

# Canned Fruits Market, 1958-59

sales records set by California's major canned fruit packs in 100th year but reduced crops influence 1958-59 outlook

Sidney Hoos

In the marketing year, June 1957-May 1958—signaling the closing of the first century of commercial canning in California—the sales of canned fruits by California canners reached record levels for a number of the major canned fruits.

In that year, the largest fruit pack in the state—canned cling peaches—experienced f.o.b. cannery sales exceeding 20.5 million cases of 24 No. 2½ cans, or more than 2.25 million cases above the previous high which had been attained in the preceding year. The record f.o.b. movement of canned cling peaches resulted in more canned clings shipped to domestic distribution outlets for civilian consumption than ever before; but, in addition, more cling peaches were exported than in any previous year.

For canned pears also, 1957-58 was a record breaking year. The total f.o.b. movement of canned pears from Pacific Coast canners was in excess of 8.3 million cases—24-2½ basis—and for the first time on record more than eight million cases of canned pears were shipped by Pacific Coast canners. Even after accounting for exports and sales to government, more than 7.75 million cases of canned pears in 1957-58 moved from Pacific Coast canneries into domestic commercial channels—a million cases more than in the previous year.

The pack and cannery sales of California canned apricots in 1957-58 established no new records for that item, but a strong f.o.b. movement was experienced. By the end of the marketing year, almost 4.4 million cases were shipped from canneries—the second highest volume on record—and close to 3.9 million cases were absorbed in domestic commercial shipments.

Canned freestone peaches in 1957-58 continued their upward trend in sales, with increases for the eighth consecutive year. The marked increase in the cannery shipments of Pacific Coast canned freestone peaches is reflected by f.o.b. shipments in 1957-58 of close to 4.75 million cases compared with 2.1 million cases in 1950-51.

Another major canned fruit — fruit cocktail—also experienced a record year in 1957-58. With total shipments from California canneries amounting to more than 10.5 million cases, canned fruit cocktail increased for the fifth consecu-

tive year. Although exports reached a new high—1.4 million cases—the f.o.b. domestic commercial movement of canned fruit cocktail amounted to almost nine million cases, a record for domestic civilian consumption outlets.

The 100th anniversary year set records in cannery sales and shipments of the major canned fruits when—during most of the marketing year—the country at large experienced a slackening in business conditions, a break in the national income trend, and more unemployment than any of the other postwar years. A complete explanation is not simple or direct. Household purchases of consumer soft goods in general held up better than durables. But an important influence affecting the expanded sale of canned fruits was their price. Compared with other items, canned fruit prices in 1957-58 were attractive to distributors, retailers, and consumers.

The 1957-58 price developments in canned fruits began at the f.o.b. cannery level. With heavy supplies to be moved, canners strongly competed price-wise for buyers. Substantial downward adjustments occurred in 1957-58 f.o.b. prices for canned fruits, and—in substantial amount—the decreased prices were reflected on through the supply channels to consumers.

The average cannery price for cling peaches in 1957-58—at \$5.10 per case, choice 2½—was some 25¢ under the previous year and 60¢ less than the 1955-56 price. In fact, the 1957-58 price for canned clings was lower than that of any of the seven previous years. The cannery price of canned apricots in 1957-58 was also adjusted downward from the preceding season. The most substantial downward adjustment in cannery prices occurred in canned pears, with a decrease from \$6.89 per case—choice, 2½—in 1956-57 to \$6.25 in 1957-58. The drop of 64¢ per case brought the price of canned pears to the lowest level experienced in the postwar years.

Canned freestone peaches likewise underwent a downward trend in price during 1957-58, averaging \$6.10 per case—fancy, 2½. As in cling peaches, canned freestone peaches declined in price for the third consecutive year—with a drop of 60¢ per case for clings over the three-year period and a drop of

68¢ per case for freestone peaches. The canned freestone price in 1957-58 was under that of any of the preceding seven years.

The price development for canned fruit cocktail was contrary to other major canned fruits packed on the Pacific Coast. Fruit cocktail advanced in price in 1957-58. The increase was slight but did reflect a stronger market situation in fruit cocktail compared with the other canned fruits.

The downward adjustments in the cannery prices of canned cling peaches, pears, apricots, and freestone peaches reflected the market setting for increased sales of the canned fruits in the 1957-58 marketing year. Although national disposable income was down somewhat during the latter part of the marketing year, the advance experienced in the early part of the year was sufficient so that for 1957-58 as a whole the income level was above that of the preceding year. Thus, the income influence also contributed to the increased sales of canned fruits in 1957-58.

Market analysis of canned fruits indicates that their industry average f.o.b. cannery prices are related to the volume of cannery sales, the level of national disposable income, and the relative level of competing canned fruit prices. For each of the canned fruits, an increase in can-

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# Deficiencies of Micronutrients

## influence of phosphate fertilizers on micronutrients in avocado leaves subject of long-term study of Fuerte orchard

C. K. Labanauskas, T. W. Embleton, and W. W. Jones

Because the deficiency of micronutrients in avocado trees is often a problem in southern California orchards a fertilizer experiment was started to evaluate treble superphosphate—among other phosphatic fertilizers—as a source for the micronutrient content of the leaves.

A Fuerte avocado orchard in northern San Diego County was selected for the experiment. The orchard is on Ramona stony sandy loam, a light textured, well-drained, shallow, acid soil having a cation exchange capacity of less than 4me—milliequivalents—per 100 grams. The soil was nontilled; irrigation was by individual under-tree sprinklers; weeds under the trees were controlled with oil and other chemical herbicides.

The avocado trees were planted in 1939 where Navel orange trees had been removed because of a condition now known to have been phosphorus deficiency. The avocado trees did not respond favorably to phosphorus fertilization. However, Valencia orange trees on the same soil type in the same orchard did respond favorably to phosphatic fertilization.

Prior to the establishment of the experiment, the avocado trees received three pounds of actual nitrogen per tree per year from sulfate of ammonia broadcast under the trees. Differential treatments were started in 1951. Three phosphorus levels, zero, low and high, were produced respectively by soil applications of 0, 10, and 20 pounds of treble superphosphate per tree per year in 1951 and 1952 only. These treatments were combined factorially with nitrogen treatments and were arranged so that each phosphorus level was applied to 20 single-tree plots randomly distributed in the experimental area. Leaf samples for chemical analysis were obtained in October 1955, August 1956, and September 1957, from the spring and summer flushes of growth. Each sample consisted of 20 fully developed avocado leaves and included both blades and leaf petioles.

Leaves from the avocado trees that received the high-phosphorus rate contained appreciably lower concentrations of zinc and copper than leaves from trees that received the zero-phosphorus rate. The same effect of phosphatic fertilizers on zinc was found in three consecutive years and on copper in only the first two

Effects of Soil Applications of Phosphorus Fertilizers on the Micronutrient Concentration of Avocado Leaves

Treble super-phosphate app. rate	Parts per million in dry leaves														
	Zinc			Copper			Manganese			Iron			Boron		
	1955	1956	1957	1955	1956	1957	1955	1956	1957	1955	1956	1957	1955	1956	1957
Zero	35	24	19	4.2	7.6	7.8	528	382	419	50	60	..	37	40	41
Low	33	20	16	4.0	6.5	7.4	655	507	535	49	58	..	28	38	40
High	30	20	17	3.5	6.2	7.5	603	446	474	50	61	..	32	35	40
F value	**	**	**	**	*	NS	**	**	**	NS	NS	..	NS	NS	NS

NS indicates that the differences between means are not statistically significant.

Each value is the mean of 20 samples representing 20 single-tree plots.

\* Fertilizer value significant at the 5% level.

\*\* Fertilizer value significant at the 1% level or higher.

years. Some of the high-phosphorus treatment plots showed zinc deficiency patterns on the leaves. Although high-phosphorus treatments applied to the trees reduced markedly the copper concentration in the leaves, no recognizable copper deficiency symptoms were observed. Leaves from trees that received the low-phosphorus and high-phosphorus rates contained appreciably higher concentrations of manganese than the leaves from trees that received the zero-phosphorus rate. Leaves from high-phosphorus trees contained appreciably lower concentrations of manganese than leaves from low-phosphorus trees in three consecutive years. Also, it was found that two pounds of nitrogen per tree per year from ammonium nitrate increased markedly the manganese concentration in avocado leaves in the same grove for three consecutive years. Boron and iron concentrations were unaffected by the phosphorus treatments.

Results obtained in the studies indicate that soil applications of phosphorus fertilizers have complicated effects on the micronutrient concentration in avocado leaves. Evidence from many sources also indicates that most of the phosphorus applied to orchard soils accumulates in the topsoil, and does not leach out, although it may gradually change in form. Application of treble superphosphate to avocado trees not only increased the phosphorus in the plant tissue, but also reduced—directly or indirectly—the zinc and copper, and increased manganese concentrations in the leaves. Similar results have been obtained in other orchards and with different avocado varieties. However, phosphate applications, thus far, have had no beneficial influence on yield.

These studies suggest that trees in avocado orchards—that have been heavily fertilized over a period of years with chemical phosphorus or organic fertilizers containing large amounts of phosphorus—should be examined carefully for symptoms of micronutrient deficiencies, particularly zinc. If necessary, remedial nutritional sprays should be applied. Probably, heavy applications of phosphate fertilizers to avocado orchards are not advisable unless reasonable evidence indicates some benefit will result.

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Hartwell Bradford and Henry Grenfell of the Agua Tibia Ranch, and Ray Easton, Bradford Brothers Inc., cooperated in the studies reported.

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nery sales is associated with a decrease in cannery price; an increase in national income is associated with an increase in cannery price; and an increase in the relative price of competing canned fruits is associated with an increase in the cannery price of the respective item. These price effects vary in amount among the several canned fruits, but for each of the items the change in cannery price from year to year can be accounted for in most part by the combined interactions and influences of sales volume, national income, and the relative level of competing canned fruit prices.

As the industry enters the marketing

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year 1958-59—the beginning of its second century of operation—there are indications that over-all business conditions are improving compared with what they were during the fourth quarter of 1957 and in early 1958. The national income influence on the canned fruit market in 1958-59 may be expected to reflect an uplift—although not a marked or unusually strong one—compared with 1957-58.

The available supply of canned fruits for marketing in 1958-59 varies among the respective items. The pack of apricots in 1958 is low due to unfavorable crop conditions, yielding a small pack of uneven quality compared with earlier years. The pack of canned pears is also down due to a reduced crop in California. The supply of canned cling peaches—less than had been expected at harvest—is smaller than in some earlier years and

not burdensome as was the case in early 1957-58. Canned freestone peaches, with adequate but not burdensome supplies in both the Northwest and California, are likely to be in a competitive position.

The prospective supply-demand outlook in canned fruits during the 1958-59 marketing year may be reflected in a relatively stronger price situation than what was experienced in 1957-58. Such is the

case definitely from the supply side of the market, with the smaller packs and total supplies available for shipment, and the demand side appears to be firmer. However, in the prediction of economic events, the final outcome not infrequently contradicts what had earlier been expected in terms of market developments.

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