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CONTENTS

Factors Affecting California Raisin Sales and Prices,
1922-1929

S. W. SHEAR and R. M. HOWE

Factors Affecting Annual Prices of California Fresh
Grapes, 1921-1929

L. D. MALLORY, S. R. SMITH, and S. W. SHEAR

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4. Effect of Sodium Chlorid and Calcium Chlorid upon the Growth and Composition of Young Orange Trees, by H. S. Reed and A. R. C. Haas. April, 1923.
5. Citrus Blast and Black Pit, by H. S. Fawcett, W. T. Horne, and A. F. Camp. May, 1923.
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12. The Effect of the Plant on the Reaction of the Culture Solution, by D. R. Hoagland. November, 1923.
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FACTORS AFFECTING CALIFORNIA RAISIN SALES AND PRICES, 1922-1929¹

S. W. SHEAR² AND R. M. HOWE³

At what price can the tonnage of California raisins available during any particular marketing season be sold? As important as this question obviously is to those producing and marketing California raisins, many of the basic data needed in its solution were unavailable until July, 1930. At that time, however, through the cooperation of the members of the Dried Fruit Association of California, the independent packers of the state, and the Sun-Maid Raisin Growers Association, records of the quantities of California raisins sold for the crop years 1921-1929 and of the actual f.o.b. prices received were made available to the Giannini Foundation. Together with other more readily available information these data have been used as the basis of the present attempt to discover and measure the influence of the factors that have determined the quantities of California raisins sold annually in the domestic and in the overseas markets during the last eight marketing seasons, 1922-1929.

Although the analysis explains only what has occurred in the past, much of its value obviously lies in the help it can give the industry in judging the price at which any given tonnage may be expected to sell during any given crop year in the future. In fact, the specific reason for undertaking the study in the spring of 1930 was to make available a better basis for such judgment in the proposed control program of the industry.

¹ Paper No. 20, The Giannini Foundation of Agricultural Economics. This study was made with the financial cooperation of the Federal Farm Board.

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CALIFORNIA RAISIN SALES

Within a decade California raisin production has nearly doubled. As a consequence the industry has experienced drastic price declines. Production averaged about 285,000 tons during the years 1926, 1927, and 1928, or over 100,000 tons more than the average at the close of the War.

TABLE 1

COMPLETED SALES OF CALIFORNIA RAISINS BY COUNTRIES, 1921-1929*

Year beginning Sept. 1	Grand total	Domestic			Exports			
		Total, U. S. and Canada	United States	Canada	Total		United Kingdom	Other countries
					Including Canada	Excluding Canada		
Nearest hundred short tons, sweat-box basis*								
	1	2	3	4	5	6	7	8
1921.....	155,000	139,700	125,200	14,500	29,800	15,300	11,000	4,300
1922.....	190,000	153,500	135,000	18,500	55,000	36,500	20,400	16,000
1923.....	195,000	168,400	149,400	19,000	45,600	26,600	8,300	18,300
1924.....	220,000	187,600	167,600	20,000	53,000	32,400	14,800	17,600
1925.....	240,000	185,300	168,000	17,300	72,000	54,700	23,800	30,900
1926.....	245,000	182,400	162,300	20,100	82,700	62,600	28,500	34,100
1927.....	285,000	199,600	178,000	21,600	107,000	85,400	37,700	47,700
1928.....	290,000	193,400	171,000	22,400	119,000	96,600	37,000	59,600
1929.....	215,000	162,800	148,500	14,300	66,500	52,200	19,100	33,100

* Sales have been converted to a sweat-box basis by multiplying the net weight of packed raisins as sold by 1.08 or the gross shipping weight as reported by the carriers by 0.933. A wooden box of 25 pounds net weight of Thompson Seedless raisins weighs approximately 29 pounds gross (see Calpak Annual, July, 1930. p. 17). Sales through by-products channels and to other packers are excluded from these data.

Sources of data:

Col. 1: Total sales are based largely upon records of shipments of raisins from California by rail and intercoastal water as reported by carriers, and by direct export to foreign countries from the San Francisco and the Los Angeles customs districts, plus estimated California consumption based on per capita consumption in the rest of the United States. Reported shipments, however, have been checked against completed sales compiled by the Giannini Foundation from records of the Sun-Maid Raisin Growers Association and summarized sales of other raisin packers furnished by the Dried Fruit Association of California through the cooperation of its members.

Col. 2: Sum of items for corresponding years in cols. 3 and 4.

Col. 3: Items in col. 1 minus the items for corresponding years in col. 5.

Cols. 4, 5, 6, 7, 8: Compiled from U. S. Monthly Summary of Foreign Commerce. Net weight converted to approximate sweat-box basis by multiplying by 1.08.

In spite of the great decline in prices and the diversion of a considerable tonnage into by-products (alcohol, syrup and stock feed), the September 1 raisin carryover in the state has been in the neighborhood of 100,000 tons for the last four years (see table 3). Prices have not been low enough since 1920 to move all of the available supply for any crop year into consumption.

TABLE 2
PERCENTAGE OF CALIFORNIA RAISIN PRODUCTION BY VARIETIES, 1921-1930

Crop year	Total	Thompson Seedless	Muscat	Sultana	Others*
1921.....	100.0	49.1	38.8	8.9	3.2
1922.....	100.0	55.6	34.8	7.4	2.2
1923.....	100.0	60.7	30.6	7.5	1.2
1924.....	100.0	64.8	27.4	7.0	0.8
1925.....	100.0	77.0	14.9	6.4	1.7
1926.....	100.0	69.3	22.8	5.8	2.1
1927.....	100.0	71.4	22.0	5.2	1.4
1928.....	100.0	79.5	13.0	5.3	2.2
1929.....	100.0	73.7	20.3	4.3	1.7
1930.....	100.0	73.7	21.4	4.0	0.9

* "Others" may include some soda and oil-dipped Sultanas and Thompson Seedless.

Sources of data:

Computed from the total of Sun-Maid and packer receipts by variety as reported to the Giannini Foundation except 1930 data, which are based on receipts of the California Raisin Pool to February 28, 1931.

TABLE 3
UNSHIPPED STOCKS OF CALIFORNIA RAISINS IN THE HANDS OF SUN-MAID
AND INDEPENDENT PACKERS ON SEPTEMBER 1, SOLD AND UNSOLD,
SHORT TONS, SWEAT-BOX BASIS, 1921-1930*

Year	Total	Thompson Seedless	Muscat	Other varieties
1921.....	36,000	5,200	22,600	8,200
1922.....	34,000	9,400	19,500	5,100
1923.....	86,000	40,900	40,300	4,800
1924.....	186,000	107,300	64,500	16,200
1925.....	67,000	37,400	20,600	9,000
1926.....	59,000	48,500	3,600	6,900
1927.....	108,000	81,400	15,400	11,200
1928.....	124,000	91,700	28,700	3,600
1929.....	92,000	73,800	11,000	7,200
1930*.....	92,000*	67,000*	18,500*	6,500*

* An actual inventory of 117,000 tons of raisins on May 31, 1930 was reported, of which about 85,300 tons (73 per cent) were Thompson Seedless, 23,000 tons (20 per cent) Muscats and 8,700 tons (7 per cent) other varieties, largely Sultanas. The inventory total as given for September 1, 1930, was calculated as explained below, and the variety totals by applying the May 31 variety percentage distribution to this total.

The carryover from the 1928 crop on September 1, 1929 was 92,000 tons. Mimeographed release No. 1245, June 7, 1930 of the Dried Fruit Association of California, shows actual receipts of 1929 crop raisins from growers by Sun-Maid and the independent packers up to about the last of April, of 215,000 tons. Completed and shipped sales from September 1, 1929 to August 31, 1930, were 215,000 tons, the same as receipts. Hence unshipped stocks in the hands of the packing industry on September 1, 1930, appear to have been at least 92,000 tons. They may have been slightly larger, since packers estimate that growers held between 5,000 and 10,000 tons of unsold raisins at the time the packing industry reported receipts of 215,000 tons this spring.

Sources of data:

Compiled from records of the Sun-Maid Raisin Growers Association and summarized data of other raisin packers furnished by the Dried Fruit Association through the cooperation of its members. Ninety-five per cent or more of the stocks of California raisins are accounted for by this table.

Thompson and Muscat Supply and Price Changes.—In the absence of adequate data on annual sales by variety, the percentage of receipts by varieties, as shown in table 2, gives the best available clue to changes in their relative importance. However, in order to visualize changes in the quantity sold by varieties, the carryover data by varieties, shown in table 3, must also be considered, as well as the fact that a majority of the by-products made from the 1923 crop surplus utilized Thompson Seedless. The rapid increase in the proportion of Thompson Seedless raisins from 49 per cent in 1921 to 74 per cent in 1929 and the corresponding decline in Muscat production from 39 to 20 per cent of total dried output of the state, helps to explain the fact that since 1925 the f.o.b. price of Muscats, as shown in table 4, has been higher than for Thompson Seedless. For at least fifteen years previous to 1925 prices of Thompson Seedless raisins and returns per acre were usually substantially higher than for Muscats. The greater returns from Thompson Seedless raisins during that period largely account for the tremendous increase in the production of this variety in California during the last twenty years, finally resulting in recent years in a somewhat adverse price differential as compared with Muscat prices.

PRICE CHANGES

Figure 1 shows not only the big increase in California raisin sales since the War but also the great decline in f.o.b. prices. The extreme decline from 14.0 cents in 1921 to 7.3 cents in 1923 reflects the artificially high raisin prices of 1921, the moderately adverse business conditions of 1923, the tremendous state crop of that year, and low prices in foreign countries.

Expansion of the total tonnage sold between 1923 and 1926, while average prices remained practically on the level, reflects increased export sales which were stimulated by the increasing differential by which California raisins undercut raisins from other countries in the chief export markets. (See fig. 4 and p. 88). Increased foreign demand, resulting largely from Sun-Maid Raisin Growers Association's foreign sales campaign, has also helped to expand export tonnage since 1923. To maintain the average level of prices from 1923 to 1926, however, required considerable by-product utilization, largely from the bumper crop of 1923, and resulted in undesirably large carryovers (see table 3).

In spite of the bumper crop of 1926, California prices were maintained and sales, as a result, expanded but slightly. With a very large carryover at the end of the season and another bumper crop in 1927, prices were reduced to a 5.9 cent average for the season. The price cut, however, was not drastic enough to sell the available raisin tonnage, and, when the large 1928 crop was dried, a huge tonnage of the 1927 harvest was still on hand. When these facts and their possible effect on the Sun-Maid Raisin Growers Association became generally known, California raisin prices declined to a very low level, averaging about 4.7 cents for the season of 1928 as a whole. The low prices stimulated the sale of the largest tonnage of California raisins ever sold in a single year.

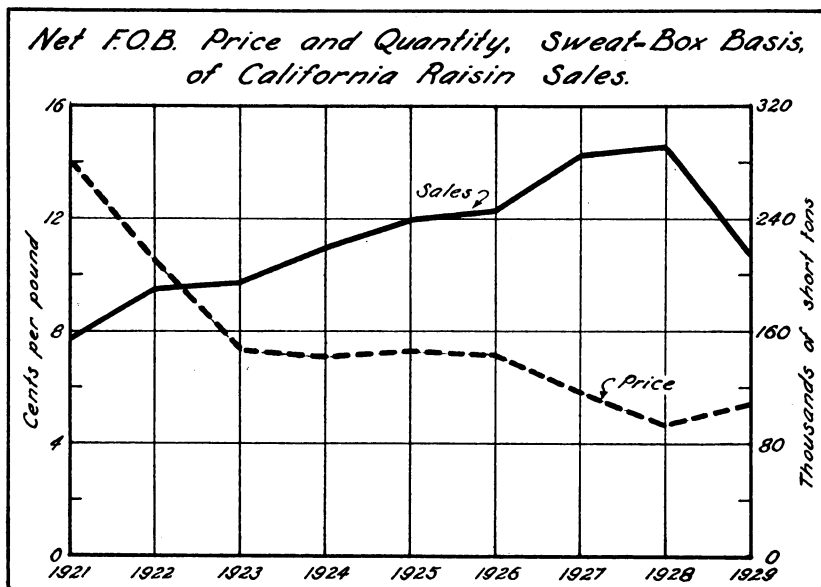


Fig. 1. Data for years beginning September 1, from tables 1 and 4.

In spite of low prices during the 1928 marketing season, the unsold tonnage was so large when the small 1929 crop was harvested that available supplies were even greater than the large tonnage sold in the 1928 marketing year. However, in the face of these supplies, the generally depressed business conditions both at home and abroad, and the large foreign crop which brought about drastic reductions in competitor's prices in the United Kingdom, particularly in Australian raisin prices, the price of California raisins unfortunately was raised in the summer of 1929. Apparently the California industry

underestimated foreign competition, the size of the carryover from the 1928 crop, and the unfavorable demand situation and possibly overestimated the probable influence of stabilization activities⁴ for, although the average price of 5.4 cents for the 1929 season was relatively low, the tonnage sold was unusually small. Only about 215,000 tons were disposed of, or practically the equivalent of the 1929 crop, still leaving an inventory of about 92,000 tons of old raisins on hand in the state on September 1, 1930, to handicap the 1930 marketing season.⁵

RELATION OF DOMESTIC SALES TO PRICES

Normally price is one of the most important factors determining the quantity of raisins consumed in the domestic market⁶. Figure 1 has already shown that prices have been low when the tonnage sold was large. The scatter diagram, figure 2, gives a more direct picture of the fact that high prices are associated with small consumption and low prices with large consumption. The quantity of raisins imported into the United States since September, 1922, and the quantity of raisins imported into Canada other than those originating in California, has been so small that it has been disregarded in this analysis. The free-hand curve dd' indicates the approximate relation between the quantities sold in the domestic market in the years 1922, 1924, 1925, 1926, and 1927, in which demand conditions affecting California's raisin markets were more favorable than in 1923, 1928, and 1929 and probably more favorable than they can be expected to average for several years, considering the prospects of low general price levels and also of large raisin crops and hence low prices for raisins from Australia and other foreign countries. This curve indicates that the domestic demand for raisins is inelastic, the elasticity at different points varying from approximately 0.3 to 0.4. It takes a relatively drastic cut in price, therefore, to induce any substantial increase in the amount consumed and large supplies return a smaller income to the industry than small supplies. Large crops of raisins are, therefore, extremely

⁴ See accompanying paper regarding certain of the activities of the Federal Farm Board and the California Grape Stabilization Board in 1929: Mallory, L.D., S. R. Smith and S. W. Shear. Factors affecting annual prices of California fresh grapes, 1921-1929. *Hilgardia*, 6:127. 1931.

⁵ See table 3 and footnote for details regarding the carryover situation on September 1, 1930.

⁶ Throughout this paper the United States and Canada together are considered as the *domestic* market in keeping with the usual practice of the California dried-fruit trade.

serious, since prices must be set very low in order to move them into consumption and growers receive very much less for large crops than for small ones.

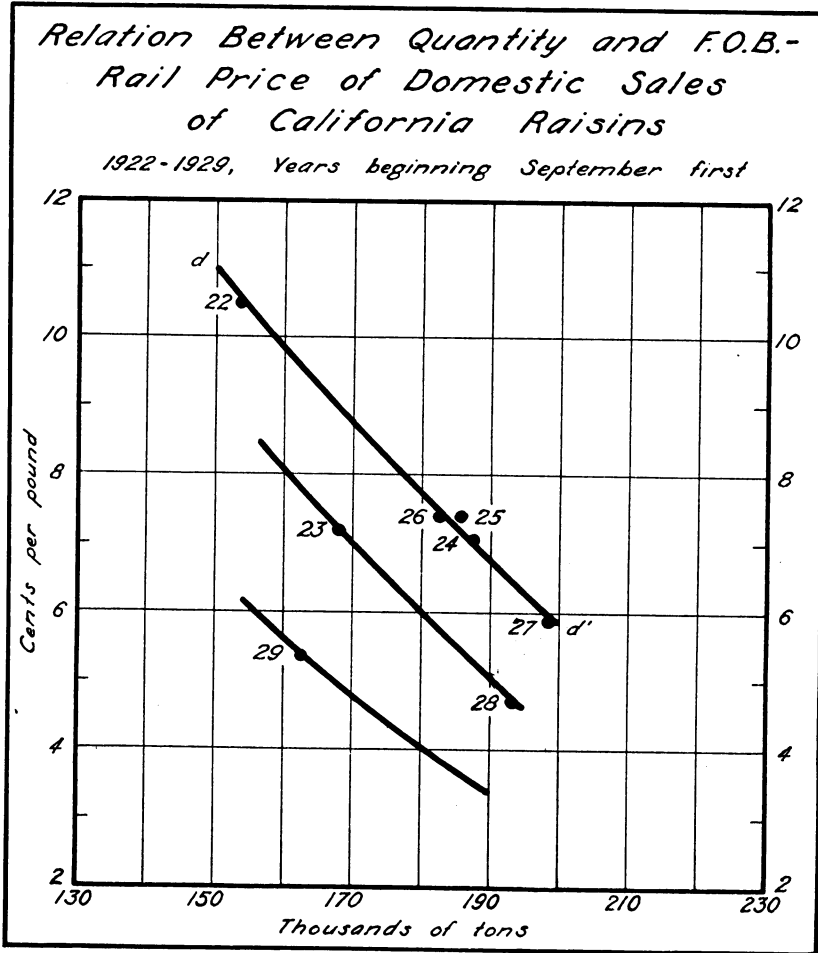


Fig. 2. Domestic sales include California exports to Canada.

Data from tables 1 and 4.

The free-hand curve just below dd' passing through the 1923 and 1928 points approximates a demand schedule under demand conditions less favorable for raisin prices than the average for the years which dd' reflects. Generally adverse business conditions prevailing during the 1923 marketing season apparently account to a considerable

extent for the lower level of raisin prices in that year. In 1928, however, trade uncertainty was perhaps the most important depressive factor.

TABLE 4
CALIFORNIA F.O.B.-RAIL RAISIN PRICES, IN CENTS PER NET PACKED POUND,
1921-1929

Year beginning Sept. 1	Domestic and foreign sales			All varieties	
	Grand total	Thompson Seedless (natural)	Muscats	Domestic	Foreign
	1	2	3	4	5
	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>
1921.....	14.0	*	*	14.0	13.5
1922.....	10.5	*	*	10.5	10.0
1923.....	7.3	*	*	7.2	8.0
1924.....	7.1	7.4	6.8	7.1	7.1
1925.....	7.3	7.3	7.7	7.4	7.2
1926.....	7.2	6.8	7.5	7.4	6.9
1927.....	5.9	5.6	6.7	5.9	6.0
1928.....	4.7	4.4	5.0	4.7	4.6
1929.....	5.4	4.9	6.3	5.4	5.4

* Data prior to 1924 were too incomplete to compute average prices for individual varieties but are sufficient to indicate that Thompson Seedless prices were higher than Muscat prices in the years 1921-1923.

Sources of data:

Compiled from the data reported on completed sales to the trade of Sun-Maid Raisin Growers Association and other packers by dividing money received (net, excluding cash discounts and brokerage) f.o.b. California rail shipping points by the corresponding tonnage of completed sales as reported on a net-weight basis. Sales through by-products' channels and to other packers are excluded from these averages.

Col. 1: Average of all varieties, types, grades and packs, including bleached, soda, and oil-dipped Thompson Seedless and Sultan.

Col. 2: Average of all grades and packs of natural Thompson Seedless, excludes bleached, soda, and oil-dipped.

Col. 3: Average of all grades and packs of Muscats.

Col. 4: Average of all varieties, types, grades, and packs sold in the United States and Canada.

Col. 5: Average of all varieties, types, grades, and packs sold in foreign markets, excluding Canada.

The lowest curve, passing through the 1929 point, indicates approximately the tonnage one might expect to sell in years in which general business conditions were as adverse as in 1929. Tonnage sales indicated by this curve, and the middle curve at half-cent price intervals, are shown in table 10. A similar schedule of the relation of domestic sales to f.o.b. prices can easily be constructed from the upper curves.

Obviously the determination of the shape of the free-hand curves in figure 2 involves a very large measure of individual judgment, since the points upon which they are based are very limited in num-

ber. This is particularly true of the two lower curves, which were included because of the probability that the level of demand may be expected to be more nearly at these lower levels during the next few years than near the higher level of *dd'*. The great decline in the general level of all commodity prices, beginning in 1929, is obviously in line with this reasoning.

EXPORTS TO FOREIGN MARKETS

Much of the increase in California raisin production and shipments since the War has been absorbed by overseas exports, that is, United States exports to all countries other than Canada⁷. Table 1 shows that the proportion exported to overseas markets rose from about 10 per cent in 1921 to over 33 per cent in 1928, the peak year of post-war exports. Only about 15,000 tons (sweat-box basis) moved to foreign countries in 1921, compared with over 96,000 tons in 1928.

United Kingdom, the Chief Foreign Market for California.—In recent years the United Kingdom has been the largest market for California export raisins, absorbing over 40 per cent of the total California overseas exports. During the last three years this one market has imported an average of nearly 31,000 short tons (equivalent sweat-box basis) of California raisins, or nearly one-eighth of the state's total sales tonnage and over one-third of the total raisin imports of the United Kingdom (see table 6). Because of its importance and representativeness, special study of this foreign market has been made in an endeavor to explain what determines the price of California raisins in European markets.

Until about 1924 Turkey⁸ was the chief source of United Kingdom raisin imports. Australian production previous to that time was small and largely consumed at home. Therefore, it affected the world market but slightly. Since then, however, California and Australia have become the two most important sources, Turkey declining to about half its former importance. The large and increasing proportion of United Kingdom raisin imports supplied by Australia is shown in table 7. During each of the last two years they have amounted to nearly 47 per cent of the total.

⁷ As indicated in footnote 6, page 78, exports to Canada are included in domestic sales.

⁸ A large part of Turkish raisins are exported from Smyrna and hence the trade frequently uses the term "Smyrna" raisins as synonymous with "Turkish" raisins.

TABLE 5
WORLD PRODUCTION OF RAISINS BY COUNTRIES, 1921-1930

Year harvested	Production in short tons, dry weight						
	Total	California	Total, foreign countries	Turkey (Smyrna)	Australia	Spain	Greece and Crete
	1	2	3	4	5	6	7
1921.....	219,900	145,000	74,900	37,400	9,400	12,100	16,000*
1922.....	324,600	237,000	87,600	41,200	15,100	15,300	16,000*
1923.....	383,500	290,000	93,500	44,300	20,900	17,300	11,000
1924.....	306,400	170,000	136,400	57,100	33,100	28,200	18,000*
1925.....	313,200	200,000	113,200	32,500	28,600	33,600	18,500
1926.....	391,700	285,000	106,700	39,200	25,100	25,900	16,500
1927.....	455,400	300,000	155,400	56,000	49,000	25,800	24,600
1928.....	395,700	268,000	127,700	49,300	27,600	25,200	25,600
1929.....	372,700	215,000	157,700	56,000†	59,000	20,700	22,000
1930‡.....	332,200	192,000	140,200	41,500†	59,000	17,700	22,000*

Per cent of total production							
1921.....	100.0	65.9	34.1	17.0	4.3	5.5	7.3
1922.....	100.0	73.0	27.0	12.7	4.7	4.7	4.9
1923.....	100.0	75.6	24.4	11.6	5.4	4.5	2.9
1924.....	100.0	55.5	44.5	18.6	10.8	9.2	5.9
1925.....	100.0	63.9	36.1	10.4	9.1	10.7	5.9
1926.....	100.0	72.8	27.2	10.0	6.4	6.6	4.2
1927.....	100.0	65.9	34.1	12.3	10.7	5.7	5.4
1928.....	100.0	67.7	32.3	12.4	7.0	6.4	6.5
1929.....	100.0	57.7	42.3	15.0	15.8	5.6	5.9
1930‡.....	100.0	57.8	42.2	12.5	17.8	5.3	6.6

* Rough estimates based on crop-year exports of raisins from Greece and Crete and production condition of Greek currants for 1921, 1922, and 1924.

† It is estimated that 700 tons will be used by the Alcohol Monopoly from the 1930 crop of Turkish raisins compared with 13,900 tons of the 1929 crop. A portion of some previous crops have also been utilized for alcohol.

‡ All 1930 data are preliminary and subject to revision.

Sources of data:

Col. 1: Sum of California and total of foreign countries.

Col. 2: Compiled from California Crop Reports. These data are not exactly comparable to those shown in tables 1 and 3.

Col. 3: Sum of production for countries for which data are given in cols. 4, 5, 6, and 7. Persian production, although large, is not included in this table because of lack of reliable data and because its influence on California raisin prices has apparently been negligible. From 15,000 to 30,000 tons of Persian raisins have been exported annually in recent years, almost all being consumed in Russia.

Cols. 4, 6, and 7: Compiled from unofficial estimates largely from reports of the U. S. Dept. Commerce Bur. of Foreign and Domestic Commerce and of the U. S. Dept. Agr. Bur. of Agr. Econ., except the estimates of the authors for Greece and Crete for 1921, 1922 and 1924.

Col. 5: Data for 1921-1928 from Squire, E. C. Australian raisin and currant industry, U. S. Dept. Com. Trade Inform. Bul. 699:6. 1930.

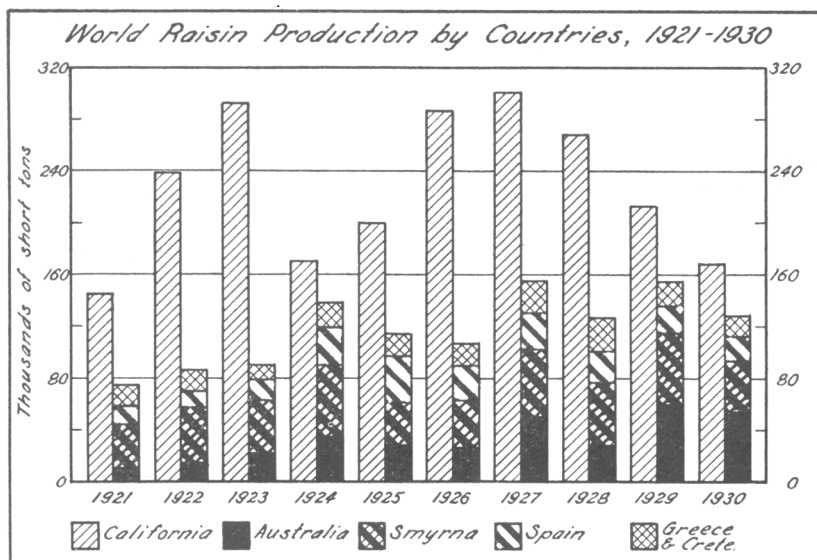


Fig. 3. Data from table 5.

For the purpose of analyzing the factors affecting exports from this state, California f.o.b.-rail export prices have been compared with *United Kingdom prices*, since they are fairly representative of prices prevailing in overseas markets for foreign raisins. Moreover, it is the only country importing raisins from Australia in large quantities and, as figure 3 and tables 5 and 6 show, Australian raisins now constitute a substantial proportion of the world's commercial supplies. *Declared import values per pound* (calculated by dividing the declared import value by the quantity imported) have been used, primarily because no other more satisfactory current price series for California raisins in the United Kingdom was found readily available. The import values per pound also have the merit of being based upon data compiled and issued regularly and promptly each month by a reliable official agency.

In comparing the United Kingdom import values per pound, duty added, of raisins from different countries as shown in table 8, and figure 4, it must be remembered that each is a weighted average of all varieties, types, grades, and packs of raisins imported from each of the designated countries. The relative importance of the different classes of raisins determining the average for each country may differ appreciably. Trade literature gives the impression that a larger proportion of United Kingdom raisin imports from Australia than from California may be of the bleached and dipped types. If this be true

one would expect the price of imports from Australia to average higher, as a whole, than imports from California, since, because of English preference, bleached raisins normally command a higher price than unbleached in that market. Moreover, because of the greater cost of processing bleached and dipped raisins they should in the long run bring higher prices than the natural product, although

TABLE 6
UNITED KINGDOM RAISIN IMPORTS BY CHIEF COUNTRIES OF ORIGIN, 1921-1929

Years beginning Sept. 1	Net weight, short tons				
	Total	United States	Australia	Turkey (Smyrna)	All but United States
1921.....	49,200	7,200	4,800	17,100	42,000
1922.....	70,600	19,800	9,700	14,000	50,800
1923.....	62,700	9,700	15,400	21,400	53,000
1924.....	71,000	13,800	25,700	19,900	57,200
1925.....	58,500	21,500	12,100	7,500	37,000
1926.....	74,200	25,000	20,300	13,300	49,200
1927.....	86,400	33,000	23,400	11,900	53,400
1928.....	96,800	34,400	35,900	13,000	62,400
1929*.....	80,100	19,100	35,400	10,200	61,000
	Per cent of total				
1921.....	100.0	14.6	9.8	34.8	85.4
1922.....	100.0	28.0	13.7	19.8	72.0
1923.....	100.0	15.5	24.6	34.1	84.5
1924.....	100.0	19.4	36.2	28.0	80.6
1925.....	100.0	36.8	20.7	12.8	63.2
1926.....	100.0	33.7	27.4	17.9	66.3
1927.....	100.0	38.2	27.1	13.8	61.8
1928.....	100.0	35.5	37.1	13.4	64.5
1929*.....	100.0	23.8	44.2	12.7	76.2

* Preliminary data subject to slight revision.

Source of data:

Basic data compiled from Accounts Relating to Trade and Navigation of the United Kingdom, issued monthly. English hundredweights of 112 pounds converted to nearest hundred short tons.

not necessarily greater net returns to growers. The possible limitations in the comparability of United Kingdom import values per pound of Australian and California raisins, suggest that the differences between the prices of raisins from these two sources may be relative, rather than absolute. Moreover, their comparability will of necessity vary if noncompensating changes in the proportion of high and low-priced raisin imports occur.

Monthly Australian prices weighted by the quantity of California raisins imported into the United Kingdom have been used in getting

an average Australian price for crop years beginning September 1 because it is the quantity of California raisins exported in any given month that presumably is most directly influenced by the foreign prices prevailing during that particular month. Such an average therefore tends to give more weight to the prices of foreign raisins with which California raisins actively compete at any particular time.

TABLE 7
PRODUCTION AND UNITED KINGDOM IMPORTS AND DECLARED IMPORT VALUES
PER POUND, DUTY ADDED, OF AUSTRALIAN RAISINS, 1921-1929

Year of harvest or import year beginning April 1	Australian production, sweat-box basis, short tons	United Kingdom imports from Australia			Declared import value, duty added, cents per pound	Exchangerate per pound Sterling, in cents
		Net packed weight, short tons	Per cent of Australian production	Per cent of United Kingdom total imports		
	1	2	3	4	5	6
1921.....	9,400	2,282	26	5.6	17.9	397
1922.....	15,100	5,023	36	7.3	20.4	452
1923.....	20,900	10,990	57	18.6	16.5	448
1924.....	33,100	21,934	72	33.7	12.6	454
1925.....	28,600	18,446	70	27.8	13.2	485
1926.....	25,100	12,950	56	20.2	14.8	486
1927.....	49,000	33,541	74	35.5	13.5	487
1928.....	27,600	14,591	57	19.0	12.1	486
1929.....	59,000	42,392	77	46.9	9.2	486
1930.....	59,000*	36,528*	62*	46.9*	8.3*	486

* Preliminary data, subject to slight revision.

Sources of data:

Col. 1: Data given to the nearest hundred tons are for crops harvested in the calendar year indicated, years 1921-1928 from: Squire, E. C., Australian raisin and currant industry, U. S. Dept. Com. Trade Inform. Bul. 699:6, 1930. Data for 1930 are preliminary estimates.

Cols. 2, 4, and 5: Data for years beginning April 1 compiled from Accounts Relating to Trade and Navigation of the United Kingdom, issued monthly. Conversions to cents per pound computed as follows: pounds sterling (£) per English hundredweight divided by 112, times the exchange rates in col. 6. The preferential duties added to the declared import value per pound are for 1921, 1.46 cents; 1922, 1.66 cents; 1923, 1.65 cents; 1924, 1.36 cents; 1925, 0.6 cents. All Australian raisins have entered the United Kingdom duty free since July, 1925, and hence nothing was added to the declared import value per pound for crop years 1926 to date.

Col. 3: Based upon col. 1 and items in col. 2 increased by 7 per cent to convert to an approximate sweat-box equivalent of the net import weight.

Col. 6: Simple average of monthly exchange rates for years beginning April 1, compiled from Federal Reserve Bulletin.

Compared with an Australian price weighted by the quantities of Australian raisins imported into the United Kingdom, it gives heavier weight to Australian prices during the fall and winter months when the majority of California export sales are completed, and much less weight to Australian prices in the following spring and summer when Australian exports are greatest and California's relatively the smallest.

Prices of Australian raisins are shown by figure 4 to be fairly representative of raisins from all foreign countries. The Australian prices, therefore, have been used since they are more readily compiled than the average of all foreign countries and since the price at which each crop of Australian raisins is moving is known for several months in advance of California's harvest. It therefore serves as an important indication of about what prices California may expect to compete with in foreign markets. In using the price of Australia's new crop of raisins in the summer, however, as an indication of the probable level of price competition in the fall, caution must be exercised in years in which the Australian crop is unusually small and the outlook for production in other countries is average or greater. In such years Australian raisins are likely to have a greater price differential over raisins from other foreign countries than usual. For this reason, it is desirable to be particularly well informed regarding the condition of the Turkish crop in judging whether the Australian price during spring and summer months is likely to be representative of the fall harvest of raisins from north of the equator, Turkey being California's next most important competitor, after Australia, in the European raisin market.

Foreign Competition in 1922, 1923, and 1924.—In 1922 the English import price of raisins from Turkey, then the chief foreign competitor of California, was so high as to be detrimental to her volume of sales. With lower prices, therefore, California was able to expand her exports substantially. Although foreign production in 1923 exceeded that of 1922 but slightly (see table 5), prices of foreign raisins were drastically reduced, probably because their sales had dragged so badly the preceding season. The export prices of California raisins were also drastically cut in 1923 and still further reduced in 1924. The import prices of Australian and of other foreign raisins in the United Kingdom, however, were so low in both of these years that they undersold California, reducing exports from this state both in 1923 and 1924 to considerably below the movement in 1922. A decrease in the United Kingdom preferential import duty in August, 1924, was also responsible, to a slight degree, for depressing Australian prices in that market.

*Relief Measures for Australian Industry.*⁹—Inasmuch as the Australian government had actively encouraged returned soldiers to plant vineyards after the War, it took definite steps to help its raisin industry when the serious prospects of continued low prices

⁹ This sketch is based in part on: Bauer, Walter. Australian raisin and currant legislation. An unpublished manuscript in the Giannini Foundation Library.

became evident about 1924. Its first measure was the Act of October 20, 1924, which established a Dried Fruits Export Control Board, the aim of which was to secure optimum returns for the Australian industry, largely by restricting the quantity exported, by establishing a domestic price higher than the possible export level, and by consigning a portion of the domestic retention to industrial (distillery) use. By means of funds from the export levy and from contributions of the Commonwealth Government itself the Board has also carried on a successful publicity campaign for about five years, stimulating the demand for Australian raisins, particularly in the United Kingdom. Similar efforts by the Empire Marketing Board to create 'Empire consciousness' have also helped to increase the demand for Australian raisins in English markets.

Preference for Australian raisins in the Canadian and the United Kingdom markets has also been gained by tariff provisions admitting their raisins free or at greatly reduced rates of duty, whereas other countries (with the partial exception of Greece) pay substantial import duties. Previous to July, 1925, the Australian preference in the United Kingdom was less than half a cent a pound. At that time, however, the preference was increased to 1.5 cents, Australian raisins being admitted duty free (see table 8).

Foreign Competition in 1925 and 1926.—The raisin crops and exports of Australia and Turkey in 1925 and 1926 were considerably smaller than in 1924, and hence they were able to raise their prices in 1925 and 1926. Probably because of the preferential duty and the activities of the Dried Fruit Control Board and the Empire Marketing Board, Australia raised her 1926 prices even higher than Turkey's. California raisin prices in the United Kingdom, however, were lowered both years, so that the import value of her raisins, duty added, averaged nearly 2 cents a pound below that of Australia in 1925 and over 4 cents lower in 1926. This large price differential, together with the relatively small competitive tonnage from Australia and Turkey, enabled California to substantially increase her foreign exports in 1925 and 1926.

Competition from Australia in 1927 and 1928.—Raisin production both in California and in foreign countries was large in 1927, which caused United Kingdom import prices to decline. In spite of the largest raisin crop in her history, however, Australia tried to dispose of the bulk of it in the United Kingdom at a differential over California prices nearly as wide as in 1926. This helped to increase California exports.

In the face of this competition the Australian Export Control Board would probably have been forced to lower their prices in the United Kingdom in the fall of 1927 had not a severe frost on September 24 cut their 1928 crop prospects by one-half. The outlook for a short 1928 Australian crop strengthened the market for all raisins. Although Australia exported unusually large quantities of her 1927 bumper crop at high prices, at the end of the season, April 30, 1928, her London stocks were greater than end-of-season stocks had ever

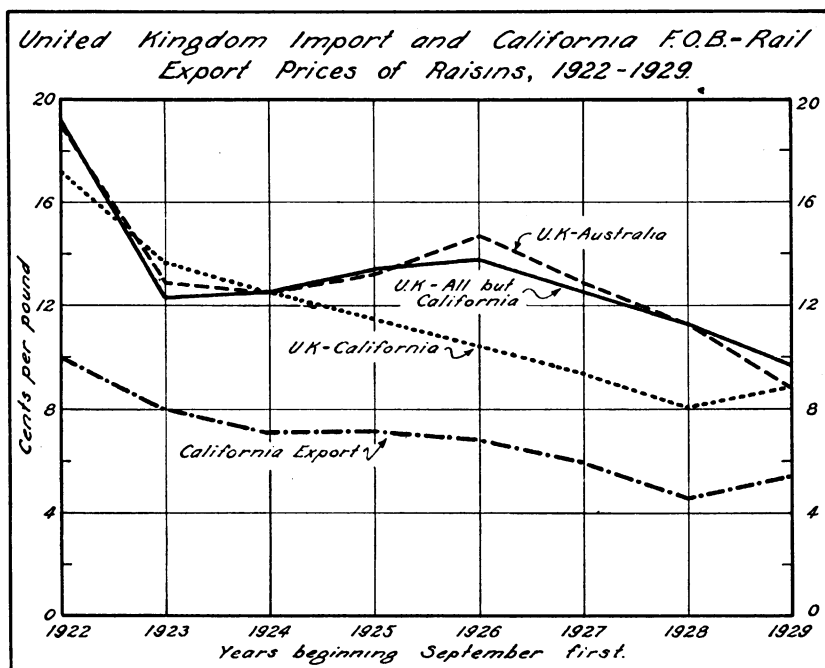


Fig. 4. Data from tables 4 and 8.

been before. Within the year they had risen from about 3,000 to 8,000 short tons. In addition Australian stocks at home were large. Chiefly because of this situation all foreign competitors lowered their prices decidedly.¹⁰ California, however, lowered her export prices nearly as much as her competitors, underselling them by an average of 3 cents during the 1928 crop year. As a result, Australian exports were small and those of California unusually large. The total sales of Australia were only equivalent to her small 1928 crop. This left

¹⁰ Part of the lower average for Australian prices was due to an unusually large proportion of low-grade raisins.

the London stocks on April 30, 1929 still as large as the year before and her inventory at home about 5,000 tons.¹¹

The 1929 Decline of Australian Prices.—In addition to large unsold stocks in the United Kingdom, the 1929 Australian crop was a record one. To favor the export of such a crop, the price was dropped about 3 cents in March of that year and had remained between 8 and 9 cents up to February, 1931 (see fig. 5). In spite of the fact that during the year 1929 the Australian price actually averaged lower than that of California, the London stock of Australian raisins in April, 1930, was about 15,000 tons, nearly twice the amount ever before experienced. Moreover, the stocks in Australia amounted to about 10,000 tons.¹² Such a large carryover has helped to keep the 1930 price of Australian raisins at a low level, thereby increasing competition with California raisins.

TABLE 8

UNITED KINGDOM DECLARED IMPORT VALUE PER POUND, DUTY ADDED, OF RAISINS
BY CHIEF COUNTRIES OF ORIGIN, 1922-1929

Year beginning Sept. 1	Duty per pound		Exchange rate per £	Import value per pound				
	General	Preferential		United States	Austra- lia	Turkey (Smyrna)	All but U.S.	All countries
	1	2	3	4	5	6	7	8
	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>
1922.....	2.2	1.7	458.7	17.2	19.0	20.8	19.1	18.5
1923.....	2.0	1.6	438.1	13.7	12.9	11.6	12.3	12.5
1924.....	1.4	1.2	465.1	12.6	12.5	12.1	12.5	12.5
1925.....	1.5	0	485.6	11.5	13.2	15.1	13.4	12.7
1926.....	1.5	0	485.4	10.5	14.7	13.7	13.8	12.7
1927.....	1.5	0	487.3	9.4	12.9	11.9	12.5	11.4
1928.....	1.5	0	485.1	8.1	11.3	10.6	11.3	10.2
1929.....	1.5	0	486.6	8.8	8.8	9.7	9.7	9.5

Sources of data:

Cols. 1 and 2: Compiled from official sources with conversions to cents per pound as follows: Pounds sterling (£) per English hundredweight divided by 112, times the exchange rates given in col. 3. The general duty in col. 1 is added to the import value of all countries except Greece and British possessions. The preferential duty in col. 2 applies to imports from Australia, South Africa, and other British possessions.

Col. 3: Simple averages of monthly exchange rates for years beginning September 1, compiled from the Federal Reserve Bulletin.

Cols. 4-8: The basic data from which these prices were compiled appear in the Accounts Relating to the Trade and Navigation of the United Kingdom, issued monthly as imports in English hundredweights of 112 pounds and declared import values in English pounds sterling (£). The average prices in col. 5 are computed by weighting the monthly United Kingdom import value per pound of Australian raisins by the quantity of California raisins imported into the United Kingdom during the corresponding months. The prices shown in cols. 7 and 8 include the corresponding prices for Australia shown in col. 5 weighted by the actual quantity of Australian raisins imported into the United Kingdom during the year beginning September 1. The duties added for individual countries and the method of converting to cents per pound are indicated above in the footnote to cols. 1 and 2.

¹¹ The Fruit World of Australasia 31:200. May 1, 1930.

¹² The Fruit World of Australasia 31:200. May 1, 1930.

Relation of California Exports to Prices.—The free hand curve *dd'* in figure 6 is drawn to indicate the average relation between the tonnage and the prices of California raisins exported for the three crop years 1923, 1924, and 1929 in which the United Kingdom import prices of California¹³ and of Australian raisins were practically the same. It may be thought of as approximating the overseas demand schedule for California raisins at prices practically the same as those of foreign competitors.

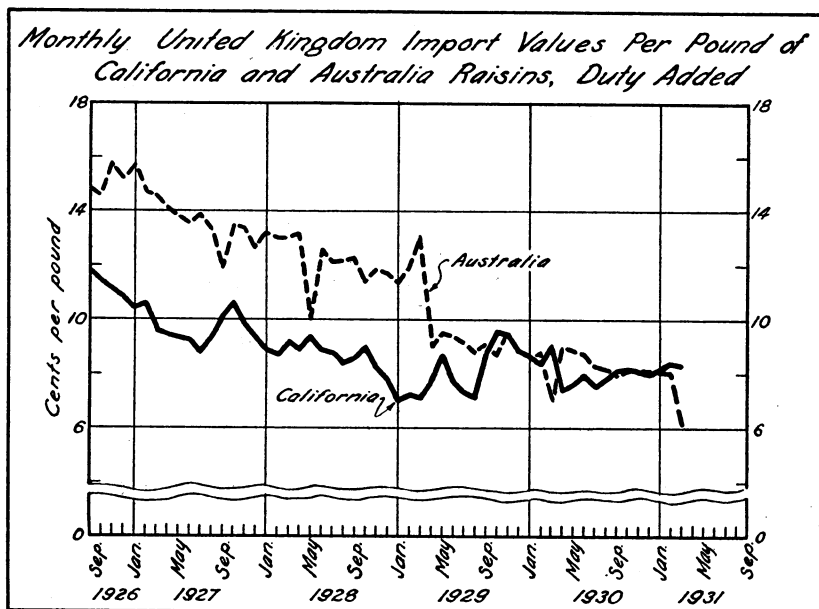


Fig. 5. Data from table 9.

In the other years shown in figure 6, California raisins undercut Australian on the English market by a wide margin, as may be seen in figure 4. This fact appears to account very logically for the increased tonnage of California raisins exported to overseas markets in these other years. Section *B* of figure 6 shows the close relation between these price differentials and the differences between the tonnage of California raisins actually exported in any given year and the tonnage that line *dd'* indicates might have been exported if California and Australian prices had averaged approximately the same.

¹³ During the last few years the United Kingdom import price of California raisins, duty added, has been approximately 3.5 cents higher than our f.o.b.-rail export price because of exporting costs and the English import duty.

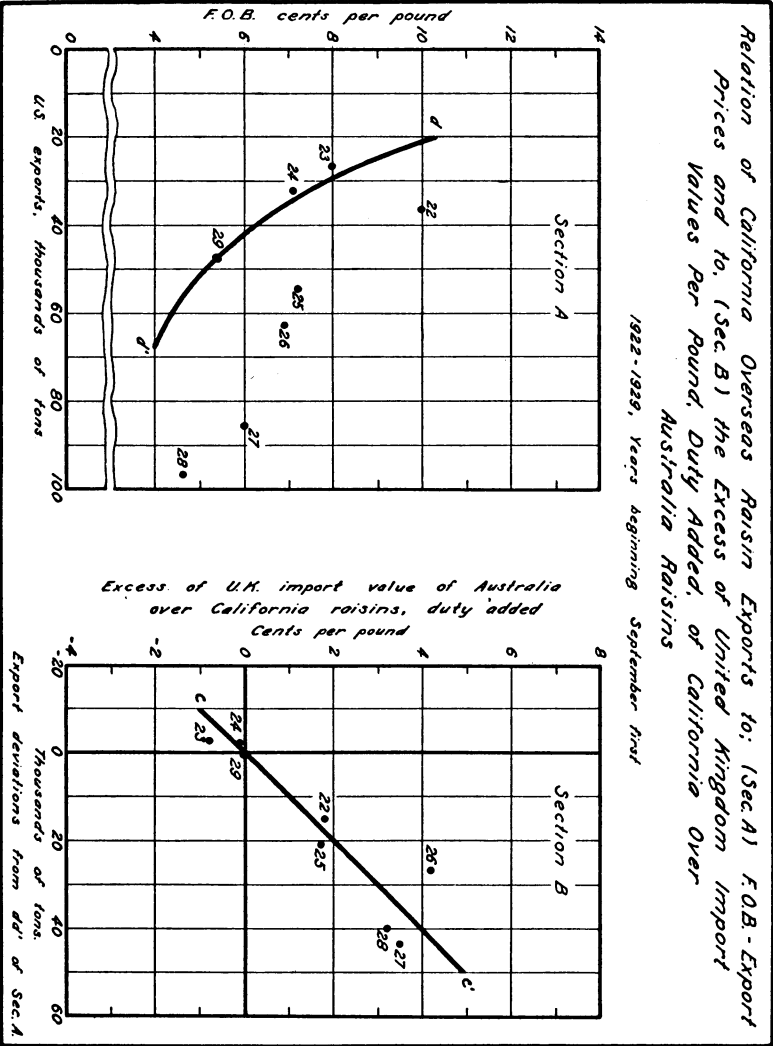


Fig. 6. Data from tables 1, 4, and 8.

These price differentials appear to be a good measure of foreign competition in overseas markets in recent years. The curve *cc'* indicates that annual exports from California have tended to be about 10,000 tons greater for every cent that the Australian price has exceeded California's.

In the years 1923, 1924, and 1929, with little difference between Australian and California prices, competition was keen and California export sales small. The situation, however, was more favorable to California in the years 1925, 1926, 1927, and 1928, in which the Australian price averaged 2 to 4 cents above that of California. As a result, California exported considerably greater quantities than indicated by curve *dd'* in section A.

The apparent discrepancy in 1926 was largely due to the fact that Australian production was unusually small and her price somewhat too high to be exactly representative of the competition that California raisins met in foreign markets. Had the smaller price differential between foreign raisins as a whole and California raisins been used in figure 5, the 1926 deviation would be decreased.

TABLE 9
MONTHLY UNITED KINGDOM IMPORT VALUES OF CALIFORNIA AND OF AUSTRALIA
RAISINS SINCE SEPTEMBER, 1926, IN CENTS PER POUND, DUTY ADDED

Month	1926-27		1927-28		1928-29		1929-30		1930-31	
	Calif- ornia	Austra- lia	Calif- ornia	Austra- lia	Calif- ornia	Austra- lia	Calif- ornia	Austra- lia	Calif- ornia	Austra- lia
	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>	<i>cents</i>
September.....	11.8	14.8	10.1	11.9	8.6	12.3	8.8	9.1	8.1	7.9
October.....	11.4	14.5	10.6	13.5	9.0	11.4	9.6	8.7	8.2	8.1
November.....	11.1	15.8	9.8	13.4	8.2	11.8	9.5	9.7	8.3	8.2
December.....	10.8	15.2	9.3	12.6	7.8	11.7	8.8	8.9	8.0	8.1
January.....	10.4	15.7	8.9	13.2	7.0	11.4	8.7	8.6	8.2	8.1
February.....	10.6	14.7	8.7	13.0	7.2	11.9	8.4	8.8	8.4	8.1
March.....	9.6	14.6	9.2	13.0	7.1	13.1	9.2	6.9	8.3	6.1
April.....	9.5	14.1	8.9	13.2	7.7	9.0	7.4	9.0	.....	.....
May.....	9.4	13.8	9.4	10.0	8.7	9.5	7.6	8.9	.....	.....
June.....	9.3	13.6	8.9	12.6	7.7	9.4	7.9	8.7	.....	.....
July.....	8.8	13.9	8.8	12.1	8.3	9.2	7.5	8.3	.....	.....
August.....	9.3	13.3	8.4	12.2	8.1	8.8	7.8	8.1	.....	.....
Weighted Ave.....	10.5	13.8	9.3	12.8	8.2	9.6	8.8	8.7	.....	.....
Exchange rate.....	485.4	485.4	487.3	487.3	485.1	485.1	486.6	486.6	486.6	486.6

Source of data:

The basic data from which these prices were compiled appear in the Monthly Accounts relating to Trade and Navigation of the United Kingdom as imports in English hundredweights of 112 pounds and declared import values in English pounds Sterling (£). The import value in cents per pound is computed as follows: £ per hundredweight divided by 112 times the simple average of monthly exchange rates for years beginning September 1 as shown in the bottom line of the table. The duty of 1.5 cents a pound was added to get the California price as given. Australian raisins have been admitted duty free since 1925. The annual prices are weighted averages.

OTHER CONSIDERATIONS

Although the greater part of the variations that have occurred in the crop-year sales and prices of California raisins during the last nine years have been accounted for in this analysis, there are probably several other factors, mostly minor, that have exerted some influence, such as trend in demand, competition from currants¹⁴ and other fruits, variations in variety, type, quality, and style of packages, advance or decline in prices during the year, the lag of retail prices, changes in the general price level, and the psychological attitude of the trade as affected by facts or lack of dependable facts.

The foregoing analysis explains only what has occurred. It may not explain what will occur, as attendant conditions may be very different in the future than they were during the period upon which this analysis is based.¹⁵ However, it should give the industry a better basis than previously has been available for judging the probable price at which a given supply of California raisins may be sold in the future. In using it as a partial basis for deciding what is probably the best raisin-marketing policy to pursue in any particular year, a trained judgment that can ordinarily be acquired only as the result of close first-hand acquaintance with the business of marketing raisins obviously is essential, coupled with an intimate understanding of just what the current situation is and what business conditions are likely to exist during the marketing season.

APPLICATION

Upon the basis of curves in figures 2 and 6, the schedule of prices and sales of California raisins given in table 10 has been prepared to illustrate the method of using this analysis. It shows the approximate relation between the tonnage of California raisin sales and the f.o.b.-rail prices, with domestic demand conditions adverse as indicated by the lower curve in figure 2 (at the level of demand in 1929)

¹⁴ The relation between raisin prices and currant supplies and prices that one might reasonably expect seems to be obscured by the fact that in many years California and world raisin production have both been large when currant production was small, and vice versa.

¹⁵ For example, if large quantities of low-priced raisins from Russia were to be dumped on European markets, as rumored in the dried-fruit trade. See, for example, Taylor, Alonzo E. Cooperate or bust. *Country Gentleman* 50 (6):4. June, 1931.

and also moderately favorable as indicated by the middle curve in the same figure. The foreign sales are based on f.o.b.-rail prices with an allowance of a 3.5-cent margin to approximate the equivalent United Kingdom import value per pound, duty added, as given in column 6. Moreover, the relation shown between the price and the tonnage exported assumes the same level of United Kingdom average import values per pound, duty added, for California, Australia, and other raisins. As shown by section *B* of figure 6, in years in which the United Kingdom import value, duty added, of California raisins has differed from that of raisins from other countries, an allowance of about 10,000 tons for each cent in the price differential has been necessary.

TABLE 10

APPROXIMATE DOMESTIC AND FOREIGN SALES OF CALIFORNIA RAISINS UNDER ADVERSE AND MODERATELY FAVORABLE DEMAND CONDITIONS IN THE DOMESTIC MARKET AND UNDER FOREIGN COMPETITIVE CONDITIONS IN WHICH THE UNITED KINGDOM IMPORT PRICE, DUTY ADDED, IS THE SAME FOR BOTH AUSTRALIA AND CALIFORNIA

Domestic sales			Foreign sales		
Quantity	F.o.b.-rail price per pound with demand conditions		Quantity	California price per pound with United Kingdom import price of Australian and California raisins same	
	Adverse	Moderately favorable		F.o.b.-rail price	Equivalent United Kingdom import price, duty added
1	2	3	4	5	6
<i>tons</i>	<i>cents</i>	<i>cents</i>	<i>tons</i>	<i>cents</i>	<i>cents</i>
187,000	3.5	5.4	66,000	4.0	7.5
180,000	4.0	6.0	58,000	4.5	8.0
173,000	4.5	6.7	52,000	5.0	8.5
167,000	5.0	7.3	47,000	5.5	9.0
161,000	5.5	8.0	42,000	6.0	9.5
156,000	6.0	8.5	38,000	6.5	10.0

Source of data:

Col. 2: Based upon the lowest curve (for 1929) in figure 2.

Col. 3: Based upon the middle curve in figure 2.

Cols. 4 and 5: Based upon section *A* of figure 6.

Col. 6: Items in col. 5 plus 3.5 cents per pound.

The table indicates for example, that 167,000 tons of California raisins might be sold in the domestic market at an f.o.b. price of 5 cents under economic conditions like those in 1929. On the other hand, under better conditions of demand, such as the data in column 3 are based upon, the same quantity could be sold at a price of about 7.3 cents.

With the United Kingdom import value per pound the same for both California and Australian raisins, California export sales at a 5-cent f.o.b.-rail price, equivalent to about an 8.5-cent United Kingdom import value, duty added, would appear to be about 52,000 tons. When prices of Australian raisins have exceeded California prices in that market, California's exports have tended to increase about 10,000 tons for each cent of differential as indicated in section *B* of figure 6.

NEEDED CURRENT STATISTICAL DATA

To use effectively the methods and results of this analysis as a partial basis for a marketing and sales policy, the industry must have available certain data on supply at the beginning of the season. Furthermore, in order to check upon the the results of the policy adopted and to modify it, if needs be, during the season, current and cumulated data on both prices and quantities sold or shipped are needed. The more important of these statistical data are:

1. *Estimates of California Raisin Production.*—Since it is necessary for buyers and sellers to decide on price and marketing policies early in the season, estimates of the probable raisin output are needed by September 1 or earlier. Preliminary official estimates by the California Crop Reporting Service of the tonnage of raisin grapes dried have not been available in the past until sometime in December. However, preliminary estimates of probable production of California raisin grapes are made by September. The probable tonnage that will be dried is the difference between this estimate of raisin-grape production and the quantities shipped fresh and not harvested. The probable total of fresh raisin-grape shipments is ordinarily not known with any considerable degree of precision until well into October. However, some help in forecasting this may be secured from market information and from the better informed of the shippers and the trade. The difference between the prevailing prices offered the grower for his raisins early in the season by packers, and the prices received for fresh raisin-grape shipments exerts an appreciable influence on the tonnage diverted for drying or for shipping fresh. Some basis for determining the probable effect of these price differentials on utilization are indicated in the accompanying paper.¹⁶

2. *Carryover of Raisins in California on September 1.*—Carryover plus estimates of production indicate supplies available for sale dur-

¹⁶ Mallory, L. D., S. R. Smith, and S. W. Shear. Factors affecting annual price of California fresh grapes, 1921-1929. *Hilgardia*, 6:101-130. 1931.

ing the current marketing season. In the past there have been no reliable data available on the stocks of raisins in California in the hands of the packers and Sun-Maid Raisin Growers Association on September 1. However, the Dried Fruit Association has secured this information from its members for the fall of 1930. If similar data are secured in the future and released as soon after September 1 as possible, the determination of sound price and marketing policies for raisins will be greatly facilitated.

3. *Tonnage Sold Monthly, Domestic and Overseas Separately.*—Quantities sold currently during the marketing season, along with the actual sale prices, and a knowledge of seasonal variations of both in past years are essential to judging the results of the marketing and price policy being pursued and in deciding whether to modify it or not and if so, how. Moreover, with the help of such monthly data, current stocks of raisins in California can be approximated in the absence of better data on carryover.

Total monthly shipments of California raisins can be compiled fairly accurately from the following series of data, each of which, at present, must be secured from different agencies. They could be rendered more readily available if assembled and released to the industry monthly by a single agency.

(a) Monthly shipments of California raisins from the ports of this country to overseas countries and to Canada are available in the Monthly Summary of Foreign Commerce of the United States.

(b) No similar official data on monthly shipments to domestic markets are available. However, monthly shipments by rail from California are available for raisins and for other dried fruits separately. These are released monthly in mimeographed form by the Dried Fruit Association of California, based upon reports received from each railroad. A number of the larger packers also receive these reports direct from the railroads.

(c) In addition, direct exports from San Francisco and Los Angeles by water to foreign countries are available in the monthly blotters of the United States Department of Commerce, Bureau of Foreign and Domestic Commerce, usually published in various trade papers.¹⁷ Intercoastal shipments from California by steamer to domestic ports are not readily available, although the individual steamship companies send monthly reports covering these data to a few of the packers.

¹⁷For example in the California Fruit News and the Western Canner and Packer.

(d) The only quantities not included in the monthly completed sales of California raisins, shown by rail shipments out of the state plus direct exports by water to foreign countries and domestic inter-coastal shipments, are the small quantities sold and consumed in California. These, however, are a relatively small proportion of the total and can be estimated fairly satisfactorily on a per-capita basis comparable to consumption in the rest of the United States.

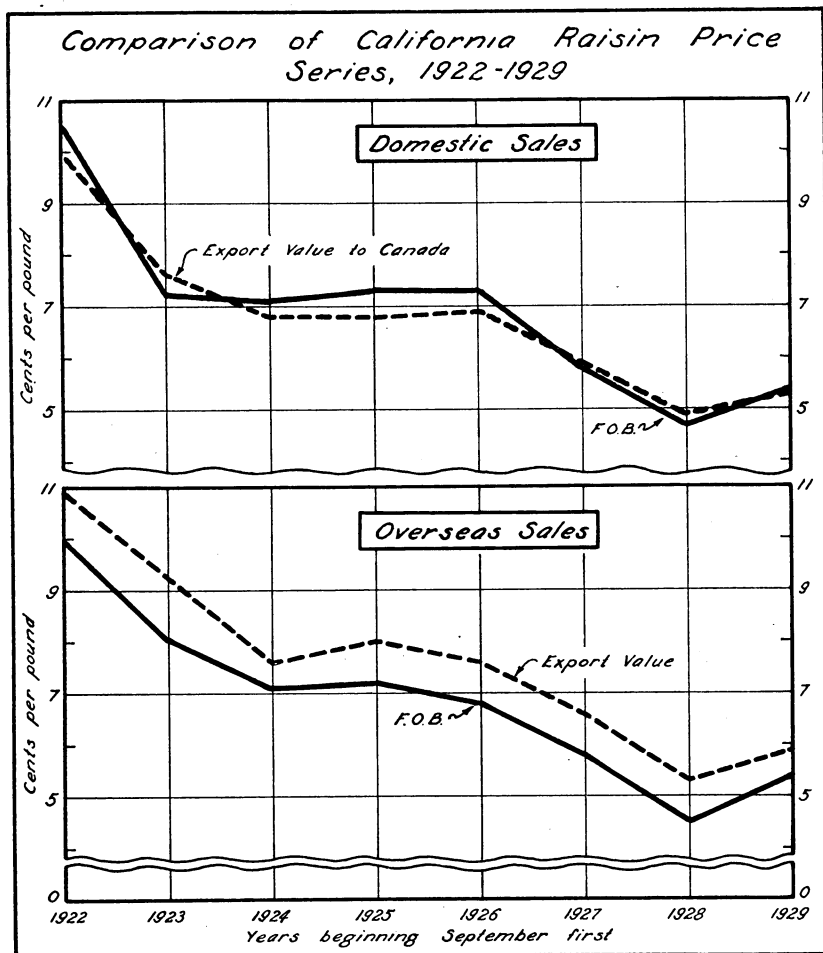


Fig. 7. Data from table 11.

4. *Average Prices of Current Season's Sales to Overseas Markets.*
 —Comparison of various raisin-price series that are available indicates that the average declared export values per pound of raisins

exported from the United States to all overseas markets or to the United Kingdom alone are about the best relative indicators of actual prices of California sales to overseas markets. However, study of export values per pound for direct exports from San Francisco may prove them to be even better than those based upon total exports from all United States ports. Declared export prices are easily computed by dividing the quantity exported to overseas markets into the declared values of such exports. Data on the quantity and declared values of exports are available monthly in the Monthly Summary of Foreign Commerce of the United States and can easily be cumulated as the basis of a weighted average for the crop year to date.

Comparison of these declared export values per pound for years beginning September 1, 1922–1929, with the actual f.o.b.-rail prices of overseas sales reported by Sun-Maid Raisin Growers Association and the packers for the corresponding crop years, as shown in table 11, shows that the two have been closely correlated since 1924, the period during which the f.o.b. prices were most completely and accurately reported. The declared export values per pound naturally should be above the f.o.b.-rail prices to cover additional items of expense involved in exporting.

Comparison of United Kingdom import values per pound, duty added, of California raisins (see col. 8, table 11, page 99), with the f.o.b.-rail price of overseas sales shown in figure 7, indicates that in the last four years there has been a rather consistent difference of about 3.5 cents between these two series. The import values into the United Kingdom therefore also appear to have been a fairly good index of California f.o.b.-rail prices of overseas sales in recent years.

5. *Average Prices of Current Season's Sales to Domestic Market.*—Comparison of the domestic f.o.b.-rail price series reported by the packers and the Sun-Maid Raisin Growers Association has been made with a number of other readily available current price series and found to be rather closely correlated with them. Comparison of columns 1 and 2 in table 11 shows that in recent years there has been very little difference between the f.o.b.-rail domestic price of California raisins and the declared export values per pound of California exports to Canada. This relation appears quite logical. Since the monthly and cumulated quantity and declared values of California exports of raisins to Canada are readily available in the Monthly Summary of Foreign Commerce of the United States, the declared import values per pound based upon them are probably the most convenient indicator of current f.o.b.-rail domestic prices of California raisins now available.

Season's averages of monthly quotations from the New York Journal of Commerce for California seeded and seedless raisins have shown a fairly close relation to domestic f.o.b. prices since 1922 (see table 11) and also to declared values per pound of overseas exports.

TABLE 11
COMPARISON OF DIFFERENT SERIES OF CALIFORNIA RAISIN PRICES
IN CENTS PER POUND, 1922-1929

Crop year	Domestic sales				Overseas sales			
	F.o.b.- rail California	Export value to Canada	N. Y. wholesale	U. S. retail	F.o.b.- rail California	Export value	Export value to United Kingdom	United Kingdom import value, duty added
	1	2	3	4	5	6	7	8
1922.....	10.5	10.0	10.5	18.4	10.0	10.9	10.5	17.2
1923.....	7.2	7.6	7.8	15.8	8.0	9.3	8.8	13.7
1924.....	7.1	6.8	7.7	14.6	7.1	7.6	7.5	12.6
1925.....	7.3	6.8	7.5	14.6	7.2	8.0	8.0	11.5
1926.....	7.3	6.9	7.8	14.4	6.8	7.6	7.5	10.5
1927.....	5.8	5.9	7.0	13.7	5.8	6.6	6.6	9.4
1928.....	4.7	4.9	5.0	11.8	4.5	5.3	5.1	8.1
1929.....	5.4	5.3	6.0	12.1	5.4	5.9	5.8	8.8

Sources of data:

Col. 1: from col. 4, table 4, page 80.

Cols. 2, 6, 7: United States exports of California raisins for years beginning September 1, declared export value divided by pounds exported. Basic data compiled from Monthly Summary of Foreign Commerce of the United States. Col. 2 includes exports to Canada only; col. 6 exports to all other countries, except Canada, col. 7 exports to the United Kingdom only.

Col. 3: Based upon monthly quotations nearest the end of each month of California bulk seeded Muscats and bulk Thompson Seedless raisins on the New York wholesale market compiled from the last issue of each month of the New York Journal of Commerce. An average for the 12 months beginning September 1 was computed separately for seeded and seedless by weighting by the monthly shipments of California raisins. The combined average of these two annual prices computed by weighting by the percentage of California production by varieties shown in cols. 2 and 3 of table 2, page 75 are the final averages given above.

Col. 4: Simple average of monthly United States retail price of raisins for years beginning October 1, compiled from the Monthly Retail Prices of the U. S. Bur. of Labor Statistics.

Col. 5: From col. 5, table 4, page 80.

Col. 8: From col. 4, table 8, page 89.

Table 11 shows that there has also been a rather consistent relation between the retail price of raisins in the United States and the domestic f.o.b. price, the former being rather consistently 7 to 8 cents higher than the domestic California f.o.b. price and the New York wholesale price.

6. *United Kingdom Declared Import Values per Pound of Raisins—California, Australia, and Other Countries—Monthly and by Crop Years.*—These prices are based on the data on monthly quantity and declared import values readily available in the Monthly Accounts Relating to the Trade and Navigation of the United Kingdom as indicated in the footnote to table 8, page 89.

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