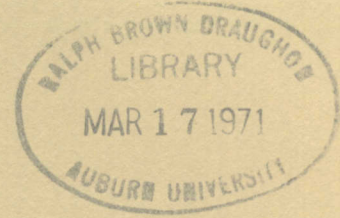


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Agricultural Economics
Series 19

June 1970



EFFECT OF QUOTA PLANS ON MILK SUPPLIES IN ALABAMA

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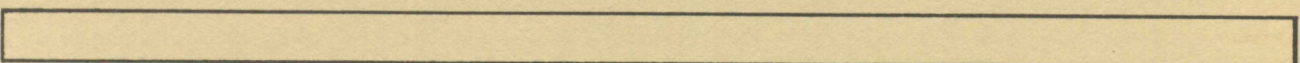


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EFFECT OF QUOTA PLANS ON MILK SUPPLIES IN ALABAMA*

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For many years the Alabama Milk Control Board has recognized the need to adjust milk production seasonally to meet the demand for fluid milk products. The Milk Control Law gave the Board authority to apportion quota of base milk among producers.^{1/} Official orders number 2 through 9, effective June 1, 1939, provided for establishment of producers quotas of Class I and II milk in the milk sheds established at that time.^{2/} Quota systems supervised by the Milk Control Board have been in effect for producer licensees continuously since the 1930's.

A producer shipping milk under a quota or base plan, the two terms will be used synonymously, establishes a base by his milk deliveries made during fall and winter months when milk supplies tend to be inadequate. The size of a base depends on the amount of milk producers shipped during the base-building period. Producers are paid the Class I price for base milk, milk used in fluid products. A lower price, Class II, is paid for milk shipments in excess of base.

*The Experiment Station project on which this report is based was supported by funds provided by the Research and Marketing Act of 1946 and by State research funds. The study was under Alabama Research Project 627, a contributing study to the Southern Regional Dairy Marketing Project SM-40, "Market Organization, Power, and Policies and Programs in the Dairy Industry.

^{1/} Code of Alabama, Title 22. Milk Control Board, Amended, 1965. Section 223.

^{2/} Alabama State Milk Control Board, Official Orders 2 through 9, Establishing price schedules in the several milk sheds. May 24, 1939.

Two quota plans are being used by the Milk Control Board to determine producer bases. The "plant usage" plan has been in effect since the 1930's, while the "alternate quota" plan was initiated in 1962. The basic purpose of each plan is the same, to adjust production to seasonal demand. However, differences in the provisions of the two plans may cause different supply responses of producers shipping under each plan. The purpose of the study was to determine the effects the two quota plans were having on milk supplies in Alabama.

Use of Quota Plans in Alabama

Until 1962, almost all Alabama producers licensed by the Milk Control Board earned quotas under the plant usage method.^{3/} In 1961 the Board put into effect an order providing for an alternative quota plan. Producers selling milk to three plants changed to the alternative plan for the 1961-62 base-building period. Producers of two additional plants voted to change to the alternative quota plan prior to September 1962. Since then, producers shipping to additional plants have voted to use this method of determining milk bases. By September 1967, producers shipping to nine milk plants were under the plan. In 1968, producers of three more plants voted to use the alternative quota plan.

A base earned under either plan is determined during the base-building period from September 1 through the last day of February. The new base is then in effect from March 1 through the last day of February of the following year.^{4/}

^{3/} A "winter production is summer base" quota plan is permitted by the Milk Control Board, but it has not been used to any appreciable extent by producers.

^{4/} Procedures for establishing bases under the plant usage and alternate quota plans are described in Alabama Agricultural Experiment Station Circular 142, November 1962.

With the plant usage method, each producer's quota is determined by the percentage his deliveries of milk during the base-building period are of total producer deliveries to his plant. For example assume a producer shipped 2 per cent of all producer deliveries to his plant between September and February. He then becomes eligible to receive the Class I price for that quantity of milk equivalent to 2 per cent of his plant's Class I product sales for the next 12 months. In determining base by this method, there is no restriction on base adjustments from year-to-year. A producer can make a large adjustment in the relative size of his base in one base building period.

In the late 1950's and early 1960's, Grade A milk production in Alabama was increasing more rapidly than demand for fluid products. A growing volume of excess milk was being used in lower class products, resulting in a general lowering of blend prices. Percentage of Alabama-produced milk used in Class I products declined from 81 per cent in 1958 to a low of 69 per cent in 1962. Average blend price declined from \$5.87 per hundred pounds to \$5.64 during the same period, Table 1.

Some producers were rapidly expanding production to gain additional quota and thereby improve their income position. Other producers had already reached a level of production they desired to maintain. Suppose a producer is earning base under the plant usage method and total producers supplies to this plant is increasing. If he wants to maintain the same percentage quota from year-to-year, he must increase production at the average rate of increase of all producers shipping to the plant or purchase base.^{5/} Thus, assignment of a base to a producer on the

^{5/} Base may be purchased from another producer shipping to the same distributor upon dispersal of the producer's herd, or upon special permission from the Milk Control Board.

basis of deliveries, the plant usage method, was creating a "race for base" by many producers. Those producers who did not wish to expand were unwilling participants in the "race".

Table 1. Grade A Milk Supply, Class I Utilization and Average Blend Price, Alabama, 1958-1969

Year	Total milk sales by Alabama producers Mil. lb.	Class I use of Alabama supply		Average blend price Dol.
		Volume Mil. lb.	Percentage Pct.	
1958 . . .	451	364	81	5.87
1959 . . .	500	389	78	5.82
1960 . . .	526	406	77	5.83
1961 . . .	566	404	71	5.68
1962 . . .	590	408	69	5.64
1963 . . .	587	420	72	5.71
1964 . . .	607	453	75	5.87
1965 . . .	652	491	75	5.91
1966 . . .	663	520	79	6.07
1967 . . .	669	548	82	6.05
1968 . . .	668	569	85	6.50
1969 . . .	678	566	83	6.77

Source: Alabama Milk Control Board.

To help relieve this problem, the Alabama Milk Control Board issued an order in 1961 providing for the alternative quota plan, whereby quotas could be assigned on the basis of sales of fluid milk products. The order stated that the quantity of a producer's milk delivered during the base building period to be used in calculating quota will not be more than 115 per cent of his share of Class I and Class II sales (fluid product sales) at the plant during the base building period.^{6/}

In 1963 the Board reduced the percentage of a producer's quota to be used in calculating the new base from 115 to 110 per cent.^{7/}

^{6/} Alabama Milk Control Board. Pricing Order No. 6, September 7, 1961. The quota provisions of the order were effective beginning September 1, 1961.

^{7/}Alabama Milk Control Board. Official Order 3-63. October 16, 1963.

Procedure used in calculating the alternate quota has been unchanged since that time. A producer is assured he will not lose base (a percentage of his plant's fluid sales), if during the six-month base-building period he shipped 110 per cent of his base, whereas, under the plant usage method he may have to ship a substantially larger quantity than base milk to maintain base.

Since initiation of the alternate quota plan, the Alabama milk supply situation has changed. Rate of increase in milk supplies from Alabama producers has dropped sharply. Since 1962 total sales by Alabama licensees increased 88 million pounds while Class I use of Alabama supplies increased 158 million pounds. Demand for fluid products was relatively unchanged in 1968 and 1969. The blend price increased, however, because of higher class prices.

An hypothesis explaining the leveling-off of milk production, in spite of higher prices, is that the alternate quota plan restricts total milk supply increases. The analysis was made to determine if the type of quota plan was having an effect on supply response.

Comparison of the Quota Plans

Data used in the study were obtained from the Office of the Alabama Milk Control Board. Staff of the Board assisted in compiling information about milk producers and milk supplies for the period from 1962 to 1969. The number of plants under the alternate quota plan has changed over the seven-year period. To simplify a comparison between the two quota plans, a sample was taken of five distributors under each quota plan since 1963.

Number and Size of Producers

A comparison of the number of producers and average annual sales per producer for each group is shown in Table 2. Total number of producers

and volume of milk supplies to the five alternate quota distributors were somewhat smaller on the average than for the five plant usage distributors selected.

Table 2. Number of Alabama Grade A Milk Producers and Average Annual Sales Per Producer by Type of Quota Plan, 10 Selected Milk Distributors, 1963, 1966, 1968, 1969 1/

Year (March-February)	Number of producers	Index of change (1963-64=100)	Av. annual sales per producer	Index of change (1963-64=100)
	<u>No.</u>		<u>Thous. lb.</u>	
Five distributors under plant usage quota:				
1963-64	344	100	469	100
1966-67	327	95	621	132
1968-69	260	76	809	172
1969-70	258 <u>2/</u>	75	843	180
Five distributors under alternate quota:				
1963-64	281	100	473	100
1966-67	208	74	650	137
1968-69	157	56	868	183
1969-70	148 <u>2/</u>	53	912	193

1/ Number of Alabama producers for the selected distributors was obtained from list of producers licensees of the Alabama Milk Control Board.

2/ As of December 31, 1969.

Number of Alabama producers shipping to the alternate quota distributors was 281 in 1963-64 as compared with 344 producers for plant usage distributors. Since then, number of Alabama producers shipping to both groups of plants has declined, but the sharpest drop in number was alternate quota producers. At the end of 1969, plant usage

producers declined to 258, 75 per cent of 1963-64, while alternate quota producers dropped to 148, 53 per cent of the 1963-64 total.

Average sales of milk per farm increased for both groups of producers. However, alternate quota producers increased sales more rapidly than plant usage producers. In 1969, average sales for alternate quota producers were 912 thousand pounds, 93 per cent above the 1963-64 average for that group. Plant usage producers averaged 843 thousand pounds, an 80 per cent increase.

Out-of-State Purchases of Milk by Distributors

Plants under the plant usage plan were more dependent on out-of-state milk supplies in 1963 than alternate quota plants--13.7 per cent for the former and 11.4 for the latter, Table 3. Since 1963, both groups have increased their dependency on out-of-state sources, but the five plant usage plants made the larger increase

Table 3. Percentage Alabama Produced Milk Supplies and Imports Were of Total Supplies by Type of Quota Plan, 10 Selected Distributors, 1963-1969

Year (March-Feb.)	5 distributors under plant usage quota		5 distributors under alternate quota plan	
	Alabama produced milk	Out-of-State purchases	Alabama produced milk	Out-of-State purchases
-----Pct.-----				
1963-64	86.3	13.7	88.6	11.4
1964-65	86.8	13.2	89.1	10.9
1965-66	86.9	13.1	89.2	10.8
1966-67	85.2	14.8	88.1	11.9
1967-68	82.9	17.1	88.0	12.0
1968-69	80.1	19.9	85.6	14.4
1969-70	79.6	20.4	85.9	14.1

Changes in Alabama Supply

It was anticipated that the data would show little change in total Alabama supplies of alternate quota producers and continued increases by plant usage producers. Also, average annual sales per alternate quota producer were likely to be more stable than plant usage producers. In the first case, Table 4 shows that total Alabama supplies for the five alternate quota distributors have been practically unchanged since 1963--increasing in 1965-66 to a high of only 4 per cent above 1963-64 and back to the beginning level in 1969. Plant usage distributors received 35 per cent more Alabama-produced milk in 1969 than in 1963-64. In the second case, average alternate quota producers are making production increases greater than plant usage producers, Table 2. However, a larger proportion of alternate quota producers left dairying.

Table 4. Index of Change in Alabama Produced Milk Supplies by Type of Quota Plan, 10 Selected Distributors, 1963-1969

Year (March-Feb.)	5 distributors under plant usage plan	5 distributors under alternate quota plan
----- Index Number (1963-64=100) -----		
1963-64	100	100
1964-65	113	102
1965-66	123	104
1966-67	126	102
1967-68	136	102
1968-69	130	103
1969-70	135	101

Class I Utilization of Alabama Supply

It was hypothesized that milk producers voting to go under the alternate quota plan generally were receiving a larger percentage of

surplus than producers remaining under the plant usage method. Also, if the alternate plan tended to restrict supplies, then the relative proportions of milk used in Class I would have changed since 1963.

Empirical observation bears out these hypotheses, Table 5.

Table 5. Percentage of Alabama Milk Supplies Used in Class I Products by Type of Quota Plan, 10 Selected Distributors, 1963-1969

Year (March-Feb.)	5 distributors under plant usage plan	5 distributors under alternate quota plan
	----- Pct. -----	
1963-64	78.0	69.6
1964-65	79.0	73.9
1965-66	81.1	75.2
1966-67	85.5	78.3
1967-68	84.2	86.3
1968-69	84.2	91.2
1969-70	83.7	89.0

In 1963, Alabama producers shipping to the five alternate quota plants received Class I payment for 69.6 per cent of deliveries. Producers shipping to the five plant usage plants received Class I prices for 78.0 per cent of deliveries. Since then, the percentage of Alabama milk supplies utilized in Class I products increased for both groups of plants. However, by 1967 alternate quota producers were receiving a higher proportion of Class I than the other group. During the 1969-70 12-month period, 89.0 per cent of shipments by alternative quota shippers were used in Class I, compared with 83.7 per cent for plant usage producers.

Probably the major reason most producers voted to go to the alternate quota plan was to protect their bases without having to

produce larger and larger amounts of surplus milk. Under the plan these producers have little opportunity of expanding quota by increasing production during the base-building period. On the other hand, plant usage shippers may make large base adjustments in short periods of time.

Purchases of Supplementary Supplies by Distributors

Data showing purchases of supplementary milk supplies by all Alabama distributors were obtained from the Milk Control Board. A comparison was made of supplementary purchases by distributors by type of quota plan. Information was obtained for the 12-month period from March 1968 through February 1969. During this period distributors under the plant usage plan received 72 per cent of all milk supplies purchased by Alabama distributors and alternate quota distributors the remaining 28 per cent.

A total of 19.1 million pounds of supplementary purchases was reported by distributor licensees, Table 6. Of this amount alternate quota plants purchased 9.4 million pounds or 49 per cent of the total. (These plants received 28 per cent of total supplies). Thus, alternate quota plants were relatively more dependent on supplementary purchases.

Sales of bulk milk supplies by all Alabama distributors were studied for the same 12-month period, Table 7. Alternate quota distributors made relatively fewer sales of bulk milk than plant usage distributors, 18 and 82 per cent, respectively.

Summary and Conclusions

The alternate quota plan has not only ended the race for base existing among producers who went under the plan, but it also appears to have stopped aggregate supply increase from these producers. In

Table 6. Purchases of Supplementary Bulk Milk Supplies by all Alabama Distributors, by Type of Quota Plan, March 1968-February 1969 1/

3-mo. periods	Distributors under plant usage quota		Distributors under alternate quota <u>2/</u>		Total Mil. lb.
	Mil. lb.	Pct.	Mil. lb.	Pct.	
March-May	1.5	38	2.4	62	3.9
June-August	2.4	64	1.4	36	3.8
Sept.-Nov.	3.1	55	2.5	45	5.6
Dec.-Feb.	2.7	46	3.1	54	5.8
Total	9.7	51	9.4	49	19.1

1/ During the 12-month period distributors under the alternate quota plan received 28 per cent of all milk supplies purchased by distributor licensees of the Alabama Milk Control Board. Distributors under the plant usage quota plan received 72 per cent of all milk supplies.

2/ Alabama distributors whose producers earned quotas under the alternate quota plan for the period March 1968-February 1969 were Barber Dairy (Mobile), Consolidated Dairies, Dairyland Farms, Hall Brothers, Paschal Dairy, Streit Dairy, Tro-Fe Dairy, Turner Dairy, and Woodhaven Dairy. During 1968 producers shipping to Barber (Montgomery), Delview, and Pet voted to use the alternate quota plan. Bulk purchases made by these distributors are included as part of the plant usage distributors.

Table 7. Sales of Bulk Milk Supplies by all Alabama Distributors by Type of Quota Plan, March 1968-February 1969 1/

3-mo. periods	Distributors under plant usage quota		Distributors under alternate quota		Total Mil. lb.
	Mil. lb.	Pct.	Mil. lb.	Pct.	
March-May	5.2	84	1.0	16	6.2
June-August	3.4	74	1.2	26	4.6
Sept.-Nov.	1.4	91	.1	9	1.5
Dec.-Feb.	4.9	84	.9	16	5.8
Total	14.9	82	3.2	18	18.1

1/ See footnotes 1 and 2, Table 6.

1969, total producer sales to the five alternate quota plants studied were at the same level as in 1963-64, the first year of operation of the plan. Producer sales to the five plant usage plants studied increased about one-third.

The 15 per cent increase in Alabama produced milk supplies since 1962 was less than the demand increase for Class I products, up 33 per cent. Percentage utilization of Alabama supply in Class I products rose from approximately 70 per cent in 1962 to 85 per cent in 1968 and dropped slightly to 83 per cent in 1969. During the period Alabama distributors increased out-of-state purchases 40 per cent.

Since the early 1950's there has been a trend among producers to either expand their production units or go out of business. In this study, the tendency to get larger or go out of business was more pronounced for alternate quota producers. In the past 7 years, almost half of the alternate quota producers shipping to the five distributors studied left dairying, while those remaining in the business almost doubled milk sales per farm.

Reasons for producers leaving dairying were not determined in the study. A number of factors both economic and non-economic influence dairymen in this decision. It is likely that the differences in provisions of two quota plans influence the rate of exit of producers, as well as adjustments being made by those who remain in dairying. Plant usage producers can make substantial increases in bases in only one base-building period by increasing production at a rapid rate. An alternate quota producer or a potential alternate quota producer cannot increase base in this manner. His most practical way is through base

purchases, and then only when other dairymen shipping to his plant leave the business.

Base is a valuable and negotiable asset for dairymen. Alternate quota bases have generally sold for a higher price than plant usage bases. Value of an alternate quota base may have been a determining factor to sell for some dairymen. From the producer's viewpoint, uncertainty regarding regulations providing for sale of base, as well as uncertainty of continued regulation by the Board, may influence him to leave the business. In some instances, income from base has been an important proportion of total dispersal income. With a larger percentage of milk being used in Class I as has occurred during the past few years for alternate quota producers, the reported market values for base has declined, however.

The alternate quota plan is having a discernible effect on the dairy industry in the State. The plan tends to encourage production and marketing efficiency, as well as protecting quota holding producers share of the market. However, some aspects of the alternate plan may work to endanger the adequacy of Alabama produced milk supplies. The production restriction under the alternate plan (110 per cent maximum to establish base) is too low to encourage adequate supply response. Raising the maximum percentage to determine base may stimulate a supply increase. A formula could be devised to adjust the maximum percentage of producer shipments to be used in determining base dependent upon the percentage of milk used in Class I products. The base percentage would be raised when most of the milk supply is used in Class I and lowered as excess supply increases.

Information is needed regarding the reasons so many alternate quota producers have left dairying. If the plan has been a factor in this respect, other changes in the plan should be considered.

