

California's **STRAWBERRY INDUSTRY**

In a Changing Economic Marketing Situation

The basic issue facing the California strawberry industry in the 1960's is the extent to which the industry remains flexible and takes advantage of changing economic-marketing factors affecting production and price.

CALIFORNIA BECAME the nation's leading producer of strawberries with astonishing rapidity after World War II. The strawberry industry now ranks among the state's top twenty crops in farm value. In production, California strawberry growers have been first in the United States in commercial tonnage since 1949.

As has been true with many of California's specialty crops, this leadership was attributable to favorable climate, development of new plant varieties, and the use of new cultural and technological methods to obtain high-yield, long-producing acreage, and modern management practices. Equally as important to the industry, however, was the successful development of freezing and the unique ability of California commercial growers to make this method the most important way to merchandise the crop. The frozen strawberry became, in an economic sense, a new product and thus introduced changes, both in California and nationwide, which are still presenting challenges to be met by all segments of the industry.

The strawberry had been essentially a seasonal, specialty, luxury product, marked by perishable characteristics necessitating emphasis on quick transportation to large market centers. It was now supplemented by the frozen strawberry, creating a year-round, moderate-priced dessert-type product available anywhere and at any time with refrigeration. Everyone could eat strawberries year-around. From the over-view of fifteen years' experience with the new economic-marketing situation, a picture of marked changes emerges.

Boom days

The first postwar decade was a "boom" period in strawberry production, particu-

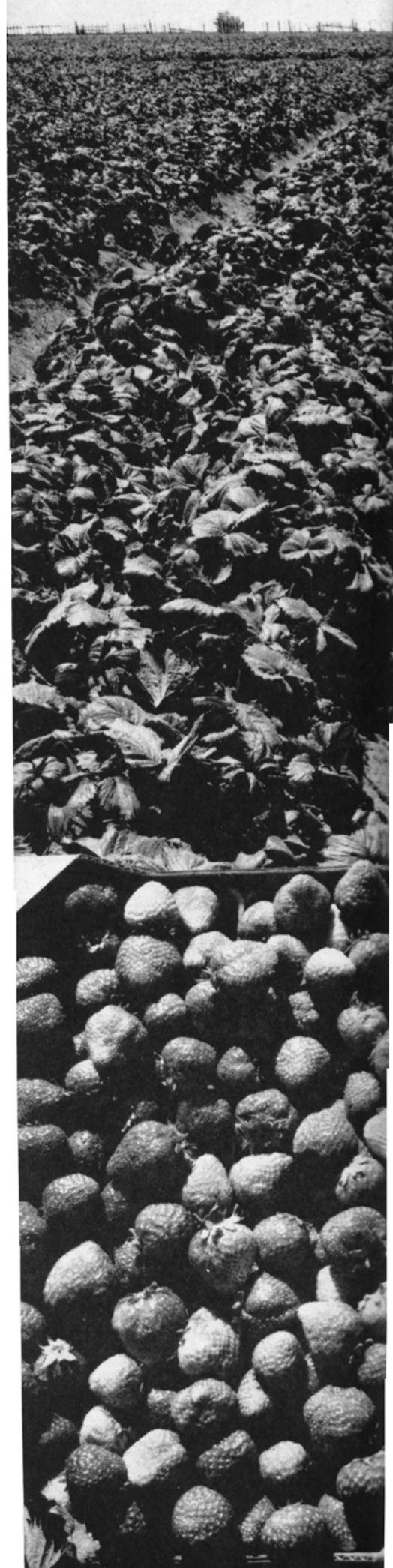
larly in California. The Salinas Valley became the largest commercial strawberry-producing area in the world. The successful production and marketing of frozen strawberries were the dominant factors in California's dramatic surge to the forefront of the industry. Growing strawberries for freezing became the basis of California's postwar increase, since the growers of the central-northern part of the state could meet the special characteristics required of processing berries.

At the same time, the population growth in California provided fresh strawberry growers, particularly those of Southern California, with two of the largest markets in the nation—the Los Angeles area and the San Francisco Bay area—within easy transportation distance. In addition, improved facilities for delivering a perishable product to more traditional eastern markets were developed. Favorable prices to growers continued through the bumper crop year of 1956-57—with acreage, freezing and storing facilities and total production all on the increase. The strawberry, following the trend of so many other agricultural crops in California, was no longer a small, home-grown crop but had become "big business."

The consequent overabundance, principally of frozen strawberries, resulted in a readjustment during the last five years. Economic marketing factors of particular importance to the California price situation can now be analyzed to aid future decision-making within the industry.

Production in '50's

In 1957, the United States harvested over 550 million pounds of strawberries with California accounting for over 40%



of this total. An additional 25% was produced in the Pacific Northwest, where the combined Oregon-Washington commercial strawberry acreage also underwent important increases—for many of the same reasons as those attributable to the California situation. Thus, the Pacific Coast became the dominant region for total national production of strawberries during the '50's.

While total U. S. production was expanding through 1957, freezing became the major method of utilization, with over 55% of the crop going to processors in the mid-'50's. For several years, nearly one-half of all frozen strawberries in the nation were grown and processed within California. The interaction of the demand of the "new" strawberry freezing industry for a constant, dependable supply of fruit (and the offering of favorable prices due to its constant expansion) with the development of new long-bearing, heavy-producing strawberry varieties grown on peculiarly adaptable new acreage, established the framework for the utilization pattern for California strawberries. In the last half of the period of expansion, over half of all California's strawberry production went to processing.

The end of this production expansion period by 1957—presaged by increased cold storage holdings, sharp curtailments in frozen pack, and a noticeable price break in processed berries—was felt particularly strongly in California. A turning point in strawberry production was reached in the nation as a whole. In other areas it could be characterized as "leveling off"; in California it was clearly readjustment, especially for frozen strawberry production. Reallocation of utilization and price, decrease in acreage, growth of other strawberry areas—particularly in the Pacific Northwest—and a slowing of the increase in per capita consumption of all strawberries and particularly frozen berries, produced a reassessment of the industry as a whole and California's place in it.

Production decline

When the California 1957 processing season opened with the low grower price offering of 8 cents per pound, the pattern was set for the next few years. U. S. production of frozen strawberries declined 20% and California's processing production fell 50% from its peak. Only the fact that the Pacific Northwest continued to strengthen its position in the processing of strawberries kept the share of the Pacific Coast at about 85% of the national market level it had been in the

peak years. This fact in itself is of great importance in the appraisal of the strawberry industry. The Pacific Northwest (Oregon and Washington combined) customarily processed almost its total annual crop; therefore as California dropped back in processing, the Pacific Northwest area gained its more traditional place as primary producer in this utilization. Rather than readjusting to a new use pattern, the Northwest growth strengthened its position in the frozen strawberry industry.

The decrease in frozen strawberry production was reflected for a few years in declines in total strawberry production; however, 1961 and 1962 showed once more a total U. S. figure of over 500 million lbs. Of this tonnage, California harvested about 40%, but by this time California growers were marketing over 60% of the state's harvest in fresh market channels. Thus, while the processing utilization of strawberries showed strong nationwide decreases, then a stabilization at a little over 22.5 million lbs. annually in the 1960's, a larger proportion of the strawberry harvest was returning to the more traditional fresh market. California's strawberries also showed this trend in utilization pattern shift. Total production of strawberries in California declined from a record 551 million lbs. in the peak year of 1956, to 467 million lbs. in 1960. Less than half the tonnage went to freezers than had gone during the expansion period. An annual average of around 100 million lbs. has been going to processing in California during the last four years.

Acreage, yield changes

California acreage which had reached a high of 20,000 acres declined to its current level of under 11,000 acres harvested. California's yield in strawberries fell to an average of just over 12,000 lbs. for the 1955-1960 period, as compared with the high of 16,000 pounds during the expansion years. Although this was still more than double the yield of any other producing area, there were some who thought the postwar University strawberry varieties might be "running out." This proved not to be the case. In the 1961 and 1962 seasons, California's yield reached new highs of over 18,000 pounds per acre.

Experts attribute this resurgence principally to the use of a new fumigant in soil preparation, as well as other factors including the virtual elimination of the cyclamen mite, and particularly favorable climatic conditions (cool winters seem to

have invigorated plantings, specifically the Shasta variety in the Salinas Valley). Recent acreage shifts show greater decreases in central California—the processing center. Acreage in Southern California and annual plantings (both more characteristic of fresh market utilization) were relatively stable or slightly on the increase. Summer plantings have also proved successful in the southern part of the state.

Price differential

The readjustment years have also seen the differential widening between season average price to growers in California for fresh and processing berries. In the early '50's an almost equal price of 20¢ per lb. had been paid to growers for fresh or frozen berries. After the experience of the latter '50's when U. S. end-of-season cold-storage holdings of frozen strawberries continued uncomfortably close to 90 million pounds annually, a grower price differential of from 8 to 10 cents per pound developed in California, favoring the fresh market outlet.

Available data indicate that at no time in the postwar period has the combined consumption of strawberries, on a per capita basis, equalled the levels of the prewar years when fresh strawberries were almost the only use. From 1950 to 1955, per capita consumption of fresh strawberries steadily declined as frozen strawberry consumption markedly increased. But decreased U. S. per capita consumption of frozen strawberries has been most striking since 1959—a decline reinforced by decreases in total U. S. domestic movement from 1957 through 1960.

The frozen fruit and vegetable industry as a whole also reflected declining rates of growth by the mid-1950's. Frozen strawberries, having been first in frozen fruits (orange juice aside) and California growers, having catapulted to first place in production, were particularly subject to market structure and economic changes. The frozen strawberry faced such problems as carry-over, size of total pack and annual movement, import and export markets, and institutional-retail shifts—added to the already myriad new considerations of air vs. rail-truck transport, cost of production in the two utilizations, and other grower-processor relationships.

Marketing orders

A California marketing order was introduced in 1955 for the primary purpose of advertising and promoting California strawberries. A supplementary

marketing order in 1960 covering only processing strawberries set up quality and grading standards that possibly modified the nature and even total supply of California frozen strawberries reaching the market. Added stipulations in the 1960 supplemental marketing order governing procedures for posting prices have been followed by more stable prices reported as paid to growers during the season and more limited seasonal fluctuations in quoted prices to growers during the last two years.

Competitive areas

Major and minor competitive areas of strawberry production have had to be recognized and considered in making production and marketing decisions. At the same time the frozen strawberry industry in the United States showed decreases in movement, Mexican imports increased. Mexico had been shipping an increasing supply of frozen strawberries to the U. S. during the 1950's, mostly in institutional (30-lb.) size. Suddenly, in 1960 and 1961, these imports more than doubled, rising from an earlier annual figure of 14 million pounds to nearly 30 million pounds in 1961. Although total U. S. imports do not run as high as 10% of the national supply, the impact of Mexican competition was felt, not only domestically, but in the Canadian market as well. The U. S. had been the major Canadian supplier until 1960 when Mexican imports (again largely in institutional pack) supplied almost 43% of the total Canadian imports of frozen strawberries.

Mexican competition

A new dimension has been added to the Mexican competition in the past two years with fresh strawberry imports from Mexico showing a marked increase. In general these shipments reach the eastern markets in direct competition with the Florida berries and the earliest southern California fresh shipments. But there has been some very recent indication that imports directly into California may be expected to increase.

Thus the 1960's present the strawberry industry and the strawberry grower with certain inescapable facts:

(1) Per capita consumption of frozen strawberries now seems to be settling at the level of the early '50's. Consumption of all strawberries, fresh and frozen combined, has not equalled the per capita figure of the prewar period when fresh strawberries were overwhelmingly dominant.

(2) Fresh and frozen utilization of strawber-

ries are interrelated both in production and price. Now that processing and fresh market channels divide the industry, competing and supplementary sources of both must be accounted for, and influences anticipated. Inter-regional aspects are now superimposed on the regional relationships prevalent when the industry was dominated by fresh shipments.

(3) Total production of strawberries is a dominant influence, but specifically important is total production on the Pacific Coast, with special emphasis on the relationship between California, the Northwest, and Mexico in frozen strawberries.

Based on economic-statistical analyses, and supplementary information, emergent market relationships suggest that of all the important influences on price to strawberry growers—such as U. S. personal disposable income, total supply of the product, and shifts in utilization—an essential factor affecting price to grower is the interaction of the strawberry industries in California and the Northwest, particularly in the processing segment of the Pacific Coast strawberry industry. In an economic-market-sense, the two producing areas are interlocked, with developments in one affecting and being affected by the developments in the other. In the past several years, a somewhat similar tendency has emerged with respect to the processing strawberry industry of Mexico and that in the United States.

Production changes

The 1960's have seen a resurgence in California strawberry yield and total production, a return to higher fresh market utilization, and application of the newest techniques in the growing and marketing of strawberries. The adaptation of new fumigants for soil preparation, new plant varieties and new methods of controlled growth, new miticides, fertilizers, and irrigation techniques, some shifts in acreage and an increased use of air transport, all indicate that California growers are receptive to change in their own interest. Harvesting methods are now being reviewed to cope with special problems of labor supply.

A clear picture of relevant market price relationships is also important for the California strawberry industry if production planning and marketing policies are to be designed for profitable decisions.

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**ALFALFA
TEST
PLOTS**

Photo Briefs

Safflower test plots at Antelope Valley Field Station near Lancaster in Los Angeles County. Center plot was to demonstrate safflower survival on root rot infested soil under border irrigation. Plot in background includes over 1,200 plant introductions, collected from many parts of the world, which are being tested for cold hardiness and resistance to phytophthora root rot. The plant introduction trials are supervised by P. F. Knowles of the Department of Agronomy, University of California, Davis.

**SAFFLOWER
TEST PLOTS**