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The Market Outlook for Kentucky Strawberries

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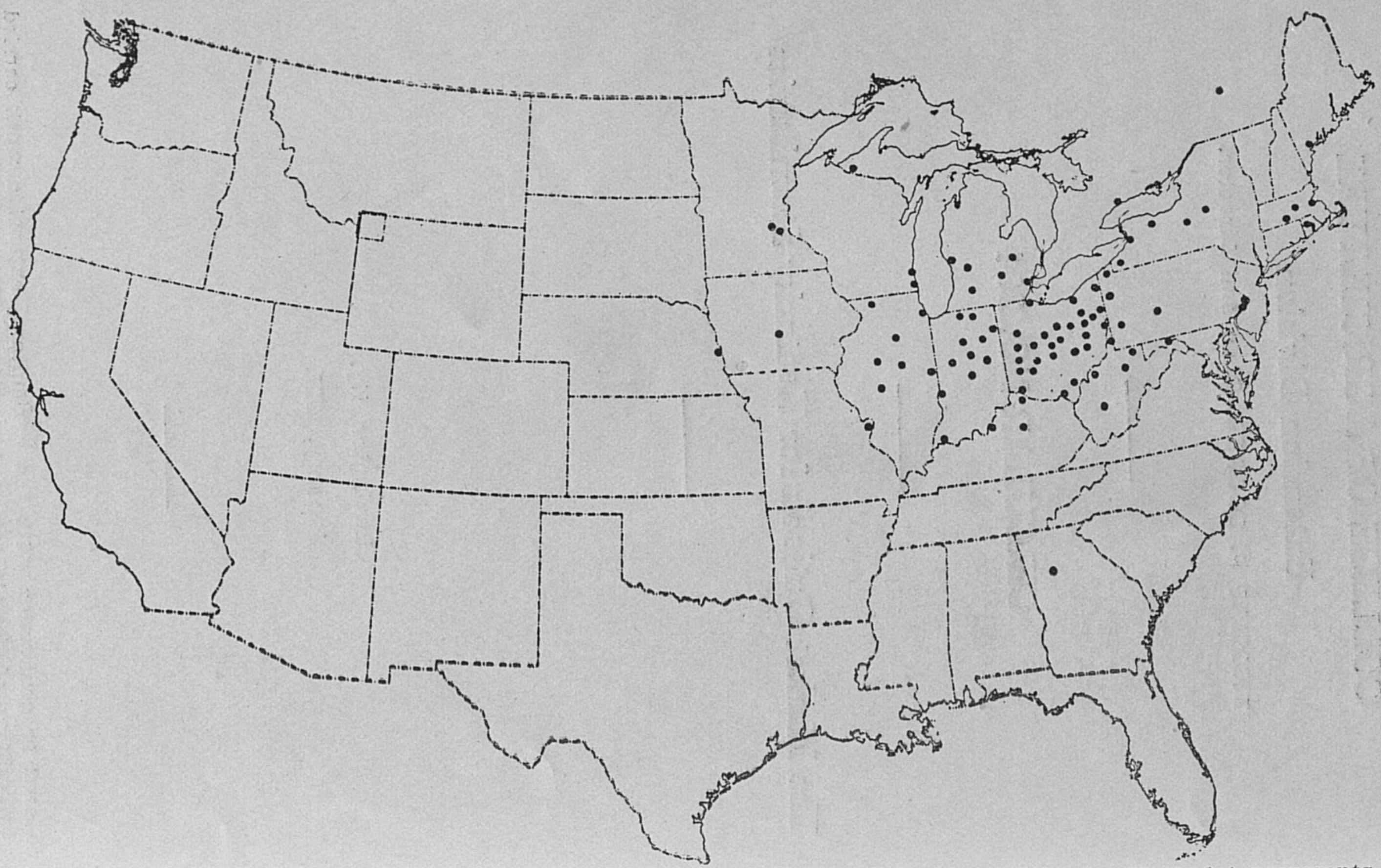

Fig 1.—Primary destinations reported for shipments of Kentucky strawberries in 1922. Each dot represents a city.

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The Market Outlook for Kentucky Strawberries

By DANA G. CARD

The commercial production of strawberries in Kentucky is being expanded rapidly. In some parts of the State where strawberries never have been grown commercially, plans are being made for a large acreage in the near future. Before extensive plantings of a new crop are made, in localities where people are unfamiliar with its production, consideration should be given to the economic factors which will have a bearing upon the success likely to be attained in the growing and marketing of such a crop. Some of these factors are discussed in this circular.

MARKET FACTORS

Supply and demand are factors of such importance in the marketing of strawberries that they warrant careful consideration.

Demand. Strawberries are not a staple food and sales are affected quickly by price changes. The demand for them is influenced by weather conditions, competition of other fruits, the business and employment situation and other factors which can not be foretold very far in advance. In view of the limitations on forecasting the probable future demand, it will be assumed for the purpose of this discussion, that the per capita consumption of strawberries in the future will not differ greatly from that of the past. Producers should be on the alert for possible shifts in the demand, however, and take them into consideration when making their production plans.

Supply. The supply of strawberries depends largely upon the acreage harvested and the weather conditions that prevail prior to and during the harvesting season. The quality of fruit, yields and production vary so much that seasons of low prices and seasons of high prices are almost inevitable. The acreage of strawberries harvested probably is the best single measure of the size of the industry.

TRENDS IN STRAWBERRY ACREAGE

Changes in production for the country as a whole, when considered from the long time point of view, should about keep step with changes in demand. Changes in the production of any particular region should be made in the light of changes in demand and changes of acreage in competing regions. The prices received by growers in one of Kentucky's largest strawberry marketing associations show only a very slight tendency downward since 1917. The trend of expansion in this State, during the past ten years, apparently has been about in line with market conditions and demand. Yearly fluctuations in acreage, however, have been large in some instances.

Kentucky. Table 1 shows the acreage of strawberries, the carloads shipped and the number members by associations in this State, as reported to the College of Agriculture by association managers and other interested parties. The total acreage as reported indicates an increase in 1927 of more than 54% over 1926 and of nearly 140% over the acreage of 1925. This increase is largely in Warren, McCracken, Ballard and Simpson counties.

Competing States. When comparing Kentucky with those states whose strawberries go to market at about the same time or slightly earlier, it appears that the states whose berries precede Kentucky's on the market are decreasing their acreage while states whose marketing season more nearly coincides with that of Kentucky, are increasing production, Table 2. If these diverging trends in acreage are temporary in nature, some readjustment may be expected in the near future.

By grouping the important strawberry producing states according to the time of harvest, a comparison of acreage changes of Early, Second Early, Intermediate and Late producing states

TABLE 1.—Strawberry Acreage, Membership and Carload Shipments of Associations in Kentucky.

Association	Year Organized	Acreage 1922	Acreage 1923	Acreage 1924	Acreage 1925	Acreage 1926	Acreage 1927[1]	Members 1925	Members 1926	Carloads Shipped 1925	Carloads Shipped 1926
McCracken Co.	1913	500	500	775	1175	1822	3000	675	1020	121	217
Warren Co.	1908	1350	1600	1100	300	450	700	100	150	44	81
Independent Association	1922	....	225	185	250	300	500	83	97	27	30
Woodburn	1923	....	75	150	75	140	175	71	86	16	23
Oakland	1920	660	700	400	250	300	400	200	225	30	54
Franklin	1919	500	500	300	300	600	800	95	226	51	111
Christian Co.	1916	750	500	400	150	250	350	100	110	7	20
Pembroke	1921	170	135	150	140	150	250	45	57	6	14
Hopkinsville	1919	250	200	150	100	200	200	50	50	5	14
Logan Co.	1921	200	200	200	100	250	350	100	200	10	26
Henderson	1922	15	15	15	19	13	150	28	19	5[2]	3[2]
Todd Co.	1920	125	75	40	20	0	25	0	0	0	0
Total		4520	4725	3865	2879	4475	6900	1547	2240	322	593

[1] Estimate of 1927 acreage made in 1926.
[2] Carload equivalent sold locally and in l.c.l. shipments.

TABLE 2.—Strawberry Acreage and Carload Shipments. (Kentucky and Competing States.)

State	Acres 1924	Acres 1925	Acres 1926	Carloads 1924	Carloads 1925	Carloads 1926
Arkansas	15,200	14,860	13,970	1,613	1,009	1,321
N. Carolina	5,690	5,040	4,590	2,046	1,660	1,232
S. Carolina	540	430	430	70	44	21
Tennessee	21,170	16,160	12,120	2,902	1,661	1,248
Virginia	10,700	8,300	12,120	1,919	1,239	1,143
Total	53,300	44,790	43,230	8,550	5,613	4,965
Kentucky	4,370	3,980	4,700	467	305	570
Missouri	11,000	13,000	16,120	990	1,571	1,335
Delaware	6,100	5,600	5,880	1,307	401	668
Maryland	10,200	9,200	9,290	2,153	1,055	1,426
New Jersey	5,400	4,000	4,000	402	126	208
Total	37,070	35,780	39,990	5,319	6,159	4,207

may be made. Five states have been classed as "Early," Alabama, Florida, Louisiana, Mississippi and Texas. The "Second Early" group includes Arkansas, North Carolina, South Carolina, Tennessee and Virginia. The "Intermediate" states include Kentucky, Missouri, Delaware, Maryland and New Jersey. Acreage figures for the "Late" states were not obtained prior to 1920 but Indiana, Michigan, New York, Ohio and Pennsylvania have been grouped together to show acreage trends since that time.

In Figure II the actual acreages, grouped according to harvest periods, are indicated by the heavy, curved lines and the trends[1] in acreage, for the ten year period 1917-1926, are indicated by the lighter, straight lines. A decided increase in strawberry acreage is shown in all except the late producing states.

The early acreage has shown a fairly steady increase since 1919, altho prior to that date a very marked decrease took place. The second early acreage has increased much more rapidly except that more violent fluctuations have taken place. The recent decrease in acreage in that group may be an attempt at readjustment from over-expanded acreage in 1922 to 1924.

The intermediate acreage also has increased but with less rapidity than that of the second early group and with smaller fluctuations since 1919. This group of states, like the others, saw decreases in strawberry acreage in the two seasons prior to that year.

Kentucky's acreage does not show up well in Figure II because of the scale used but the proportionate increase in this State has been almost identical with that for the intermediate group in which it is placed. Kentucky has just about kept step with her competitors in the general development of the industry.

It may be asked, Why has acreage fluctuated so much from year to year? Is it due to the influence of price? Acreage rather than production figures purposely have been used in order to eliminate variation due to weather conditions. Price information available is rather limited but such information as is

[1] Line of Least Squares.

readily obtainable indicates an effect of prices upon acreage. In Figure III the deviations in acreage from the trend, as given in Figure II for the Intermediate States, are shown in terms of

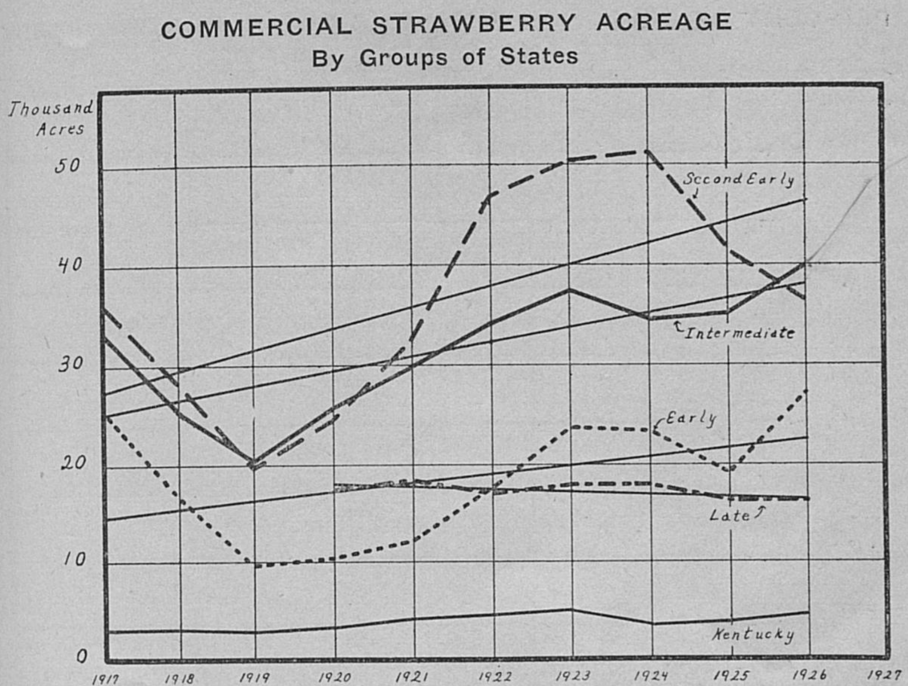

Fig. II.—Actual acreages are shown by the heavy, curved lines. The trend in acreage for each group is shown by the straight, solid lines. Kentucky is grouped with the Intermediate States. Strawberry producing states included in each group are: Early—Ala., Fla., La., Miss. and Tex. Second Early—Ark., N. C., S. C., Tenn. and Va. Intermediate—Ky., Mo., Del., Md. and N. J. Late—Ind., Mich., N. Y., Ohio and Penna.

percentages. Similar information is shown for the yearly average net prices received by the members of one of Kentucky's strawberry marketing associations. The average price for the period was $3.55 per 24 quart crate.

The effect of price upon acreage is not felt immediately. Plants which will yield one year's crop were set before the previous year's berries were picked and sold, so plantings must be based on expected returns or on prices previously received. A change in acreage probably will appear two or three years after the price change which induced it. This is commonly called a lag in the effect or influence of prices.

If the changes in strawberry acreage, indicated in Figure II, had taken place gradually, year by year, the total acreage by groups of states would be represented by the straight trend lines.

PER CENT OF DEVIATION FROM THE TREND IN STRAWBERRY PRICES AND ACREAGE (1917-1925)

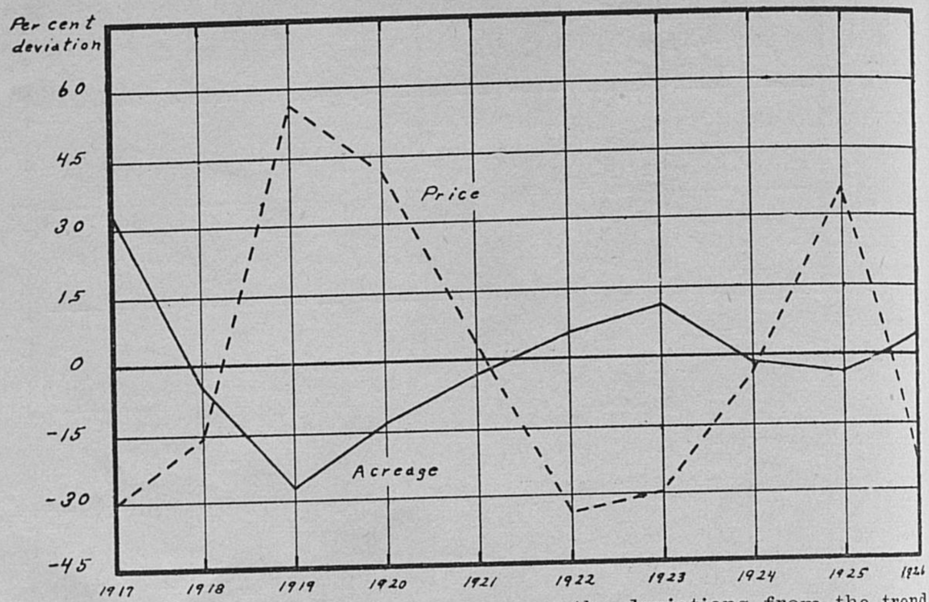

Fig. III.—Using the trend line as zero, the deviations from the trend in acreage of strawberries in the Intermediate States (see Fig. II) and the deviations from the trend of prices received by growers in one of Kentucky's strawberry marketing associations are plotted here in terms of percentage.

Thus these lines may be said to represent the "normal" acreage for each group of states. Actual acreages shown above these lines, as in 1923, may be said to be above normal and actual acreages shown below these lines, as in 1925, may be said to be below normal. Similarly a normal trend line for prices received by growers, has been constructed and used in Figure III.

An early estimate of the strawberry acreage for 1927 in the Intermediate States, indicates an increase of 21% over the acreage harvested in 1926. Such an increase will result in a total acreage in these states of 21.7% above what might be termed normal in 1927.

From Figure III it will be seen that acreage in the Intermediate States was above normal in 1917, 1922, 1923 and 1926.

The average for these being 13.6% above normal. During the same four years, prices averaged 29% below normal. During the years 1918, 1919, 1920, 1921, 1924 and 1925 the acreage averaged 8.9% below normal and prices averaged 19.6% above normal. Carload shipments from the Intermediate States averaged 27.9% above normal in the four years of large acreage and 18.6% below normal in the six years of small acreage. Acreage above normal is likely to be accompanied by prices below normal and vice versa.

In some products periods of relative over-production are followed by periods of relative under-production in successive waves or cycles. It may be that fluctuations in strawberry acreage are due to similar influences altho the information at hand is not sufficient to prove that such is the case.

Strawberries are a luxury for most people and their market is quite dependent upon general business conditions. Their production is influenced easily by whether conditions and risks assumed by growers are greater than in the production of some other crops. Producers should be aware of these facts and be prepared for some years of comparatively heavy losses as well as years of good profits. Each grower in Kentucky, who considers the growing of strawberries to be a profitable enterprise, should strive to determine what acreage of strawberries will fit into his plan of farming most profitably, and maintain approximately that acreage.[2] A policy of reducing production in periods of low prices and increasing production in periods of high prices usually goes too far or moves too slowly to be the most profitable in the long run.

We may conclude from the information given in Figure II that, from a long time point of view the strawberry industry is gradually expanding. In the future, prices will indicate whether or not this is taking place too rapidly.

It has been pointed out that Kentucky is keeping her place in the ranks of expansion. Is it wise to continue this expansion? In periods of rapid expansion it is a good business policy

[2] For further discussion see Kentucky Agricultural Experiment Station Bulletin 255, "Strawberries and Farm Profits in Western Kentucky."

to proceed cautiously. During the period 1917-1926 Kentucky shipped 11% of the cars of strawberries shipped by the Intermediate States. In 1926 about 13% of their shipments came from Kentucky. Obviously, production changes in this State alone must be large in order to influence the market materially but when combined with corresponding changes in other states the effect may be marked. Production changes in competing states should guide the action of Kentucky producers and production figures of other regions therefore are important.

QUALITY

Regardless of the keenness of competition, quality is a factor which will place any strawberry producing region in a favorable light. The producer having a product of the highest quality has a distinct advantage. Some of the growers in strawberry producing sections of Kentucky are not giving as much attention to cultural practices as is necessary for best results. Rigid inspection at the car door is essential but in itself does not improve the quality of berries. Real quality improvement must come thru cultural and handling practices.

KENTUCKY'S MARKET POSITION

Strawberries are highly perishable. The distance to market, therefore, is an important factor in handling them. Kentucky's

TABLE 3.—Population of the Fifteen Largest Cities in the U. S. (1920 Census)

New York City, New York	5,620,048
Chicago, Illinois	2,701,705
Philadelphia, Pennsylvania	1,823,779
Detroit, Michigan	993,678
Cleveland, Ohio	796,841
St. Louis, Missouri	772,897
Boston, Massachusetts	748,060
Baltimore, Maryland	733,826
Pittsburg, Pennsylvania	588,343
Los Angeles, Cailifornia	576,673
Buffalo, New York	506,775
San Francisco, California	506,676
Milwaukee, Wisconsin	457,147
Washington, D. C.	437,571
Newark, New Jersey	414,524
	17,678,543

geographical location in reference to the most important markets of this country is a point in her favor. The cities of the Northern and Eastern States and of Canada form the principal markets for Kentucky strawberries. Table 3 lists the fifteen largest cities in the United States with their total population of 17,678,000 people, as shown by the census of 1920. All except two of these cities, San Francisco and Los Angeles, are within 1,250 miles of any point in Kentucky. Nearly 36% of the people living in these fifteen cities are within 500 miles of Louisville, Kentucky, and about 90% of them are within 1,000 miles.

Growers in Arkansas and Missouri have an advantage in location with respect to such markets as Kansas City, St. Louis and Minneapolis, and the Atlantic coast regions have a similar advantage with respect to Eastern markets. Kentucky, however, has a distinct advantage with respect to such markets as Detroit, Cleveland, Buffalo, Pittsburg and possibly Cincinnati, altho the latter city gets most of its strawberries from Tennessee. The average annual unloads of strawberries at Pittsburg, Cleveland and Detroit during the years 1921-1925 were 28.6% as large as those at New York City, Chicago and Philadelphia. The apparent per capita consumption of berries is slightly greater in the smaller markets. Pittsburg, Detroit and Cleveland unloaded, on the average, during the five years, 1921-1925, one car for each 2,000 people. The three larger markets unloaded one car for each, 2,440 people during the same period. At the same time the average l. c. l. price to jobbers in the three large markets was only 3/10 of a cent per quart higher than the average in Pittsburg and Cincinnati. Comparative prices in Detroit and Cleveland were not obtained.

In parts of Kentucky the use of express refrigeration service permits a wider distribution in the sale of strawberries than is possible when only freight service is available. Express service is particularly valuable in seasons when the strawberry crop in states which normally supply the Eastern Markets is short, permitting Kentucky growers to reach those markets profitably with express shipments.

It should not be concluded that large cities are the only important markets for strawberries. In 1922, Kentucky berries went to more than 85 cities in 18 different states and Canada, Figure I. The small or medium sized cities of Northern Indiana, Michigan and Ohio furnish market outlets for many Kentucky strawberries. In 1922 about 40% of Kentucky's strawberries went to cities of less than 250,000 inhabitants[3] and in 1924 about 30% of the berries from Kentucky and North Tennessee went to cities of that size or smaller.[4]

STRAWBERRY PRODUCTION AND COOPERATIVE MARKETING

Commercial strawberry production in Kentucky is almost inseparably linked with cooperative marketing. Many people hardly realize that strawberry associations in this State are cooperative enterprises, they have developed so closely with the industry.

In 1907 and 1908, the impetus which really started Kentucky on its career as a commercial strawberry state, was a desire on the part of an ambitious railroad freight agent to increase the tonnage from his shipping point. To do this satisfactorily a sufficient acreage to permit shipping in carload lots had to be assured. A market outlet then became necessary and those farmers who grouped themselves together for mutual advantage in production made plans for selling their product cooperatively.[5] Excepting strawberries grown near Louisville and Cincinnati, and sold in those cities, practically all of Kentucky's commercial crop is now marketed cooperatively.

This, no doubt, is a healthy state of affairs but it carries certain problems with it. Probably the very fact that organization for selling has seemed necessary has held the associations together in most cases. When troubles have arisen members have not dropped out of the association and tried to sell their

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[3] Ky. Agr. Exp. Sta. Bul. 246—"The Marketing of Kentucky Strawberries."

[4] "Kentucky North-Tennessee Strawberry Deal Season 1924"—Bureau of Agricultural Economics, U. S. Department of Agriculture.

[5] For further information on the development of strawberry growing in Kentucky see Kentucky Agricultural Experiment Station Bulletin 246.

own berries but have formed a separate and competing marketing organization.

During the past few years considerable thought and study has been devoted to membership problems of cooperative marketing associations. Marketing associations are essentially sales agencies for their members and are dependent upon the patronage of their members for existence. It is essential, therefore, that the membership shall be kept in a frame of mind friendly to and enthusiastic about the association. This problem has presented itself to nearly all cooperatives in this country, from the large cotton and tobacco associations of the South to the smallest livestock shipping association or cooperative creamery of the Northern States. They feel the need of keeping their members better informed as to the affairs of the association.

Frequently it has been said that what cooperatives need most is loyal members. This may be true but to be loyal the members must have more knowledge of the association than merely the fact that they are bound by a contract to sell thru it. Cooperative marketing association officials may well take the membership into their confidence much more than has been done in the past.

Kentucky strawberry associations have not been entirely free from unrest and dissatisfaction among their members. Neither have they always been as open and frank with their members as they might have been. In some of the associations growers think of the manager much more as a local buyer than as their hired agent. Perhaps some of the managers forget, at times, that they are merely the employees of the association. It should not be construed that the managers are to take orders from any or all of the growers, in regard to association activities. A unified plan of action is essential and it should be carried out thru the board of directors. Each manager, however, should realize that he is an agent for the association and that his success in the job depends upon the results he is able to obtain, not alone in dollars and cents but also in personal satisfaction to the growers.

The manager of a small cooperative in Minnesota said recently, "It is not only our job to render to our members the most efficient service possible but also to convince them that we are doing it." Frequently members do not recognize the benefits or perplexities of cooperative marketing until they are pointed out to them. Dissatisfaction on the part of members usually can be overcome or avoided by removing or explaining the causes of events which result in such dissatisfaction. If returns on particular sales are not what were expected, it may have been due to unavoidable adjustments in prices. If final settlement is not made quickly at the end of the marketing season, it may be due to a slow adjustment of claims, a slow settlement by buyers, or other causes. Growers may be informed of such matters with safety and their confidence will be encouraged by such information. In Kentucky there are strawberry associations in which such information as prices received, methods of sale, markets shipped to, problems encountered in making sales and the like, is considered a trade secret belonging to the manager. Such an attitude on the part of officials does not inspire the confidence and loyalty of the members. Who would like to invest money in a bank or in any other business enterprise which did not furnish frequent and complete reports of its activities?

Every cooperative marketing association should strive to develop and maintain a warm, friendly feeling of confidence between its members and officials. This can best be done by being open and frank about all matters, including mistakes as well as accomplishments, problems still unsolved as well as those for which a satisfactory solution has been worked out, and by making such information readily available to members not only upon request, but before the request is made for it. The active interest of members in association affairs always should be encouraged.

FURTHER EXPANSION IN KENTUCKY

Strawberry growing in Kentucky has proved successful as a community enterprise. With this in mind, consideration should be given to the following points, by those who are contemplating the commercial production of strawberries.

1. A standardized variety should be planted by all growers in order that a uniform product for sale may be insured. Failure to do this has proved costly in the past. In Kentucky the Aroma variety has been found most satisfactory.

2. If more than the local market is to be supplied, a sufficient acreage of strawberries must be set to permit shipments in carload lots. This usually will require at least 125 or 150 acres. Most farmers have had little experience in handling strawberries so it is preferable that the acreage be distributed among a large number of growers with one or two acres each rather than among a few growers with larger patches. The distance from the shipping point should not be too great, however.

In determining the approximate acreage to be planted, it has proved helpful to secure from each prospective grower a signed statement of the acreage he will set out. This gives a definite check on acreage before planting time and aids in the purchase of plants, when this is necessary.

3. Careful attention should be given to the potential labor supply in a community and the possibility of getting pickers from elsewhere. The problem of getting good pickers is a very important one in strawberry growing. In a new producing region experienced pickers will be scarce and inexperienced pickers will require exceptionally close supervision.

4. Adequate railroad facilities for the satisfactory transportation of strawberries are essential. Express and fast freight refrigeration service has proved of great benefit to some localities in Kentucky and an unsatisfactory train schedule has proved a real handicap to others.

5. A definite business organization for the sale of berries and the purchase of supplies is essential for best results. The association should be incorporated and by-laws governing its affairs should be drawn up. The College of Agriculture can be of assistance in this respect.[6]

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[6] Kentucky College of Agriculture Extension Circular 134—"Plans for Cooperative Marketing," gives suggested forms of articles of incorporation, by-laws and membership agreements.

6. Perhaps one of the most essential features of a cooperative marketing enterprise is a competent manager in whom the members have confidence. In a strawberry association he must know strawberries, and must be able to locate and develop market outlets for them. To be successful he also must know men and be able to inspire their confidence and to keep them interested, satisfied and well informed as to association affairs.

7. The association's board of directors should be made up of men who have a vision of its purpose and opportunities and who will be willing to give considerable time to the study of association problems. Many cooperative marketing enterprises have failed because of inactivity or misguided activity on the part of their directors.

8. Quality is a very important factor in marketing. Rigid inspection and grading is necessary for the successful operation of a strawberry cooperative. Inspection is only a means to an end, however, because the real problems of quality production are in the hands of the growers. Careful methods of production and handling must be rigidly maintained for best results.

9. Another feature which will bring success to strawberry cooperatives much more easily than is possible without it, is a state of reasonable expectation on the part of members as to the possible accomplishments of these associations and the probable financial returns from strawberries. Large profits are not likely but reasonable returns for hard, conscientious work seem probable. Members who expect too much will be easily disappointed while those whose expectations are more moderate will be satisfied more easily.

CONCLUSIONS

First. A gradual trend toward increased strawberry production is very apparent. This increase probably will be accompanied by periods of relative over-production and low prices and periods of relative under-production and high prices. Kentucky has just about kept pace with competing states in this expansion. Kentucky is a rather small factor in the strawberry market and in order to be informed as to what to expect in the future, her growers must keep a close watch on what is taking place in competing states.

Second. Curtailed production in periods of low prices and enlarged production in periods of high prices usually go too far or move too slowly to be the most profitable in the long run. It seems wise, therefore, for Kentucky farmers to seek a combination of enterprises which results in the most efficient use of their land, tools and labor, rather than to jump into and out of enterprises which look to be more profitable or less profitable as the case may be. When strawberries are found to fit into this best combination of enterprises, they usually will prove profitable.

Third. Regardless of swings in production, Kentucky has a favorable geographical location in reference to markets. Excessive production during the marketing season will increase market competition. It appears, however, that Kentucky's position will permit a reasonably increased production within her borders.

Fourth. To compete successfully in the market, quality of fruit must be maintained at the highest possible level. This must be watched in new production areas where growers lack experience and in old production areas where, because of cultural methods or other factors, quality sometimes has declined.

Fifth. Existing associations and new ones that are organized should map out a definite program of furnishing information to their members and maintaining among them a spirit of loyalty. All possible points of contact between growers and their association should be developed. Information furnished to the growers should include general crop and market information, the results of each year's business, the markets patronized, problems encountered and general information relative to cooperative marketing developments. It takes more than dollars and cents returns to make a cooperative marketing association permanently successful.

Sixth. Persons proposing to establish strawberry production as a new enterprise in their community should study the situation very carefully, first as to general conditions which affect the industry as a whole and secondly, as to local conditions which indicate success or failure.