

THE CITRUS SITUATION

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There are many angles to the citrus situation, but most of them can be grouped under four or five classifications—such as supply, demand, interrelation of supply and price, marketing, Governmental programs, and problems of the individual.

SUPPLY

In the decade of the twenties world production of oranges averaged approximately 120 million boxes, United States production approximately 33 million boxes, and Florida approximately 10-1/2 million boxes. In the decade of the thirties world production averaged about 190 million boxes, United States production 60 million boxes and Florida production 21 million boxes. For the last five years world production has averaged approximately 230 million boxes, United States production 106 million boxes, and Florida production 50 million boxes.

From 1930 to 1935 most of the important world producing countries, except Spain, increased their production of oranges faster than the United States. From 1936 to 1946, because of wars and disease, production of oranges has not increased in any important orange producing country except the United States and Mexico. The increase has been much greater in Florida than in any other area.

In 1926-27 the United States produced approximately 31 percent of the world's oranges, in 1936-37 only 28 percent, but in 1946-47 about 51 percent. The dominant role Florida is acquiring in the United States and the world orange industry is shown in the following percentages: Florida produced in 1926-27 about 9 percent of

the world's total production, and about 23 percent of the production of the United States. In 1936-37 Florida produced about 11 percent of the world's oranges and about 41 percent of the oranges produced in the United States. In 1946-47 Florida produced about 22 percent of the world's oranges and 47 percent of the oranges of the United States.

In the case of grapefruit, the United States produced, in the 1924-25 season, only 10 million boxes which was 90 percent of the world's grapefruit. At this time (1924-1925) Florida was producing about 80 percent of the world's production. In 1935-36 the United States produced 18 million boxes, which was 88 percent of the world's production; and in 1946-47 the production of the United States was 62 million boxes, which was 95 percent of the world's production.

As compared to deciduous fruit production in the United States, bushel for bushel, orange production is about 1- 1/2 times the production of apples, about 2 times that of peaches, and about 5 times that of pears. Grapefruit production, bushel for bushel, is about 4/5 that of apples, slightly more than that of peaches, and almost 3 times that of pears.

Estimates of the United States or Florida production of oranges several years in the future have been, in most cases, entirely too low. No one can foresee wars, diseases, or price changes, or tell the effect these things will have on the production of oranges or grapefruit. It is my understanding that the bearing surface of orange trees in Florida is increasing at the rate of 5.7 percent per year and that of grapefruit 3.5 percent per year; however, crops cannot be forecast by projecting this percentage into the future.

If prices and political conditions will

permit, there will no doubt be a marked increase in the production of citrus fruit in the next few years in all important citrus producing countries, except for South American countries where disease is causing great damage. It is probable that those countries which have had their production adversely affected by the war will recover their production by the demand for citrus can be restored in Europe.

DEMAND

The per capita consumption of fresh oranges is very large—approximately 1.6 times as great as that of apples, 2 times that of bananas, 2 times that of peaches, 5 times that of pears, and 6 times that of grapes. Fresh grapefruit consumption is about 1/2 that of fresh apples, 2/3 that of bananas, only slightly less than that of peaches, and 1/3 more than that of pears.

The trend in the per capita consumption of citrus juices is still sharply upward; especially is this true for oranges. In the case of grapefruit juice, there is a tapering off of the rate of increase in the per capita consumption (Figure 1). The consumption of all citrus juices is approximately at the same level as that of tomato juice and of all other fruit juices combined. The rising trend in the per capita

consumption of citrus juices is decidedly greater than for other juices (Figure 2). Because the cost of marketing citrus juice is less than for fresh citrus products (for equivalent food value), the increased trend in citrus juice consumption may be expected to continue its upward trend for some time.

The possibility for increased uses of canned citrus segments should not be overlooked. In Figure 3 is given the per capita pack of peaches, pineapples, pears, apples and grapefruit. It will be observed that the per capita pack of grapefruit is very low as compared to that of other fruits. orange segments are, of course, only beginning to appear on the market. Because orange and grapefruit segments compete very little with canned juices or fresh fruit this is a fertile field for expansion. The volume of citrus juices packed is approximately as great as that of tomato juice and all other juices combined, but the pack of citrus segments is only 5 percent of the total fruit pack. Should citrus segments become relatively as important as citrus juices there would be a market for an additional 50 to 60 million boxes. Perhaps it is too optimistic to expect such a large place for citrus in the canned fruit market; but half this much, or 25 million boxes, seems

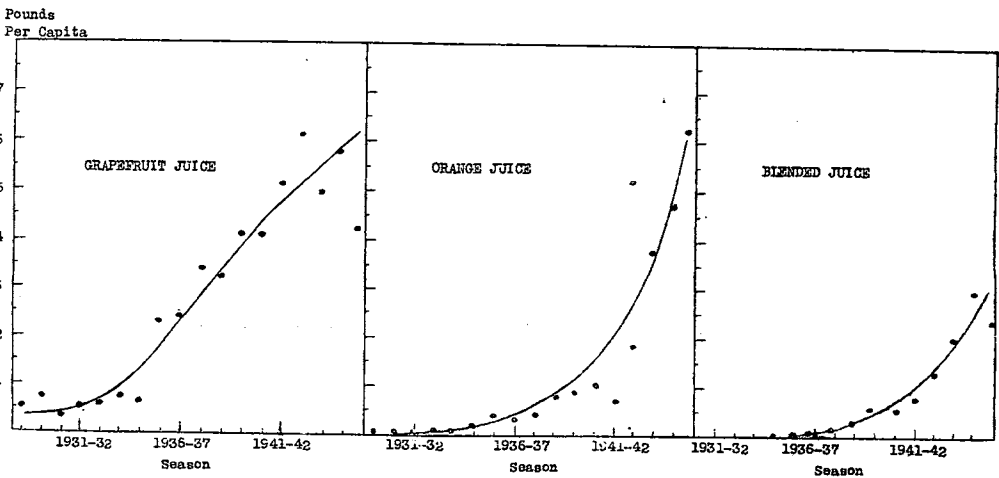


Fig. 1. United States per capita pack of citrus juices 1929 to 1946

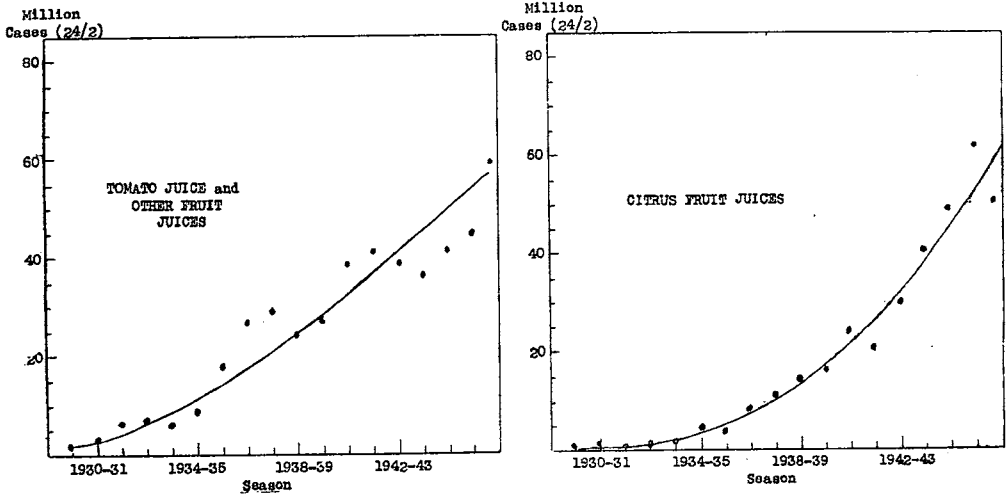


Fig. 2. United States pack of citrus juices, tomato juice, and other fruit juices.

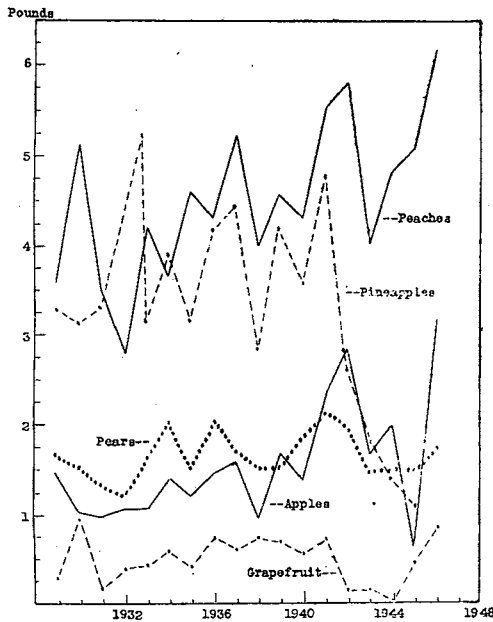


Fig. 3. Per capita pack of fruits 1929 to 1946.

a conservative goal. High cost of processing segment fruit is an adverse factor in obtaining greater production at the moment.

The trend in production and consumption concerns us because of the bearing on price.

The price of Florida oranges in the past has been determined largely by the supply of United States oranges, the disposable incomes of consumers, and competing commodities. From 1937 to 1946 a change in the United States supply of oranges by one-million boxes was associated with a reverse change in price of approximately 2 1/2 cents per box. From 1937 to 1946 a change of disposable incomes of individuals of one-billion dollars was associated with a corresponding change in price of approximately 3 1/2 cents per box. Low prices last year are believed to have been due to the reappearance of competing commodities and the carry over of processed products.

Dr. Wellman, of California, showed several years ago that when adjustments were made for disposable income, a given supply of oranges would sell for a higher price per box with the passing of time. This he attributed, and rightly so, to the upward trend of demand. His data show a decided flattening out of the demand pattern since the year 1930. That is to say, the rate of increase in demand, when adjusted for disposable incomes, is slowing down. In fact, it may be that in the case of winter oranges the rate of increase in demand for fresh

oranges has ceased to be a factor and that the saturation point has been reached.

Close observers in Florida are aware that for the past 10 or 12 years there has been no increase in the Florida shipments of fresh grapefruit. The indications are that the demand for fresh grapefruit, when adjusted for changes in disposable incomes, has about reached the saturation point.

Should disposable income be reduced greatly, without question the price of oranges will fall at the rate of about 3 1/2 cents per box for each billion dollars fall in disposable income. The fall in grapefruit price will be at the rate of about 2 cents per box for each billion dollars decrease in income. Because the trend of increased demand with passing of time for fresh oranges and grapefruit has flattened out, we cannot expect an increase in price fresh fruit with passing of time when disposable incomes and supply remain constant, as in the past. However, because the juice market has not reached the saturation point it is believed that the increased rate of demand for citrus juices and canned segments might go far over a period of the next few years in relieving the effects of increased supplies.

INTERRELATION OF SUPPLY AND PRICE

Price analyses usually show the effect of supply on price. Too often the effect of price on future supply is not studied. Forecasts of future supply have been attempted on the basis of acreage of bearing grove, length of life of tree, young groves already planted or the rate of planting of groves; or, arriving at the rate of increase in bearing surface of groves and projecting this into the future. It is well that we have such analyses, and far be it from me to belittle them. However, in our opinion a more realistic approach would be to try and analyze the effect of price on supply.

There is a fairly positive correlation between price and planting of oranges in Florida and a good correlation between price and planting of Florida grapefruit. A more

significant relationship is that of price and production the following year. Your at-

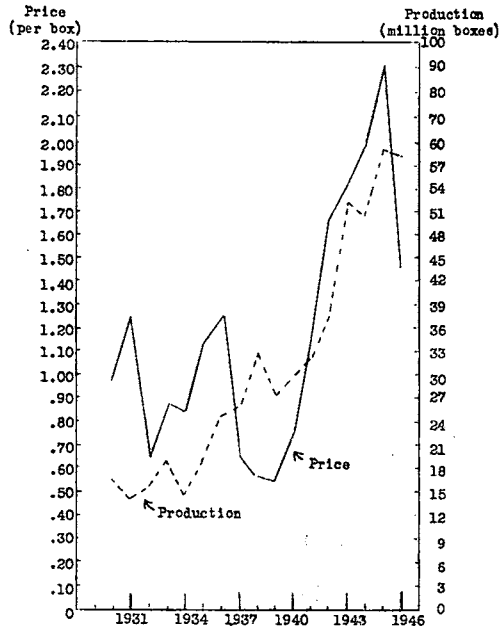


Fig. 4. Relation of Florida orange on tree price to the production the following year, 1932-1946. (Production based on Crop Estimating Board's first estimate.)

attention is directed to the effect of price on production from 1932 to 1936, a period of rising orange prices, when the price of Florida oranges increased from about 65 cents per box to about \$1.30 per box. Florida production of oranges increased from 15 million boxes in 1933 to about 26 million boxes in 1937, or about 70 percent. From 1936 to 1939, a period of falling prices, the price of Florida oranges decreased from \$1.30 per box to about 55 cents per box. production increased from 26 million boxes in 1937 to 31 million boxes in 1940, or only 20 percent. From 1939 to 1945, a period of rising prices, the price increased from 55 cents per box to \$2.35 per box and production increased from 31 million boxes in 1940 to 58 million boxes in 1945 (including loss from freeze), or almost 100 percent

a grove alive and the optimum amount for production is very small. Because water is the most costly factor in the production of California oranges and because it must be applied to keep the grove alive, growers must also use liberal amounts of fertilizer, sprays and culture in order to keep their actors of production in balance.

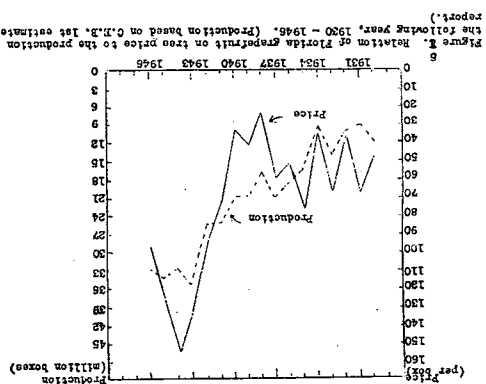
If this reasoning is correct, should prices fall the production of oranges in California would be affected but little. On the other hand, notwithstanding the large planting in recent years, the increased production of Florida oranges certainly would not be expected to continue at the present high rate of recent years. Actually, there may be but little increase in production, depending on how low prices go.

A further factor which will tend to keep California production up is the high per-acre investment in California groves relative to the value of the current crop as compared to the low investment in Florida groves as compared to the value of the current crop. In addition, the California industry, at the moment, does not have the large acreage of young groves that must be taken care of. Almost every acre of California groves is in full production, or near full production; but in Florida there is a large acreage of young groves which will not take care of itself. Therefore, in the last ditch fight it should come within the next two to five years, every acre of California grove is a fighting acre, but in Florida a great acreage is young and not able to take care of itself, to say nothing of contributing to the fight. It should not be inferred that this temporary situation, with respect to young groves, is permanent. In the end, the area will stay in production which has the lowest cost from the bloom to the consumer, providing the demand is the same.

Because a considerable amount of the young groves are in strong financial hands, the situation is not as bad as it would be otherwise. Also because of the complete integration of the marketing and production

(Figure 4). On the average, orange production increased at the rate of 14 percent per year during a period of rising prices and only 5 percent during a period of falling prices.

The picture is more striking with grapefruit. From 1935 to 1940, a period of falling grapefruit prices, the price of Florida grapefruit decreased from about 75 cents per box to about 35 cents per box. The production from 1935 to 1941 increased from about 15 million boxes to about 20 million boxes, or only 25 percent. From 1940 to 1944, a period of rising grapefruit prices, the price increased from 35 cents per box to about \$1.55 per box, but the production increased from 20 million boxes in 1941 to 33 million boxes in 1945, or 65 percent (Figure 5). On the average, grapefruit production increased 13 percent per year during the period of rising prices, but only 3 1/2 percent per year during the period of falling prices. Both in the case of oranges and grapefruit production has increased about three or four times as fast during a period of rising prices as during a period of falling prices. Such relationship between price and supply can only be accounted



for by increased fertilization, water, and generally improved care of groves. It is interesting to note that in California such relationship does not exist, presumably because in California the difference in the cost of supplying enough water to keep

Figure 5. Relation of Florida grapefruit on tree price to the production the following year, 1930 - 1946. (Production based on C.R.D. 1st estimate report.)

operations in Florida, the Florida citrus industry has strength. It is also to the advantage of the Florida industry that many grove owners have other businesses. And finally because marketing firms and caretaking organizations render the services of production it makes it possible, if necessary, for grove owners to spend long periods of time away from their groves in order to engage in other activities.

MARKETING

The layman more often attributes low prices to poor marketing than to anything else. We sometimes hear that no better job of marketing is done today than was done 30 years ago. Such is not in accordance with the facts; but I shall not labor the point for our job is to appraise the marketing situation, not to show the progress that has been made in marketing.

Marketing consists of those services involved in getting citrus fruit from the tree to the consumer. Therefore, such things as distribution as to place and time, selling, packing, processing citrus products, advertising, price flexibilities, grades and standards, transportation, market uses, storage, and many other things are involved. Time will not permit a detailed analysis of all phases of marketing; however, attention can be given to some of the more important phases.

Distribution. In the case of oranges the general pattern of distribution has not changed greatly in the past 20 years. New York, New Jersey, Massachusetts, Connecticut and Pennsylvania get by far the largest quantity of Florida oranges and grapefruit. On the bases of government statistics it appears that New York alone gets about as many Florida oranges as all the southern states east of the Mississippi. On first thought this seems to be poor distribution, but on a careful analysis it is good distribution. The population of New York is about $\frac{2}{3}$ the population of the southern states, but the per capita income is about twice as great. Actually the purchasing power of

New York is as great as all the southern states east of the Mississippi River. According to the United States Census, retail food sales in New York State are considerably greater than in all the southern states other than Texas. In 1944 New York State purchased more "E" bonds than all southern states east of the Mississippi River. If I were selling oranges, I would choose an area where the sale of "E" bonds was high. This is what has been done for many years so far as Florida oranges are concerned.

In the case of grapefruit the pattern of distribution has changed considerably in the past 20 years. The eastern markets receive a much greater proportion of Florida grapefruit today than in the period 1925 to 1930. Obviously, the reason is the pressure of Texas fruit in the mid-western markets. In the 1934-35 season Florida had 4,399 cars on the New York auction and Texas had 27 cars. On the Chicago market Florida sold at auction 644 cars and Texas 386 cars. In 1946-47 Florida had 4,894 cars of grapefruit to sell at auction in New York City, and Texas had only 199 cars. On the Chicago auction market Florida sold only 154 cars, but Texas sold 980 cars. Similar situations have taken place on the Detroit, Cleveland, Cincinnati and St. Louis auction markets. Florida has been pretty much run out of the mid-west auction markets by Texas grapefruit. This change in the distribution pattern of grapefruit is not a result of poor marketing but of poor production. Remember it avails the Florida grower nothing to contend that Florida grapefruit is as good as Texas grapefruit. The thing that counts is what the consumer thinks about the two grapefruit. The consumer spends his own money not the Florida growers' money, and in the western markets he seems to prefer Texas grapefruit at Texas prices to Florida grapefruit at Florida prices.

Let us look at the time distribution, that is the week to week or day to day movement of Florida oranges and grapefruit. An examination of government statistics reveals

that the week to week movement of oranges in the case of California and Florida, and of grapefruit in the case of Texas and Florida as very much the same.

Regardless of how good the place or time distribution is as compared to Texas or California, one would be foolhardy to assume that there is no room for improvement. The problem of better distribution is both one of better merchandising by individual firms and of coordinating the efforts of all firms.

Quality. So much has been said about the improvement of quality (both external and internal) and maturity standards that it seems superfluous to mention it again; but what I have to say is with respect to fruit which is good when it leaves groves but becomes poor in quality before it reaches consumers. We need better preservation of fruit, either through treatment, wrappers, or refrigeration; however, I hope that we shall never preserve fresh fruit so well that the trade will not be in a hurry to dispose of it before it gets old. I would hate to think of citrus fruit ever reaching the point of table salt that sits on the retailer's shelf and waits to be purchased without any effort on the part of the retailer to sell it. What is needed is a system of merchandising that will keep fresh fruit moving to the retailer each day in quantities no greater than can be moved each day when good merchandising has been carried out.

Price Flexibilities. Most students of marketing feel that there is something wrong with the system of marketing in which prices are rather rigid at the retail level but very flexible at the grower level. That is to say that lower prices to producers often are not reflected in lower prices to consumers. This, in the opinion of many, is one of our major problems. What can be done about it? We would all like to know. It will require some careful research to solve this problem.

Cost. Not only high cost of marketing at the retail level and the wholesale level

concerns us, but particularly the high cost of harvesting, packing and selling at Florida points. In 1944-45 cost data on 70 packing houses reveal that 10 percent of the firms had costs of packing citrus fruit which averaged 18 percent lower than the average for the 70, and that 10 percent of the firms had costs which averaged 28 percent higher than the 70. Such wide variations means that the opportunity for lowering costs is good. Because costs of labor and materials are likely to remain high, the best avenue open for lowering cost is through increased efficiency.

Transportation. Freight rates have already advanced and are almost certain to advance more. Wages cannot go up without increasing freight rates. A 25 cents per box advance in freight rates costs the grower 25 cents per box. Don't be misled into believing that any increase in freight rate will be passed on to the consumer. The producer pays any increase in freight rates.

Coordinating Marketing Organizations. There is much that individual firms can do to correct some of our marketing practices. They can lower cost of packing or canning, improvement in quality and handling can be accomplished, and perhaps an improvement of price. But there are a number of things that could better be done if the marketing agencies were better coordinated. This was realized in 1894 when the Florida Fruit and Vegetable Growers' Association was organized, again in 1909 when the cooperative movement was greatly re-energized, again in 1928 when the Florida Citrus Growers' Clearinghouse Association was organized, and again in 1930 when the Farm Board made an effort to organize the industry. A better coordination of our marketing machinery should result in a system of feeding fruit to individual buyers on a basis that would enable them to have adequate supplies rather than burdensome supplies at times, which grow old before being consumed; it might offer some resistance to price flexibilities at the grower level, or make possible more flexibilities at the retail

level; it should enable a better coordination of sales with advertising; it should lower the cost of selling materially; it perhaps could, if need arose, establish export pools or market use pools; and last, but by no means least, it should enable a better educational process of what each individual unit needs to do to meet the over-all marketing problem.

GOVERNMENT PARTICIPATION

Government participation has been the rule in the Florida citrus industry. It has manifested itself in such things as maturity laws, compulsory grades, advertising, marketing agreements, market news services, relief purchases, stamp programs, and school lunch programs. It would be exceedingly difficult to get along without some Government participation. Government participation programs for the future are being proposed from day to day. They include support prices, floor prices, producer subsidies, producer allotments, shipper quotas, consumer subsidies, Government loans, stamp programs, two price systems, school lunch programs, parity prices, parity income, help for Europe, and many others.

Programs such as marketing quotas, producer allotments, support prices, floor prices, and loans, have a tendency to prevent needed shifts in the industry. They usually favor established concerns, whether grower or marketer, at the expense of new firms; they tend to keep the old way of doing things—after it is obsolete; they usually penalize new areas to the advantage of old areas.

Programs such as School Lunch, Stamp Plan or some modification of them, Better and More Food for the Masses, do not retard needed shifts. Programs which encourage better quality are particularly desirable. Restrictive and price programs tend to lose your markets to other areas,

or in some cases, to other commodities; whereas abundant or increased demand programs and quality programs tend to encourage consumers to turn to you for fruit rather than to some other area or other product.

WHAT ABOUT THE INDIVIDUAL GROWER?

Some growers are rightly concerned over the future. Too often we are inclined to think that we are helpless to do anything alone and that unless the industry is awakened to action all will be lost. The growers' individual problem is to do the job better than the other fellow. Since 1924 we have compiled data on prices received for fruit and cost of marketing fruit at the shipping point for various marketing firms. I want to give a few results from these studies as reported in Florida Agricultural Experiment Station Bulletin No. 386. From the 1925-26 season to the 1939-40 season, one firm, when weighted to reflect proper differential for types of fruit and varieties of fruit, received for the 15-year period approximately 21 percent higher f. o. b. prices than the average. During the same period a few firms each year had costs which were lower by 20 percent than the average. The Florida Agricultural Experiment Station has compiled the cost of producing citrus fruit by the acre and by the box for a large number of groves for about 20 years. If you will look over these data you will be amazed at the difference in cost among growers.

Between the average price received for fruit and the price received by the highest 10 percent there is enough profit to keep any grower in business. The difference in the average cost of producing fruit and the lowest 10 percent is sufficient to keep any grower in business. Growers affiliated with the firms in the lowest 10 percent of cost of packing should have no trouble of prospering in business.