds in mummified fruits and nuts left on the ground or hanging on the trees. Because it is a scavenger, cull piles and any other harvest waste are ideal places in which it can breed. The insect passes through a number of generations each year and is able to survive winter conditions out of doors as larvae in various stages of development. Where infestations occur, an examination of old nuts hanging in the tree will usually reveal the presence of the larvae.

In spring and summer, breeding continues in these sources and in nuts that have been infested by the codling moth. When the husks crack and the nuts ripen, the navel orangeworm turns to them. If winter conditions in the orchard are favorable for the carrying over of a large population, a serious infestation of sound nuts in the harvested crop can be expected. In addition, there is always the possibility of moths migrating to the orchard from nearby infested premises.

Control Measures

There is no known spray program that will directly control the navel orange-

Treatments and Infestation by the Codling Moth and Navel Orangeworm in the Harvested Crop in an Experimental Orchard Near Modesto, California.

Treatment	Infested Nuts	
	Codling moth	Navel orangeworm
	%	%
Check (No treatment) . . .	5.5	1.2
DDT spray June 30	2.9	0.9
DDT spray May 3	1.8	0.5
DDT spray May 3 and June 30	0.4	0.3

worm. Control of the pest in the field is largely dependent upon preventive measures. Three practices that will aid in restricting damage are: 1, effective control of the codling moth where it is a pest; 2, early harvest; and 3, good sanitation practices.

Probably because it is a scavenger, infestation by the navel orangeworm is encouraged by codling moth infestations. Information in support of this contention was obtained in one of the experimental orchards at Modesto where both the codling moth and the navel orangeworm were present. At harvest, a separate record was made of the nuts—in the several treatments—that were infested by each of these pests. The infor-

mation is shown in the table and indicates that the degree of infestation by these two insects paralleled one another. The navel orangeworm infestation along with that of the codling moth was highest in the check and lowest in the treatment that was most effective in controlling the codling moth.

Early harvest is desirable because the longer the nuts are left on the trees or on the ground, the greater is the opportunity for them to become infested. The navel orangeworm continues to breed throughout the summer and fall, and as the population expands, the chance for infestation of sound nuts increases.

Good sanitary practices aid in checking infestation by the navel orangeworm. Field sanitation will help. Nuts should be removed as completely as possible from the trees. The number of stick-tights should be kept to the minimum and the residue crop on the ground destroyed by plowing or other means before late spring. If orchards are cleaned of nuts, the food chain that carries the pest over to the new crop in the field is broken. Also, culls and other waste that accumulate about dehydrators, hullers, barns, and other buildings should be destroyed well in advance of the growing season either by burning or by plowing under deeply.

If possible, sanitary measures should be conducted on a community basis because orchards are subjected to migrating moths from adjacent properties.

When a crop is infested with the navel orangeworm, it should be immediately delivered to the packing plant and fumigated.

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be higher to provide an area of gross earnings from which to meet the increased costs of doing business.

Still other retail price-setting procedures involve the use of a cents-per-pound margin or a percentage margin which changes with the store's purchase price. Such methods are less simple for the store in its retail price setting. Many smaller stores do not tend to use the procedures of having their margin—absolute or percentage—vary with the wholesale price. To the extent that such methods are used, they are found in the larger stores where the more complicated price-setting methods prevail.

A few cases were uncovered where the

store set its retail prices, not so much by what the wholesale cost was, but by what the competition was doing. By watching its competitors and meeting their prices—at times cutting a bit or even adding a bit—such stores practice the follow-the-leader method of pricing.

Wholesale Price Factor

All stores studied gave considerable thought to the problem of retail pricing and margin setting. In most cases, the retail price was tied in some definite manner to the wholesale price paid by the stores. The particular way in which the retail price was tied to the wholesale price affected the store's margins, sales, and earnings.

From the available evidence, it is clear

that citrus retailers generally react to changes in the prices they have to pay at the time they buy. But the retailers do not change their selling prices unless or until they buy the fruit. Thus, changes in f.o.b. prices or terminal market delivered prices must seep through to the wholesale market and purchases by the stores before an impact is made on consumers by the retail prices they pay.

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The second article in this series will be concerned with how retailers—in specific terms—react to price changes in the wholesale market.