MAINE

INTERIM STUDY

COMMITTEE

Report On The

DAIRY INDUSTRY

STATE OF MAINE

102nd LEGISLATURE

REPORT OF INTERIM STUDY COMMITTEE

ON THE DAIRY INDUSTRY

Senators -
- Donald V. Carter, Chairman
- Carlton D. Reed, Jr.
- Ralph B. Hilton
- Mary E. Chisholm

Representatives -
- Dana W. Childs
- George A. Carroll
- George V. Hunter
- Arnold E. Jordan
- Raymond N. Faucher
- Keith Anderson - resigned

Consultant - Professor James R. Bowring
College of Agriculture
Department of Resource Economics
University of New Hampshire
Durham, New Hampshire

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REPORT OF THE DAIRY STUDY COMMITTEE

Since the 1950's the dairy industry of the United States has experienced major production adjustments due largely to improved techniques of farm management which encouraged production of milk in greater quantities than the market could absorb. This resulted in a downward pressure on farm milk prices so that returns to dairy farm operators fell to levels considerably below those received in related industries. The pressure of high costs and low prices and the availability of alternative job opportunities caused many farmers to change their occupations. Between 1949 and 1964 the number of farms in the United states reporting sale of milk or cream declined by 1 1/3 million. Vermont lost about 6,000 such farms. New Hampshire, Massachusetts, and Connecticut each lost over 3,000 farms, while Maine lost about 7,000. The decline continued until 1965 when the national supplies of milk started to fall below market needs. While resources continued to move out of milk production the prices for milk under Federal Orders failed to respond to demand in the major United States markets. Prices were not being adjusted with sufficient speed to slow the exodus from dairy farming. Eventually orders to raise the support price for Class II milk were issued by the Secretary of Agriculture and further adjustments are being demanded of him by producers groups.[1]

Milk producers in Maine have faced the same market price and cost problems as in other areas. The effect on producers' income in Maine, however, has not been uniform. Unlike other New England states Maine is not in a Federal Order program.

1. Price is only one of the factors accounting for the decline. Others are unwillingness of young men to stay on the farm or enter into farming when other jobs are available with shorter hours and higher pay.

Instead milk prices are established by the Maine Milk Commission. This commission is appointed by the governor and is composed of two producers, a dealer or producer-dealer and two consumers. The commission has the power to supervise, regulate and control the purchasing, distribution and sale of milk within the State supplementary to existing regulations in cities and towns of Maine.

Aware of the increasing cost of producing and processing, the Milk Commission raised the prices to be paid producers selling on markets in Maine. At the same time it stabilized the retail and wholesale prices of all milk to ensure an adequate dealer margin for processing and distribution. To raise producer prices has meant establishing Maine prices above the zone prices of the Massachusetts-Rhode Island Federal Order. Federal Orders are primarily concerned with auditing dealer records and ensuring producers a blend price for their milk accurately reflecting the many uses and prices of the milk.

The Administrator of the above Order establishes the market price in the nearby city plants in Boston and the surrounding zones based on regional demand and supply. The two classifications for all milk sold in this milkshed are Class I for fluid use and Class II for cream and other non-fluid use. The Class I price generally exceeds the Class II price and the "blend" or weighted average price is the price received by producers. For example, if the proportion of Class I were 80 percent then the "blend" price would be higher than if the Class I proportion were 50 percent.

The majority of milk produced in Vermont, Massachusetts and Rhode Island (and perhaps New Hampshire by 1967) is priced under the above Massachusetts-Rhode Island Federal Order so that prices do not get out of line among the markets, and producers are guaranteed their share of the total market returns through a market "blend" price.

The Maine Milk Commission has adopted the Boston city plant price as the Class I price for the Maine markets. Local dealers calculate their own "blend" price based on Class I use and they pay producers this price. Most of the smaller dealers handling about 30% of the total receipts have a Class I use of 70% to 100%, whereas the larger dealers may have a lower proportion of Class I. The State markets average about 75% Class I while the Boston Market averages only about 58% of Class I.

Some of the thousand Maine producers selling to a local dealer may have two advantages: (1) they may sell for a higher Class I price and (2) their dealer may pay them a higher "blend" price because he purchases a minimum of Class II milk.

This scheme of pricing is dependent on the cooperation of the dealers. Without their agreement to pay the minimum price they would be free to buy from cheaper sources, as for example the Federal Order shippers. Therefore their demand for a guarantee of minimum wholesale, store and retail prices is granted.

The Maine Class II price is the same as that in the Federal Order of Massachusetts and Rhode Island less transportation costs of 26 cents. This rate was established to cover the cost of transporting milk to the NEMPA surplus plant in Andover, Massachusetts. Not all surplus milk is so shipped, however, and this may lead to extra payment by producers. In general there are as many prices as there are producers. For example, a producer-distributor will sell only fluid milk and receive the full Class I price for production. Another producer will sell to a Maine dealer at the dealer's "blend" price. The "blend" prices will vary among dealers. Not all dealers pay a premium price to Maine producers. For example, dealers may also pay Class II prices for milk which they later sell

outside the state as Class I at prices determined by out-of-state market forces.

Federal Order Market Shippers

Some Maine milk producers do not benefit from the Maine Milk Commission's policies. Over 700 producers cannot find a local market with city plant prices and high Class I use. They have to ship to markets in the Massachusetts-Rhode Island Federal Order which pay a lower "blend" price. Producers shipping out of state to the Federal Order markets may receive as much as $1.00 per hundredweight less for milk than the local market shippers. The cost-price squeeze has been felt by this group. Their number fell from 1,323 in 1962 to 816 in September 1966. Alarmed at the rate of reduction and concerned at the exodus of their youth from dairy farming, these producers have asked for State help.

Because the milk is not sold within the State, the Milk Commission has not seen fit to control any phase of the marketing of milk from these producers, and built-in disparities in price have developed in Maine.

Policy

The development of a long run policy for the Maine dairy industry depends on how the following two questions are answered.

1. Is Maine prepared to take measures to reduce the decline in the number of dairy farmers?

2. Should all dairymen in the State benefit equally from the minimum prices established by the Milk Commission?

If the answers are in the affirmative to the questions, then one or more of the following steps should be considered:

Subsidy Payment:

Correct the existing price inequities among Maine producers by paying from general funds a subsidy to those producers selling solely on out-of-state markets.

Statewide Pool:

Create a statewide pool in which all producers selling to dealers receive the same basic "blend" price (exempting producer-distributors). This would require the voluntary cooperation of all producers and dealers. All dealers would report purchases and sales to the Maine Milk Commission which would then announce the "blend" price to be paid producers. The State would assume responsibility for operating the pool and pricing the milk at suitable levels to meet farm income needs and to maintain sales in and out of the State at no time lower than equivalent Federal Order prices. The present 26 cent deduction from Class II price should be abolished and transportation charges for Class II milk paid at the time of shipment.

Milk will become available to some dealers at a somewhat lower "blend" price which could then be passed on to consumers. There would be less need of minimum retail prices, as the same price for milk would be paid by all dealers except for transportation differentials. This would also put them in a position to meet competition from out of state milk. Maintenance of minimum prices may be retained for a transition period, but greater flexibility in the prices of gallon and half-gallon containers should be allowed so that consumers may benefit from any reduced processing costs which are possible.[1]

1. The Maine Milk Commission has authority to adopt the necessary regulations. See Addendum Maine Milk Commission Law Sec. 2953-A, 1965.

State Federal Order

Maine producers and dealers may be encouraged to request a Federal Order for the State. Under this scheme the same price-pooling techniques as in the state-wide pool would be followed, but greater control over interstate trade in milk and prices would be possible, and unfair competition from underpriced milk eliminated.

Regional Federal Order

Maine producers and/or dealers may request the Secretary of Agriculture to hold hearings to discuss the extension of the Massachusetts-Rhode Island Federal Order to include Maine. Under this scheme all the Maine Class I sales would be pooled with the Class I sales of the other member states. The total market would be zoned and base prices established. As New Hampshire is also being considered as part of this market the additional Maine Class I sales could raise the "blend" price by as much as 10 cents per hundredweight without considering increases which may occur because of short supplies.

A further question to be answered:

Is Maine prepared to let outside state market forces continue to determine the price of milk received by producers shipping milk out of the state? If so then appeals to the Secretary of Agriculture can be made to raise the Massachusetts-Rhode Island Federal Order prices. Prices have risen during the last year. Assuming that they will continue to rise, Maine producers will benefit. This would not, however, change the existing Maine price disparities because the Maine minimum price is currently tied to the Boston city plant price and automatically rises or falls with that market price. Moreover, although the low income problem

for one set of producers would be partially solved, the problem of overpricing would be created. This could encourage competition from out of the State and perhaps excess production within the State.

A strong market for milk requires a healthy industry for processing and distribution. Any milk pricing scheme must be prepared in cooperation with the dealers. Most dealers whose operations are sufficiently big and efficient are receiving adequate returns. The number of small dealers in Maine is declining rapidly and while four dealers now handle 61% of the milk, the pressures of increased costs of labor and material can be expected to drive out more dealers. With the exception of a few producer-distributors the proportion of milk handled by four dealers may well reach 70 or 80 percent in the future. If necessary the bargaining power so created can be kept in balance by the authority of the State.

FARM INSPECTIONS

The incidence of milk barn diseases in the U. S. has been reduced in recent years. In 1938 they constituted 25% of all disease outbreaks due to infected foods and water. Milk is now associated with only 2 1/2% of such reported outbreaks. Many groups have contributed to this achievement .... The Public Health Service has contributed to the protection of the milk supply of the nation through technical assistance, training, research, evaluation and certification activities .... problems associated with the sanitary control of milk have become complex because of new products, new processes, new chemicals, new material and new marketing patterns.

The responsibility for insuring the ready availability of and safety of milk and milk products is not confined to an individual community or a State or the Federal Government, it is the concern of the entire Nation. [1]

The grade A Pasteurized Milk Ordinance was not produced by the Public Service alone. It was developed by milk sanitation specialists representing production, processing, administration, education and technology.

The general adoption by states of the National Ordinance for the examination of milk and milk products would facilitate the shipment of milk across state lines without discrimination of one group of producers from another.

"Experience has demonstrated that a strict enforcement of the ordinance leads to a better and friendlier relationship between the health authority and the industry." [2]

1. 1965 Recommendation of the U.S. Public Health Service Grade A Pasteurized Milk Ordinance.
2. Ibid. p. 36.

In addition to the influence of the Public Health Service Ordinance there is a Code of Agreements adopted by a National Conference on Interstate Milk Shipments. In New England uniform dairy standards were established at a Governors Conference of Milk Officials, March 1962.

Rhode Island, Maine, Vermont and New Hampshire agreed on their inspection requirements. Milk can move between these states without further inspection of farms and still meet the requirements necessary before permission to import is granted by the Commissioners of Agriculture or whichever authority is responsible for milk inspection.

The interpretation of inspection requirements in Massachusetts and Connecticut are not quite the same as in the rest of New England. This implies that a Maine producer shipping to Massachusetts will be inspected by the Maine inspectors every six months. In addition the dealer to whom he is shipping may inspect his farm (although because of cooperation of dealers with the State Department of Agriculture he is likely to accompany the State inspector) and the Massachusetts inspector visits for an official inspection before shipments to his state are allowed. Any differences in interpretation which may exist can cause inconvenience to and resentment by the milk producer. It would not be correct to imply from the evidence on hand that one inspection is or is not more rigorous than the other. However, it does point to the value of adopting the Public Health Service or some other standards by those states practicing interstate shipments.

With short supplies likely in some years, milk may have to be purchased on short notice from out-of-state dealers or producers. To know that such states have the same regulations and the same interpretation would facilitate this movement.

Maine buys from New Hampshire or Vermont without question and vice versa.

The purchase of milk for use in military bases or other federal installations is likely to require farms supplying this milk to meet Public Health Service Ordinance. Perhaps milk used in school lunch programs may have to meet this inspection before deliveries can be made. The Public Health Service provides training courses and farm visits attended voluntarily for purposes of encouraging uniformity in interpretation of the ordinance. The differences in New England are in general so minor that one could expect elimination of all differences in the near future if appropriate action is taken.

Therefore it is recommended that the Maine Commissioner of Agriculture proceed to open talks with the Massachusetts Commissioner of Agriculture for the purpose of standardizing their inspection requirements. When feasible, mutual acceptance of the inspection services of the two states should be adopted so that duplicate inspection can be eliminated.

HAULAGE RATES IN MAINE

An examination of a sample of rates for different lengths of haul from farm to plant shows no particular pattern. Rates may be 30 cents for a 30 mile haul or 33 cents for a 2 mile haul. For 9 miles haul the rate varies from 25 to 55 cents per cwt.

The majority of dealers hauling milk for local consumption own their trucks. There are a smaller number of independent truckers and a few farmers with their own trucks.

The establishment of rates is presumed to be by agreement between the dealer and the producers or between the truckers and producers. In other states the independent trucker rate is frequently left to open market forces. That is, where truckers bid for the business, the rates are presumed to reach levels somewhat close to cost.

In the case of dealer owned trucks, however, the competition is not so evident. The peculiar nature of the Maine Milk Market provides a higher administered price for milk processed and sold in Maine than for milk which is hauled out of state. Therefore, local markets are at a premium for many producers which places dealers in a somewhat superior bargaining position. This might encourage the establishment of haulage rates in excess of what would be reached under competition. This is not necessarily so, but the conditions exist for the occurrence of such an event. Pennsylvania faced with the same problem established a maximum rate for dealers which can be increased only on appeal.

In Maine the 102nd Legislature passed an act which states, "Any dealer may deduct an allowance for transportation from the producer's farm to the dealer's dairy plant pursuant to a reasonable schedule of charges filed with the commission, with a copy to each affected producer, at least 30 days prior to the proposed effective date. Any interested producer or any organization representing producers may petition the commission at any time to review the reasonableness of any such schedule of transportation charges, and the commission is empowered to suspend proposed schedules pending hearing, and, after hearing, to disapprove and reject any schedules, then pending or theretofore in effect, found to be unreasonable."

It is recommended that a set of rates be established based on average load and distance of farm from plant which shall be used as a guideline for Maine dealers and producers and the Maine Milk Commission. Such rates shall be considered for the State or the regions of the State as maximum until and unless evidence is presented to indicate hardship for the dealer or the producer if continued.

STATE OF MAINE

102nd Legislature

REPORT OF INTERIM STUDY COMMITTEE ON THE DAIRY INDUSTRY

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THE MAINE DAIRY INDUSTRY

There has been a steady decline in the number of farms in Maine for the last two decades. There were 30,358 farms of all types in 1949 and by 1964 the number had decreased to 12,875. The number of dairy farms also decreased in this period from 4,944 in 1949 to 2,039 in 1964 and is still decreasing. In 1949 16.3 percent of the farms were classified as dairy farms. This went up to 19.66 percent by 1954 but then declined to 15.8 percent by 1964.

Kennebec, Penobscot, and Somerset are the counties with the largest number of dairy farms. (See appendix I for details by counties).

While there were only 2,039 farms classified as dairy in 1964, there were 5,414 commercial farms reporting milk cows. We can presume that the milk from these additional cows is not sold through processors and is consumed on or near the farm where it is produced.

Milk cow numbers declined from 101,861 in 1949 to 75,582 in 1964, a reduction at the state level of 26 percent. The reduction in numbers is more pronounced in some counties than others. For instance there was a 48 percent decrease in Aroostook, in Hancock a 75 percent decrease and in Washington County a 49 percent decrease from 1949 to 1964. (See appendix 2.)

While the number of milk cows decreased, the total milk production increased from 410 million pounds in 1949 to 635 million pounds in 1959, which then decreased to 592 million pounds by 1964. Every county except Hancock and Sagadahoc increased milk production between 1949 and 1964. Androscoggin, Kennebec, and Piscataquis counties showed the highest rate of increase. It is of interest to note,

however, that while milk production is greater in 1964 than in 1949, there has been a decline in total production from 1959 to 1964. In other words, the peak reached in 1959 appears to have fallen off. (Appendix 3)

Value of Dairy Products Sold

The value of dairy products sold increased from 24 million dollars in 1949 to 32 million dollars in 1964. However, the value of all Maine farm products sold also has been increasing and totaled 256 million dollars in 1964. Thus the position of dairy product sales relative to the total of all farm product sales declined from 18.7 percent in 1959 to 12.5 percent in 1964. The decrease in relative importance is most pronounced in Hancock, Kennebec, and Sagadahoc counties.

Comparison with Poultry

By the way of comparison, the value of poultry products sold increased from 26 million dollars in 1949 to 73 million dollars in 1964. This was 29.5 percent of all farm product sales in 1949, and 28.7 percent in 1964 as compared with 17.4 percent and 12.5 percent of total sales for dairy products on the same time periods.

Change in Size of Farms

There has been a continuous decrease in the number of dairy farms operating with less than 10 cows. On the other hand the number of farms with 30 or more cows has increased as indicated in the following table.

TABLE 1

Changes in Herd Size on Commercial Farms

Cows per Herd	(1950) Number of Farms	Percent	(1960) Number of Farms	Percent
1 to 9	4,918	57.8	2,347	42.3
10 to 29	3,312	38.9	2,338	42.1
30 to 49	235	2.7	685	12.3
50 and over	50	.6	183	3.3
Total	8,515			

Milk production per farm has increased and the proportion of total sales by the larger farms is greater than it used to be.

TABLE 2

Pounds of Milk Sold per Farm

	Number of Farms	Millions of lbs. of Milk and Cream Sold	1,000 lbs. per Farm
1950	8,662	410.4	47.3
1954	7,102	519.3	73.1
1960	5,020	635.7	126.6

THE COST-PRICE SQUEEZE

The decline in number of dairy farms and the increase in size of those remaining is a trend which can be expected to continue. It is in part a result of the demands of the industry for high quality milk and the adoption of changes to meet more stringent on-farm inspection requirements. It is in part a result of the higher costs of the additional equipment required, of labor, and of feed and fertilizer inputs and of taxes.

In addition, the availability of alternative employment has attracted youth away from dairy farming into the poultry industry or to non-farm occupations where wages per hour are higher. The indices of change as determined by the U. S. Department of Agriculture indicate some of the basic characteristics which can in part explain the difficulties being experienced by dairy farmers in the northeast region.

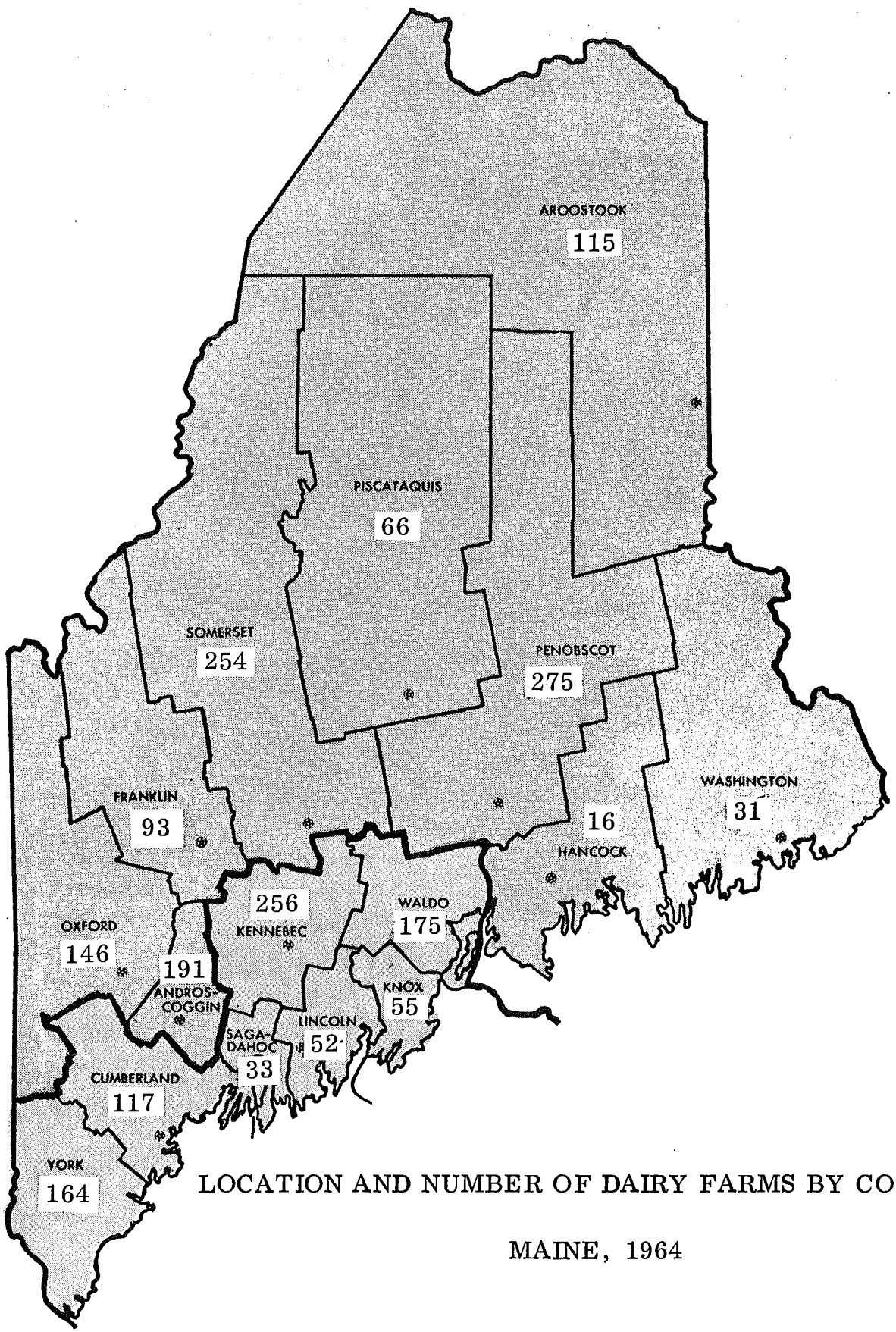
Using the period 1957-59 as the base period with an index of 100, gross farm income for a typical northeast dairy farm increased to an index of 129 by 1964 but the net farm income decreased to 97. The index of net farm production increased to 126 and production per man hour went up to 120. The index of operating expenses per unit of production increased to 109. On the other hand, the index of prices received for farm products declined by 5 percent and prices paid including hired labor increased 5 percent. With costs higher and returns lower, the northeastern dairy farms and the Maine dairy farms have experienced a cost-price squeeze which, if continued, will drive more resources out of dairy farming. Some of the changes which affect net income are illustrated in the following table.

TABLE 3

Cost and Returns of Northeast Dairy Farms 1/

	Average 1957-59	Average 1964
All cattle	40.4	48
Milk production per cow (lb.)	7,720	9,230
Total farm capital (dollars)	$35,400	45,500
Gross farm income	$11,597	14,937
Total costs expenditures	$ 745	11,028
Net farm income	$ 4,299	4,178
Return per hr. labor on capital at current interest rates	.66	.41

1/ USDA, ERS, Agriculture Information Bulletin 230.



LOCATION AND NUMBER OF DAIRY FARMS BY COUNTIES

MAINE, 1964

The table indicates the increase in size of herd and of milk production per cow and the increased use of capital which with higher production costs and prices of factors has lowered returns on capital invested.

THE DAIRY FARM BUSINESS ANALYSIS

The ELFAC dairy business analysis of New Hampshire and Maine dairy farms provides data on farm costs and farm returns. 1/ The same 20 farms with 33 to 35 cows per farm were compared in 1962, 1963, 1964 and 1965. The labor income is given in the following table.

TABLE 4

Receipts, Expenses and Labor Income for the same 20 New Hampshire and Maine Dairy Farms (33-35 cows)
(dollars)

	1962	1963	1964	1965
Total Receipts	25,379.00	27,332.00	27,529.00	27,901.00
Total Expenses	18,720.00	20,136.00	20,420.00	21,058.00
New Cash Income	6,659.00	7,196.00	7,109.00	6,843.00
Inventory Change	+728.00	+146.00	-162.00	-338.00
Depreciation of Equipment	874.00	938.00	999.00	1,006.00
Interest on Investment	2,148.00	2,283.00	2,288.00	2,408.00
Value of Unpaid Labor	584.00	315.00	278.00	771.00
Labor Income	3,781.00	3,806.00	3,382.00	2,320.00

1/ Ext. ABE 140, Department of Agricultural Business and Economics, University of Maine, Orono.

A further analysis of labor income to owners of small, medium and large herds indicates the relationship to size for 83 Maine and New Hampshire dairy farms.

TABLE 5

Labor Income for Small, Medium and Large Herds of 83 Maine and New Hampshire Dairy Farms

Average Number Cows	23	38	66	41
Number of Farms	19	47	17	83
Labor Income (dollars)	2,367	4,044	5,421	3,938

A study in Vermont 1/ shows even lower labor incomes than in the Maine and New Hampshire farms. The following table indicates the influence of size on returns.

TABLE 6

Financial Returns for Dairy Farms in Vermont (1960)

	Cows per Farm		
	10-39	40-79	80 or more
Number of Farms	56	66	56
Farm Receipts	$10,078	$24,021	$49,684
Farm Expenses	7,589	18,364	38,970
Farm Income	$ 2,489	$ 5,657	$10,714
Int. on Capital at 5%	1,631	3,576	6,545
Labor Income	$ 858	$ 2,081	$ 4,169

1/ Large Dairy Farms in Vermont, Bull. 643, 1966. Vermont Agricultural Experiment Station, Burlington, Vermont.

MARKETS

The returns from continued milk production are of course dependent on the market. The market must be big enough and pay a price high enough to provide an income to farmers and handlers which will encourage continued production. Maine dairy farmers are not organized into significantly large bargaining associations. Therefore, they in general seek out their own particular market outlets. For example, there is the producer-distributor who assumes responsibility for producing, processing, packaging, and delivering to customers.

A more common method is for producers to sell to dealers or processors who pick up or arrange to have the milk picked up at the farm for delivery to the processing plant where transfer of ownership is conducted after inspection for quality and testing for butterfat. The price paid by the dealers to producers in an open market system is dependent on the market prices paid for the processed product in its various forms as delivered to the customer at his home or to the store.

Derived Demand

We can say then that the demand for producers milk at this farm is a derived demand and will change as the consumer demand for the processed products change.

The difference between the two demand schedules, is the spread to cover costs of processing and distribution. If the consumer price goes up then dealers can pay producers more for their milk, If, on the other hand, consumer prices fall, the dealers will pay producers a lower price. This is based on the assumption that the efficiency or cost of processing and distribution remains the same. Obviously if the dealer costs are reduced then higher prices can be offered farmers

even without an increase in consumer prices. Similarly, a decrease in efficiency of dealers will force them to offer lower prices to farmers and higher prices to consumers in order to stay in business. In an open market if there are numerous farmers trying to sell milk, the farm price will be as low as the lowest price a farmer will accept for his milk. The dealer will pay as low a price as necessary to obtain the milk. On the other hand, if the supply of milk is short and dealers are searching for additional milk to meet their consumer demand, they will be willing to pay more for this milk and farm prices will rise. Such short run situations do occur. However, if the rise in price continues, producers may decide to increase milk production to increase their revenue. The additional supplies produced after the necessary time to raise heifers or buy milkers, will then create more supply and force prices down again. Supply can also be increased by heavier feeding.

Such price supply movements are typical in markets for agricultural products, particularly for perishable products, such as milk which cannot be stored for any length of time by producers, and which have to be marketed irrespective of the effect on price. Farm revenue therefore, can fluctuate in an unpredictable manner while the prices of inputs farmers buy may remain steady or increase.

The prices which dealers charge consumers for milk and milk products reflects the competition on these markets. At one time such retail markets were isolated from one another and a price difference between markets could exist for some time. With modern transportation and communication, however, and assuming no institutional barriers such as in Maine milk and milk products are shipped

quickly from lower price to higher price markets until such times as returns to producers for the same product tend to be equal in all markets.

Change in Bargaining Position of Producers

In order to escape being tied to one dealer, producers have attempted to process and deliver their own milk or have processed the milk of one or two neighbors as producer-distributors. With the increased health and sanitation regulations and costs of labor and equipment many such dealers have gone out of business and an increased proportion of milk sales is in the hands of fewer and larger dealers able to take advantage of economies of scale.

This means that producers have also become more dependent on fewer dealers and to the extent that milk supplies are running heavy their bargaining position is weakened. An awareness of this caused producers in many states to form producer cooperative bargaining associations, sometimes with producer-owned processing and distribution facilities. Such groups in New England originally met with dealer associations to form the Federal Milk Marketing Orders which have been in effect in New England since 1937.

Voluntary participation by a majority of dealers and producers in the Federal Order places certain restrictions and conditions on their marketing and pricing procedures. Dealers whose plants are included in a Federal Order will pay the agreed pool price which reflects the demand and supply position for the marketing area in which the order is operating.

Some of the Maine producers ship to Federal Order plants and receive the blend prices as announced by the Administrator. It is timely therefore to discuss briefly the Federal Order in New England.

Federal Order

The market administrator selected by the Secretary of Agriculture has powers to administer, to make rules to effectuate the order, to report complaints of violations and to recommend amendments to the Secretary. His duties include the verification of handlers as reported by audit on receipts and payments. Each handler files a report with his Administrator on receipts of milk and milk products from producers and other sources. The names of producers, their location and the dealer to whom they ship are included.

The milk is classified according to use. Class I is all butterfat and skim milk including that used to produce concentrated milk, milk disposed of as fluid milk products not classified as Class II. Class II milk applies to all butterfat and skim milk disposed of in the form of cream, milk products other than fluid milk products and cream; fluid milk products fed to livestock, discarded or destroyed and shrinkage up to 2 percent.

The Class I price per hundredweight of milk containing 3.5 percent butterfat is computed each month. The price is based on an economic index with 1958 as the base period and includes a U.S. wholesale commodity price index, a New England consumer price index, a dairy ration index and a farm wage index for New England. The Class I price varies from the 1958 price as the index changes.

This price is adjusted each month to allow for deviations from a normal supply. If supply is below normal, price is increased. If supply is above normal, price is adjusted down. Similarly there are seasonal adjustments so that the price is lower in April-June and higher in the last quarter to encourage fall and winter milk production. Class II milk prices are based on the average price for milk for manufacturing purposes f.o.b. plants in the U.S. and the average daily

price of Grade A butter wholesale in the New York market. These may be influenced by Federal Government purchase programs. 1/

The prices paid to farmers are subject to zone differentials based on the zone location of the plant at which producer milk is received or distributed. The distance for each plant is the road mileage from Boston. The blend price paid producers is based on the proportion of milk in the market area utilized as Class I and Class II. Payment for this administrative service is 3-cents per 100 lbs. deducted from the farmer's milk check by the dealer.

The purpose of the Marketing Order is in part to ensure that dealers return to producers full value for milk sold, made difficult to calculate because of the various forms and prices in which the products are sold. The prices announced by the Milk Administrator are in effect equivalent to market prices established by forces of supply and demand on competitive markets. They are announced in sufficient time for producers to adjust their plans but there is no guarantee either that the Class I price will continue at its current level or that the blend price will not decline. The rapidity of price change, however, has been reduced by the type of formula pricing and the administration of prices has provided smoother conditions in the market under which some price prediction is possible. It is a market price responding to national supply and demand forces and also reflects conditions under which most Maine milk shipped to out-of-state markets must be sold.

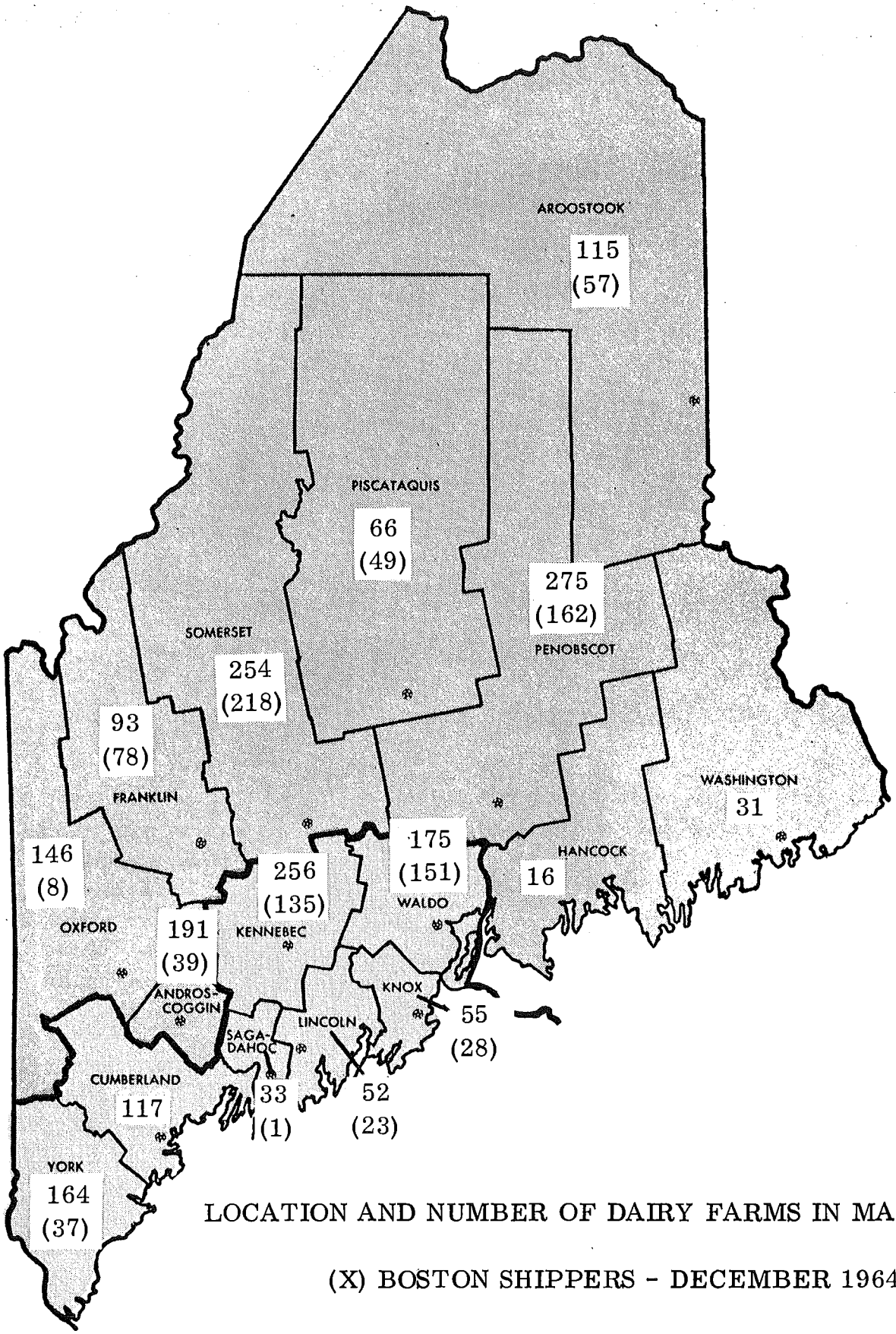
1/ The recent increase in support price to $4.00 per hundred by the Secretary of Agriculture is an illustration. And the government is prepared to buy at this higher price.

State Sales

While a small amount of the sales to Federal Order plants finds its way to the Maine markets, the majority of in-state sales are not under the Federal Marketing Order and prices are under the jurisdiction of the Maine Milk Commission. This commission fixes prices for wholesale and retail milk sales, issues licenses, audits dealer books, conducts hearings and acts as arbitrator in disputes on controversies between producers, dealers and consumers. It maintains complete records of transactions, sales and producer deliveries and is a valuable source of information on matters dealing with the marketing and distribution of milk in Maine.

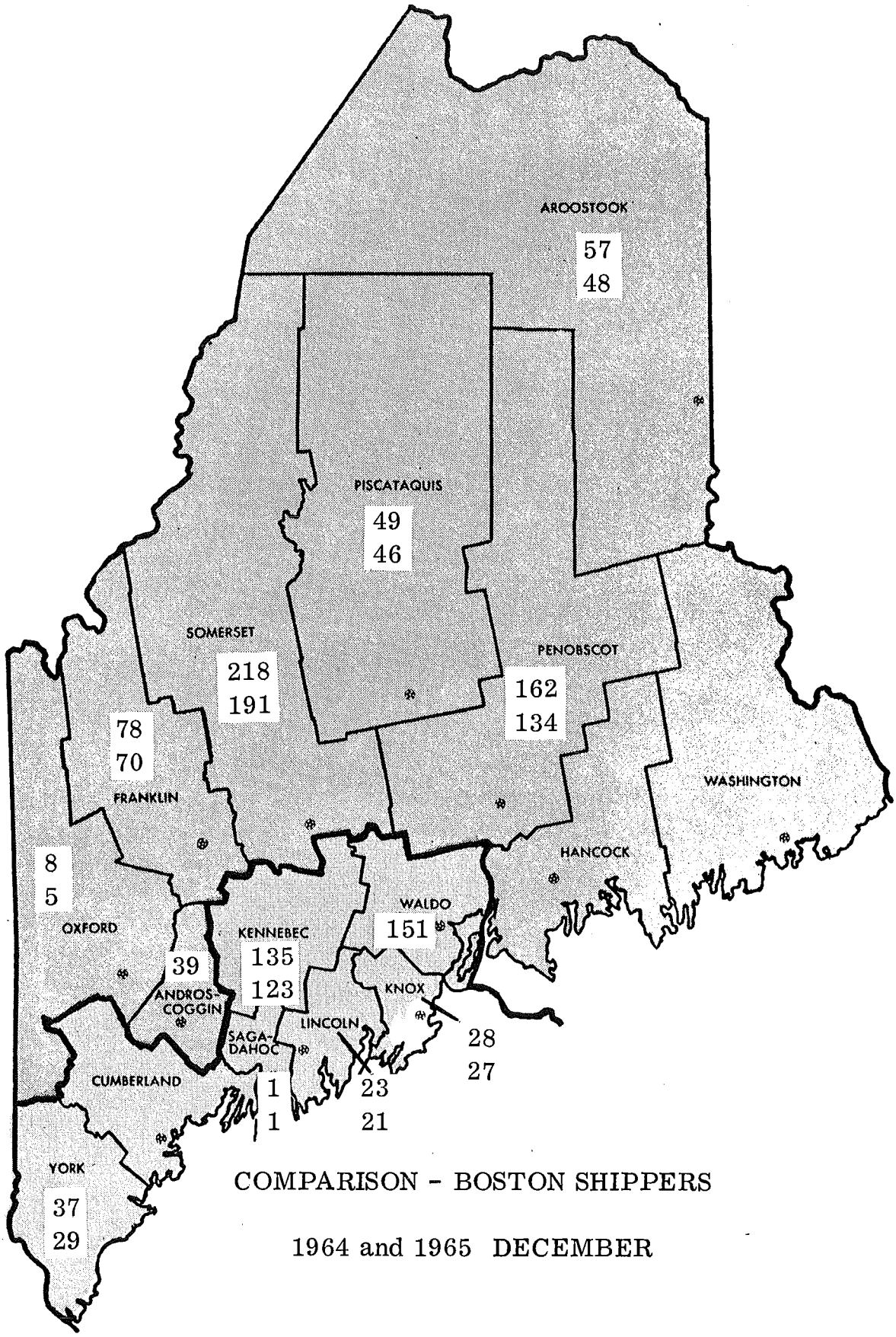
The objective of the price control authority vested in the commission is to maintain an adequate supply of wholesome milk and milk products to Maine consumers. It is argued that by maintaining prices at higher levels, the local producers would be the major suppliers and the local dealers would handle most of the milk, thus increasing returns to a large number of Maine milk producers. This facilitates quality controls and inspection and removes many of the uncertainties which would be faced by dealers when obtaining milk from distant areas and from other states.

The proximity of Maine producers to the Federal Order Market requires continuous recognition of the relative prices in these two markets. It is generally assumed that the state control prices for producers will be sufficiently higher than the Boston pool prices to ensure all the supplies needed for Maine consumers. This is currently accomplished by paying the Boston city plant price to Maine producers. In comparison the price paid producers shipping to the Boston Federal Order market declines as the distance from Boston increases. In general, the prices paid producers shipping to Maine dealers is planned to exceed the prices paid their neighbors shipping to the Federal market pool.



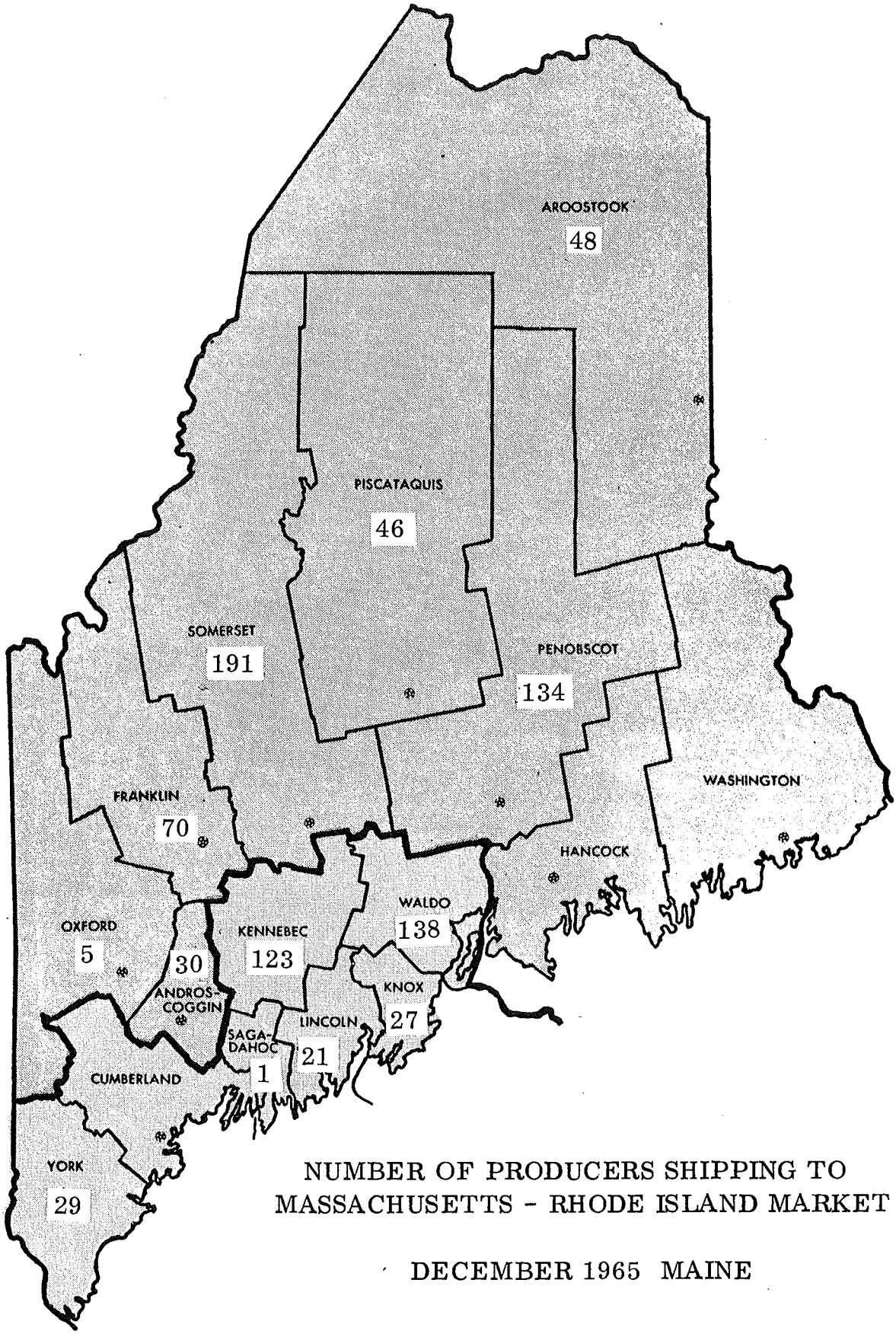
LOCATION AND NUMBER OF DAIRY FARMS IN MAINE, 1964

(X) BOSTON SHIPPERS - DECEMBER 1964



COMPARISON - BOSTON SHIPPERS

1964 and 1965 DECEMBER



NUMBER OF PRODUCERS SHIPPING TO
MASSACHUSETTS - RHODE ISLAND MARKET

DECEMBER 1965 MAINE

COMPARISON OF MARKETS

The number of producers shipping to the Boston Federal Order Market is declining. In 1964 the number of shippers averaged 1,024. In 1965 the number was 927 and by September 1966 it was further reduced to 816. Producers shipping to Maine local markets declined in number also from 1,213 in 1964 to 1,014 by September 1966.

TABLE 7

	Number of Producers Shipping to Maine Local Markets	Boston Federal Order
1962	1,277	1,323
1963	1,273	1,119
1964	1,213	1,024
1965	1,091	927
1966 (April)	1,029	848
(September)	1,014	816

From 1962 to 1966 the number of producers shipping to Boston Federal Order markets declined 38 percent while the number of producers shipping to local markets in the same time period declined only 12 percent. At the same time, the daily average deliveries of both sets of producers has increased during this period. The average deliverers per producer is greater for local market producers than for the Federal Order producers, and increased at a somewhat higher rate between 1962 and 1965.

TABLE 8

Daily Average Deliveries of Maine Producers Shipping to

	Maine Local Markets	Boston Federal Order Markets
1962	747 lbs.	552 lbs.
1963	764 lbs.	617 lbs.
1964	812 lbs.	694 lbs.
1965	906 lbs.	700 lbs.

Local Market Income Higher

The total revenue from the sale of milk by producers is higher for the Maine local market shippers.

TABLE 9

The Value of Maine Producer Receipts from Milk in the

	Maine Local Markets	Boston Federal Order Markets
	(in millions of dollars)	
1962	18.98	12.31
1963	19.20	11.79
1964	19.42	11.49
1965	18.93	10.63

There has been a decline in gross revenue of both groups of producers despite the increase in deliveries per day. The number of producers is declining and unless there are significant price increases then the gross revenue from milk sales will continue to decline.

Important to producers is the proportion of milk delivered to plants which is utilizing as Class I because of the higher price paid. Historically the Class I

utilization of the Maine dealers' milk has been higher than the Boston Federal Order proportion of Class I. For example:

TABLE 10

	% Class I Utilization on	
	Maine Local Markets	Boston Federal Order Markets
1962	75.0	54.3
1963	74.4	53.0
1964	74.3	59.8
1965	75.5	60.1
1966	71.0 1/	59.3 2/

In recent years the Class I percentage use in the Boston Federal Market Order has been increasing and, if present trends continue, may be closer to the Class I percentage in Maine markets than for many years.

Proportion of Maine Federal Order Marketings

The shipments of Maine milk to Federal Order Markets has declined in recent years as a proportion of the total shipments from all areas.

TABLE 11

Maine Shipments as Percent of Total Shipments to the Federal Order Markets	
1960	12.9%
1961	12.9%
1962	12.6%
1963	11.7%
1964	10.4%
1965	7.2%

1/ April, May, June
2/ July

Some of the percentage decline in 1964 and 1965 may be due in part to an increased size of pool, but this does not negate the decline.

From this we see that the Federal Order pool has become less significant to the Maine dairy industry and the Maine shipment to the Pool are also less significant than they used to be. Some of this decline may be due to the diversion of an increased proportion of Maine milk to non-Federal Order markets both in and outside Maine. For example, it is known that shipments to New Hampshire have increased during recent years and it is presumed such shipments pay higher return to dealers than shipments to Federal Order plants. If the New Hampshire plants are included in the Federal Order in the future, the milk previously shipped from Maine may be replaced by New Hampshire milk but paid for at pool prices no matter what the source. This could well be reflected in increased Federal Order pool shipments from Maine. If the milk previously bought at Class II price will be paid the market blend price, then producer income will be improved.

CONSUMERS IN THE MARKET

The prices to be charged for milk and milk products are established by the Maine Milk Commission.

To quote a statement referring to milk prices effective July 1, 1966.

"The Maine Milk Commission does hereby establish and fix the minimum wholesale and retail prices on markets designed by the Commission as natural marketing areas. Such schedule of prices is established and fixed after investigation and public hearings --- . After consideration of the evidence said prices so fixed are found to be just and reasonable, taking into due consideration the insuring

of an adequate supply of pure and wholesome milk --- including a reasonable return to the producer and dealer."

The "reasonable return" of the Milk Commission is provided to producers by establishing prices at the Boston city plant minimum Class I price. The rulings of the Commission do not refer to milk sold to Federal Order Plants for shipment outside the state.

The "reasonable return" to milk dealers for processing, packaging and selling milk has included allowances for a steady increase in costs. The basis for the price increases is evidence presented at hearings by the dealers and by studies of dealer returns completed at the University of Maine Agricultural Experiment Station. 1/

The price decisions of the Milk Commission are thus the result of public hearings and consideration of factual materials pertinent to pricing decisions.

The Maine studies referred to measure the effect of price levels on the net returns to dealers. When net returns are falling relative to a previous time period or relative to the returns of U.S. milk processors and handlers in other regions, prices are increased accordingly.

The prices of all major milk packages and products are announced by the Milk Commission.

The price per quart is reduced as the size of the container is increased. A consumer can save one cent per quart by purchasing 1/2 gallon and 1 gallon containers at the store.

1/ Miscellaneous Report 103, 1962.
Mimeographed Report No. 44 and 54, 1954-55.
ABE Report No. 110, 1963

TABLE 12

A Typical Retail Price Pattern for Milk in Maine, 1966

Milk (white or flavored or flavored skim)	Price per quart Home delivered
Per quart	27 cents
Per quart 1/2 gallon	26 "
Per quart gallon glass	24 "
Per quart gallon paper	25 "
Per quart a pint	30 "
Per quart skim	19 "
Per quart 10 or more quarts	26 "
Per quart 5 or more 1/2 gallons	25 "

There is a differential in price for milk home delivered, retail and wholesale.

Prices on Class II milk are also announced.

TABLE 13

Price Differentials from Home Delivery Prices of Retail Store and Wholesale Prices

	Store	Wholesale
Per quart	-1	-3
Per 1/2 gallon	-1	-5
Gallon Glass	-1	-8
Gallon Paper	-1	-8
Pint	-1/2	-1 1/2
Skim quart	-1	-3 1/2

COMPARISON OF MILK PRICES IN THE U.S.

Measurement of the adequacy of the prices can best be shown by examining the net return received by farmers and dealers. A comparison of Maine prices with other market prices will be of interest. The following table lists fluid milk prices as paid by dealers and as sold by dealers in June, 1966.

The differences in dealer buying prices are generally reflected in the selling prices. Midwestern prices are lower than in other areas. For example, Minneapolis city plant price was $4.66 and the price of 1/2 gallon packages sold in stores was 41 cents. In Maine the city plant price was $5.74 and the retail price of 1/2 gallon was 48 cents. In Tennessee the city price was $5.50 and the retail price 43 to 47 cents per half gallon.

TABLE 14a

Comparison of Fluid Milk Prices in a Sample of U.S. Markets

June, 1966 1/

Location	Dealers Buying Price (f.o.b. city)	1/2 Gallon Sold out of Stores in Paper (cents)	1/2 Gallon Delivered to Home in Glass (cents)	Gallon Sold Out of Stores in Glass (cents)
Augusta, Me.	5.74	48	51	87
Concord, N. H.	5.74	48	51 (paper)	85
Bellows Falls, Vt.	-	49	49	-
Boston, Mass.	5.74	44-46	52-56	79-81
Springfield, Mass.	5.74	46-48	53-57	73-75
Hartford, Conn.	5.74	46-48	57-59	71-77
Rochester, N. Y.	6.28	53-55	62-63	102
New York City	5.73	45-52	48-57	89-99
Philadelphia, Pa.	5.80	53	57	102
Cleveland, Ohio	5.30	39-44	46-49	79
Chicago, Ill.	4.62	49	56-58	85
Detroit, Mich.	5.40	41-42	50	79 (paper)
Milwaukee, Wis.	4.50	41-43	47	79-81
Bismark, N. D.	4.33	38	38 (paper)	-
Minneapolis, Minn.	4.66	41	49 "	74
Richmond, Va.	6.35	55	57 "	-
Miami, Florida	6.66	61	59	109
Chattanooga, Tenn.	5.50	43-47	47-48	83-85
San Antonio, Texas	6.14	55	51-53	101
Spokane, Wash.	5.52	54	58 (paper)	103 (paper)
San Francisco, Calif.	5.69	48	53 (3 cents service charge)	96

1/ Fluid Milk and Cream Report. June, 1966 USDA. Statistical Reporting Service. Dal - 3 (6-66)

Differences in retail prices with the same city plant price exist between Maine and Massachusetts and Connecticut markets. In Boston, half gallon paper is sold at 44 to 46 cents and in Hartford from 46 to 48. In Maine the price is set at 48 cents under minimum retail price orders. In New York City where the dealer city plant price is approximately the same, the retail prices vary between 45 and 52 cents.

In Maine, gallons are sold in stores at 87 cents and in Boston 79 to 81 cents, Springfield 73 to 75 and Hartford 71 to 77 even though the dealer price f.o.b. city is the same in each market. In the lower priced markets no retail price controls are practiced.

THE MILK DEALERS

There were four country plants in Maine subject to pooling under the Boston Federal Order in 1964. These are United Farmers of New England at Albion and Detroit, and H. P. Hood and Sons at Newport and Waterville, Maine. The number of milk dealers in Maine has declined steadily. In 1936, the number of licenses issued was 2,113. By 1966, the number of licenses issued was 200.

Of the 212 licenses issued in 1965, 51 were for subdealers who had no processing facilities, 108 were for dealers selling less than 1,000 quarts per day or 142 selling less than 3,000 quarts per day. Nineteen dealers handle quantities in excess of 3,000 quarts per day with 14 of these selling between 3,000 and 10,000 quarts per day.

This pattern of size distributions has persisted in recent years.

TABLE 14b

Number of Licensed Dealers by Quarts Sold Per Day 1965

quarts per day	No.
over 40,000	3
15,000 - 20,000	1
10,000 - 14,999	1
5,000 - 9,999	7
3,000 - 4,999	7
1,000 - 2,999	34
500 - 999	24
under 500	84
TOTAL	161

In 1965 there were 41 dealers audited by the Milk Control Commission who paid a blend price. There were 34 audited dealers who paid 100% Class I plus producer-dealers with 100 percent Class I sales.

The audited dealers handled 87.6 percent of the total receipts by Maine dealers or about 316 million pounds. The breakdown by dealer size is as follows:

TABLE 15

Proportion of Total Receipts by Audited Dealers by Size Groups 1965

No. of Dealers	Quantity (million lbs.)	Av. Size (million lbs.)	Percent of Total
4	194	48.5	61.4
4	40	10.1	12.8
4	22	5.5	7.0
29	59	2.0	18.8

The four largest dealers purchased 61.4 percent of all the milk purchased by audited dealers or 54 percent of all milk sold in the state. In contrast, 29 dealers averaging 2 million pounds per year purchased 18.8 percent of the total.

In Hands of Few Dealers

The majority (over 50%) of Maine milk for sale in the state is purchased by four or five dealers. The remainder of this milk sold off farms for local consumption is handled by producer-distributors and small dealers. For example, 70 percent of the dealers handle only 18.8 percent of the milk of those audited dealers who pay a blend price. They average about 2,500 quarts per day.

In addition there are 34 dealers who pay Class I prices for their milk who average about 1,000 quarts per day. The remainder of local sales by dealers is by 125 producer-distributors who average 300 quarts per day.

A variation in quarts per day handled is also a variation in unit cost. The larger plants have more opportunities for reducing costs per unit than have the smaller plants. Greater use of equipment and reduced labor costs per unit are two major reasons. There are also many other economies more available to a larger plant than to a small plant. A recent study on this subject 1/ showed processing and packaging costs per quart decreasing from 5.7 cents for a 6,000 quarts per day plant to 2.9 cents for a 100,000 quarts per a day plant. This gives the large dealer a competitive advantage over the smaller which could be passed on to consumers in an open retail market.

Variation in Prices Paid Producers

The price dealers pay producers for sales on Federal Order markets is established by the Federal Market Administrator. From this established price is deducted farm to plant transportation and various fees for advertising and services agreed upon by the producers. The price is based on the combination of Class I and Class II milk sold by dealers after processing. The resulting price known as the "blend" price will increase as the proportion of Class I increases. The shippers to the Federal Order markets receive a price based on the utilization of all the milk in the pool. Therefore, when Class I use in the Federal Market change, the blend price is also likely to change for each individual producer on the market irrespective of location.

1/ Economics of Size in Fluid Milk Processing Plants, Bull. 636 University of Vermont Agricultural Economics Station.

In contrast, under the method followed by the Maine Milk Commission with the authority of the Maine Legislature, the prices paid producers varies with the utilization of each individual dealer. The Class I and Class II prices are announced by the Commission for the state. One dealer may sell 70 percent of his milk in the higher priced Class I market. Another dealer may sell 90 or 100 percent Class I milk in which case his pay price or dealer "blend" price would be higher. The four largest dealers in Maine vary from 83.6 percent Class I to as low as 58.1 percent Class I.

A certain proportion of milk purchased has to be used as Class II in order to make miscellaneous milk products, to allow for shrinkage and for the returns from stores. Some small dealers pay Class I price and make no allowances for Class II. Such an allowance is commonly 15 to 20 percent of purchases. The following table indicates the extent to which the milk in Maine may be classified as Class II.

TABLE 16

1965 Producer Receipts, Percent Class II, and Percent of Total

Percent Class II	Receipts (million lbs.)	Percent of Total Receipts Class II
less than 15	59.9	16.6
15 - 20	68.4	18.9
21 - 25	90.2	25.0
26 - 30	17.9	5.0
31 - 35	28.5	7.9
36 - 40	6.9	1.9
over 40	98.1	24.7
	360.9	100.0

60.5 percent of the receipts are by dealers who handle less than 25 percent Class II while almost 25 percent of the milk is paid for on a Class II base of over 40 percent.

It is apparent that with the various methods of calculating the blend price to be paid farmers, to say nothing of the various haulage costs and other fees deducted from the milk check, no two producers shipping to different dealers are likely to receive the same price for their milk even if of equal quality.

The differences are due to variations in Class II use, to haulage charges and, to some extent, suggest that producer prices are subject to variations due to competitive forces in the market. It is to be expected that preference is given by producers to those dealers who pay higher prices. Such dealers tend to operate on a small scale and if we regard them as dealers buying 85 percent or more Class I, they handle only about 16 percent of the milk sold on local markets. Nevertheless, the variation in prices have placed dealers in a favorable bargaining position in relation to producers. In fact, the price disparities which have existed between producer prices on different markets has created close coordination between dealers and producers varying all the way from threats of dropping producers to agreement with the dealer on controls on supply in order to maintain as high a Class I utilization as possible.

SURPLUS PRODUCTION

The milk in excess of needs for fluid consumption is called surplus, This is a misnomer if used out of context because much of this excess is needed for cream and other by-products and for maintaining the flow through trade channels. Nevertheless, under the classified pricing followed by the dairy industry it is assumed that Class II milk will be purchased from farmers and dealers at a lower price than Class I. The original classification scheme also assumed that the quality of Class I milk was superior to Class II. The additional sanitation and health requirements for Class I milk raised the cost of production. Such quality differentials have largely disappeared in New England. The classification is now used for quantity control rather than quality differences.

In 1964 the average proportion of milk purchased by dealers selling in Maine markets was 74.4% Class I as compared with 59.8% on the Boston Federal Order Market. H. P. Hood & Sons purchased milk in excess of local fluid requirements and the proportion of Class I in 1964 for this dealer was 57.7% compared with the state average of 74.4%. In 1965 the proportion of Class I sales for all dealers was 75.5%.

The surplus milk is disposed of according to the particular practice of each dealer. Obviously they will try to sell on the most profitable outlet. The New England Milk Producers Association plant in Andover is one outlet. Another form of outlet is the sale of Class II milk as Class I in markets of neighboring states or to other dealers in the state. Previous evidence showed a uniform production and purchase pattern for the majority of dealers. The sales vary during the year and the influx of summer residents increases the

demand for fluid milk and milk by-products. Those dealers with low Class I utilization can take care of their seasonal demand changes from their purchased supplies. Other dealers purchase supplies from dealers in and out of the State of Maine. That is to say most dealers buy short during the year and rely on sources other than their regular producers or seasonal supplies. Generally such milk is bought at Class I prices. Therefore many dealers on the books use their own producers' milk for Class II purposes and the purchased milk for Class I. The blend price to their regular producers is thus lower. The procedure provides for uniform production and reduced handling by dealers of milk in excess of market requirements. This practice is referred to as buying short. An alternative procedure would be for producers to receive payment according to the increased Class I sales and the dealer would carry the additional cost of buying excess supplies during the heavy consumption period. In turn he would pass on the higher cost to seasonal consumers in the form of higher prices during the summer season. In this way the producers would be more likely to receive the benefits of increased Class I utilization.

Many dealers work closely with their producers to maintain a high Class I use. If seasonal sales increase, the alternatives are for the producers to produce a year round surplus with its additional costs of handling and disposal in the off season or, for the dealer to rely on other sources of supply during the summer and maintain even production from their regular suppliers. A large firm such as H. P. Hood & Sons has been able to find markets for the excess milk but such marketing techniques are not always available to dealers on local markets. Therefore they have decided to use the method of buying short and of

relying on outside seasonal purchases.

Examination of the operations of dealers hauling over two-thirds of the local market milk indicates that 96.4 percent of this milk is purchased directly from farmers and 3.6 percent from other dealers who with few exceptions are also located in Maine. The exceptions are located in neighboring states.

The farm deliveries to plants is remarkably even through the year. An examination of a recent year's delivery pattern for 25 dealers shows the following proportions per month.

TABLE 17

Percent of Annual Receipts at Maine Local Milk Processing Plants by Months 1965

Month	Percent
January	8.6
February	7.5
March	8.4
April	8.4
May	8.7
June	8.7
July	8.5
August	8.5
September	8.2
October	8.2
November	8.0
December	8.3
	100

There are some plant receipts which vary from 7 to 10 percent per month but in general the uniform deliveries are a reflection of good dairy herd management by producers and dealer-producer agreement on the market requirements. In addition there has been available milk from other sources in high consumption months to meet dealer requirements, some of which may have been purchased as Class II and resold as Class I. The high seasonality characteristics of New

England production some ten or twenty years ago is absent.

The purchase pattern of milk dealers indicates the following:

TABLE 18

Proportion of Dealer Product Purchases by Value

	Percent
Raw Milk	85.2
Butterfat Differential	3.0
Dairy Products	7.1
Non-dairy Products	4.7
	100.0

There is variation among dealers with some dealers buying greater proportions of non-dairy products than others. However, they currently rely on the sale of their own processed milk for the major part of their revenue.

RETURNS TO DEALERS

In periods of falling prices or rising costs, historically, farmers have blamed the middleman for most of their income problems. This is to be expected as their only contact with the market place may be through the milk dealer who sends the milk check and who keeps them informed of market needs. The dealers, however, are middlemen and their operations are entirely dependent on their ability to sell the product. Under open market conditions this will determine the price.

Under terms of the Milk Control Commission the minimum price at which milk can be purchased has been established in relation to the Boston market. As discussed previously, the technological revolution in agriculture has enabled producers to increase milk supplies at rates greater than the market could absorb as whole milk. Therefore, milk in excess of fluid needs has been produced and forced blend prices down. The farmer with a perishable product to sell has little or no choice but to sell for what he can get and barring cooperative agreement with other producers there is no incentive for an individual farmer to reduce his production without some guarantee that his income will be maintained or increased.

This places the producer in a somewhat unfavorable bargaining position which will continue as long as supplies are in excess of market needs.

Local milk dealers, on the other hand, can control their purchases and their product mixes and are better able to adjust their operations to market needs.

The changes in the spread between farm prices and dealer prices and retail prices indicates the shift in the relative price changes of dealers and milk producers.

TABLE 19

Comparison of Dealer and Producer Price Spreads 1946 to 1966

Date	Retail Prices per quart	Producers Price per quart	Dealers Margin per quart
July 1946	19.5	11.6	7.9
July 1953	23.5	13.6	9.9
July 1957	25.5	14.3	11.2
July 1961	26.0	14.3	11.7
July 1963	25.5	13.5	12.0
July 1964	26.0	13.3	12.7
July 1965	25.5	12.3	13.2

Discussion of these spreads should not be necessarily in terms of cause and effect. In other words, producer price increases have been moderate because the supplies have increased and not necessarily because dealer operating margins have increased. One could argue that if the dealer margins had increased less, then retail prices need not have increased as they did. However, with given processing and distribution techniques and without assuming any changes in the prevailing industry pattern of size of operations and efficiency, then increases in retail prices reflect the Milk Commission's estimate of increased costs of the dealers.

The question can then be raised as to which particular dealers' cost we are considering. Previous evidence indicated the large number of small dealers and the possible cost reductions from economies of size. Therefore, acknowledging the differences in size of dealer operations and in the management ability of the operators, it can be expected that whatever the margin allowance is, some dealers will just break even, some will be forced out of business and some will make adequate returns to justify growth and increased operations. A comparison of the efficiency with which different firms are operating is provided partly by the net returns per

dollar of sales. Previous studies of Maine dealers' returns are summarized in Table 20.

TABLE 20

Returns per Dollar of Sales for Small, Medium and Large Volume Plants - Maine

Daily Class I Sales in Quarts

Year	1,100 - 4,000	41,000 - 100,000	Over 100,000	All Plants	U.S. Plants
1958	2.2	3.4	6.2	4.3	3.4
1959	1.7	3.5	5.7	4.0	3.4
1960	1.3	3.6	4.8	3.4	3.5
1961	3.2	3.8	4.3	3.9	-
1962	3.8	3.7	3.9	3.8	3.8

The above data are averages for the size groups. The net returns per dollar sale generally increase with the size of operation. Through the time period 1958 to 1962, however, returns for small dealers appear to have increased and returns to the larger dealers has been reduced close to the average for all sizes. During this time period the number of dealers declined by 108.

DEALER RETURNS FOR 1965

The cooperation of the Maine milk dealers made possible the following comparative calculations of net returns per dollar of sales. The returns vary considerably among dealers with the smaller dealers showing more favorable net returns than the larger. The average for all dealers was 3.7 cents per dollar of sales, which is comparable with the 1962 net returns for plants in the U.S. of 3.8 as shown in Table 20.

TABLE 21

1965 Sales, Total Costs, Net and Net Return Percent of Sales for Maine Milk Dealers

Firm Number	Yearly Sales Under $399,999 $	Total Costs 1965 $	Net 1965 $	Net of Sales 1965 %
1	294,351	274,662	19,689	6.6
2	55,487	52,435	3,052	5.5
3	99,426	93,995	5,431	5.4
4	161,827	162,449	- 622	-.3
5	195,340	169,233	26,107	13.3
6	245,000	240,000	5,000	2.0
7	251,399	229,075	22,324	8.9
8	307,687	302,188	5,499	1.7
9	392,368	383,095	9,273	2.3
10	319,986	307,512	12,474	3.8
	2,322,871	2,214,644	108,227	4.9
	Sales $400,000 to $999,999	Total Cost $	Net $	Net %
11	466,044	456,724	9,320	2.0
12	601,971	587,612	14,359	2.4
13	544,833	539,534	5,299	.9
14	619,313	601,125	18,188	2.9
15	686,911	684,849	2,062	.3
16	706,000	698,527	7,473	1.0
	3,625,072	3,568,371	56,701	1.6
	Sales $1,000,000 and up	Total Cost $	Net $	Net %
17	1,096,137	1,115,920	-19,783	-1.8
18	2,001,037	1,918,016	83,021	4.1
19	5,155,888	4,938,430	217,458	4.2
20	4,983,617	4,853,358	130,259	2.6
21	8,039,112	7,612,519	426,593	5.3
	21,275,791	20,438,243	837,548	3.9
Total	27,223,734	26,221,258	1,002,476	3.7

Comparison of Profit as Percent of Sales

A comparison of the net profit position of a sample of U.S. firms with the Maine milk dealers indicates few major differences. A variation exists among firms with a range of .2 percent to 9.6 percent compared with a range in the net profit per dollar sales in Maine from -1.8 to 13.3 but both clustering around an average of 3.5 percent.

TABLE 22

Sample of Profit as Percent of Sales
for U.S. Food Processing Firms
(Fortune Magazine)

	Profit as % of Sales
Beatrice Food	2.6
National Biscuit	6.1
Ralston Purina	3.1
Campbell Soup	7.2
National Dairy Products	3.5
Borden	3.7
Carnation	3.8
Hygrade Food Products	.2
Quaker Oats	3.5
Hunt Foods	2.7
Pillsbury	2.3
Hormel, G. A.	1.0
Kellogg	9.6
Pet Milk	2.2
Land O Lakes Creamers	2.5
Fairmont Foods	2.4
Iowa Beef Packers	2.1
Needham Packing	1.2
Average of Percentages	3.3

Cost of Management and Wages

The size of most dairy processing firms in Maine are such that it is difficult to locate a definite dividing line between management and labor returns. In small firms the management does much of the labor.

Extracting from Tables 24 - 27 which provide a summary of operating expenses of a sample of Maine milk dealers the following wage and salary picture emerges.

TABLE 23

Dealer No.	Percent of Sales		
	Management Salaries	Wage of Employees	Total
1	-	-	20.9
2	1.6	18.3	19.9
3	4.5	15.0	19.5
4	2.3	20.3	22.6
5	8.4	11.3	19.7
6	1.6	15.0	16.6
7	2.6	16.0	18.6
8	4.1	14.5	18.6
9	6.4	9.4	15.8
10	4.9	15.7	20.6
11	5.6	9.5	15.1
12	5.1	13.5	18.6
13	4.0	14.0	18.0
14	na	13.8	-

The proportion of total sales represented by wages and salaries varies from 15.1 to 22.6 percent. Management returns vary from as low as 1.6 of sales to as high as 8.4 percent. The proportion of the value of sales allocated to wages of employees varies from 9.4 to 20.3. Both these characteristics indicate further the variation in return from milk processing among plants and no doubt indicates variation in managerial ability.

TABLE 24

Yearly Operating Expenses and Total Sales Under $399,999, for Milk Dealers Reporting in Maine 1965

Firm No.	1	Percent	2	Percent	3	Percent
	$	of	$	of	$	of
Operating Expenses		Sales		Sales		Sales
Building Depreciation	1,463	.7	-	-	22,433	7.0
Equipment Depreciation	5,021	2.6	6,529	1.7		
Taxes	2,332	1.2	na	-	6,375	2.0
Repairs	7,983	4.1	8,771	2.2	8,169	2.6
Management & Office Salaries	40,781	20.9	6,200	1.6	14,545	4.5
Wages of Employees			71,725	18.3	48,009	15.0
Office Costs	404	.2	6,899	1.8	770	.2
Rent or Lease	-	-	na	-	-	-
Health and Retirement	1,095	.5	1,129	.3	-	-
Sinking Funds	4,406	2.3	-	-	-	-
Other	9,608	-	66,526	16.9	65,822	20.6
Total Dollars	73,093		167,779		166,123	
% of Total Sales Dollars		37.4		42.8		51.9
Sales Dollars	195,341		392,368		319,986	
Number of Employees	10		21		19	

TABLE 25

Yearly Operating Expenses and Total Sales $400,000 to $999,999, for Milk Dealers Reporting in Maine, 1965

Firm No.	8	Percent of	9	Percent of	10	Percent of	11	Percent of
Operating Expenses	$	Sales	$	Sales	$	Sales	$	Sales
Building Depreciation	1,029	.2	1,368	.3	1,623	.3	2,099	.3
Equipment Depreciation	19,316	4.1	11,440	2.1	25,639	4.1	24,413	3.6
Taxes	8,001	1.7	5,503	1.0	10,497	1.7	14,596	2.1
Repairs	9,945	2.2	-	-	-	-	14,502	2.1
Management and Office Salaries	19,240	4.1	35,000	6.4	30,000	4.9	38,377	5.6
Wages of Employees	67,473	14.5	51,379	9.4	97,318	15.7	65,035	9.5
Office Costs	2,909	.6	925	.2	4,404	.7	10,127	1.5
Rent or Lease	na	-	-	-	-	-	-	-
Health and Retirement	3,453	.7	3,293	.6	3,746	.6	15,279	2.2
Sinking Funds	-	-	-	-	-	-	-	-
Other	58,972	12.7	27,374	5.0	103,688	16.7	78,921	11.5
Total Dollars	190,338		136,282		276,916		263,349	
Percent of Total Sales Dollars		40.8		25.0		44.7		38.4
Sales Dollars	466,044		544,833		619,313		686,911	
Number of Employees	22		na		30		21	

TABLE 26

Yearly Operating Expenses and Total Sales $1,000,000 and over,
for Milk Dealers Reporting in Maine, 1965

Firm No.	4	Percent of	5	Percent of	6	Percent of	7	Percent of
Operating Expenses	$	Sales	$	Sales	$	Sales	$	Sales
Building Depreciation	1,843	.2	6,366	.3	11,957	.2	12,376	.2
Equipment Depreciation	16,643	1.5	37,985	1.9	131,885	2.6	60,218	1.2
Taxes	13,747	1.3	24,810	1.2	82,050	1.6	132,676	2.7
Repairs	2,781	.3	38,758	1.9	129,605	2.5	12,837	.3
Management and Office Salaries	25,000	2.3	167,063	8.4	80,135	1.6	130,875	2.6
Wages of Employees	223,430	20.3	225,424	11.3	774,964	15.0	795,231	16.0
Office Costs	5,789	.5	2,756	.2	21,081	.4	43,702	.9
Rent or Lease	na	-	26,243	1.3	39,680	.7	-	-
Health and Retirement	3,522	.3	41,623	2.0	44,733	.9	81,400	1.6
Sinking Funds	-	-	-	-	-	-	-	-
Other	184,999	16.9	227,809	11.4	670,093	13.0	541,422	10.8
Total Dollars	477,754		798,837		1,986,183		1,810,737	
Percent of Total Sales Dollars		43.6		39.9		38.5		36.3
Sales Dollars	1,096,137		2,001,037		5,155,888		4,983,617	
Number of Employees	53		63		190		147	

TABLE 27

Yearly Operating Expenses and Total Sales, for Milk Dealers Reporting in Maine, 1965

Firm No.	12	Percent of	13	Percent of	14	Percent of
Operating Expenses	$	Sales	$	Sales	$	Sales
Building Depreciation	19,480	2.7			5,088	.1
Equipment Depreciation	24,852	3.5	20,244	3.4	56,243	.7
Taxes	16,645	2.5	9,377	1.6	65,453	..8
Repairs	15,332	2.1	3,577	.6	93,523	1.2
Management and Office Salaries	36,600	5.1	24,350	4.0	na	
					80,000	1.0 1/
Wages of Employees	95,254	13.5	84,604	14.0	1,113,185	13.8
Office Costs	1,301	.2	1,292	.2	na	
Rent or Lease					na	
Health and Retirement	4,158	.6			98,859	1.2
Sinking Funds					na	
Other	104,307	14.8	105,468	17.5	1,550,270	19.3
Total Dollars	317,929		248,912		3,062,621	
Percent of Total Sales Dollars		45.0		41.3		38.1
Sales Dollars	706,000		601,972		8,039,112	
Number of Employees	18		20		228	

1/ Does not include management.

FARM TO PLANT HAULING RATES

In every market where milk price regulations exist, the problem of hauling rates has been discussed. There are as many rates as there are routes.

In New York State there is no regulatory agency directly involved in establishing farm to plant hauling rates. In the New York - New Jersey market, very few farmers pay any hauling charges. Bulk milk is generally priced at the farm and the drivers are required to have a sampler license. There are still many can producers in New York and the rate for can hauling in 1965 was 19.2 cents for an average hauling distance of 10.5 miles. Rates charged bulk tank operators range from 10 to 30 cents and in areas of dense production the rates are 10 cents.

In the Rochester and Niagara Frontier markets bulk hauling rates vary from 20 to 35 cents depending on volume and distance.

In the New Jersey market flat rates from farm to processing plant are 20 cents or 30 cents per hundredweight with an average cost estimated at 27 - 28 cents per hundredweight. There are four methods of setting rates in New Jersey. (1) A flat rate for each producer (the most common method). (2) A rate varying with volume so that rates are lower for greater production. (3) Rates varying with volume and distance. (4) A flat daily fee for driving a route on which all dealers on that route are assessed an equal number of dollars.

There is room for negotiation within these rate structures.

In Pennsylvania, the milk control commission regulations on milk hauling state, "If a dealer provides the service of transporting the milk of any producer from the producer's farm to a dealer's plant of first receipt, the dealer may make reasonable deduction from the payment to the producer for such service based upon said

dealer's actual cost of transportation, a record of which must be kept by the dealer. Such deductions shall not exceed 25¢ per hundredweight of milk transported: PROVIDED, if any dealer is presently deducting less than 25¢ per hundredweight for such transportation service, he may not increase the amount of that deduction: PROVIDED FURTHER, that the Commission may authorize a dealer by permit to deduct in excess of 25¢ per hundredweight or increase his present transportation deduction charge for said transportation service if the dealer presents a written petition to the Commission requesting the same and furnishes evidence that the services rendered, the conditions under which the transportation is effected and the costs incurred by the dealer in transporting milk on a particular route warrant an additional deduction.

"A dealer shall be deemed to have violated the provisions of this regulation if he engages in such violation, directly or indirectly, or through an agent, employee, subsidiary, or affiliated company or corporation."

"No persons, association or corporation shall engage in the business of milk hauling or transport in this Commonwealth unless such person holds a milk hauler's license issued by the commission. Application for such license shall be completed and filed by the milk hauler within thirty days after this amendment takes effect, or prior to his engaging in business, and annually thereafter, on or before April fifteenth, by mail or otherwise upon such forms as may be prescribed. The license year shall commence May first and shall end April thirtieth following.

"Application for such license shall be accompanied by a fee of ten dollars ($10) per year or any portion of a year.

"Such milk hauler's license may not be transferred or assigned."

"The commission may decline to grant a license to an applicant, or may suspend or revoke the right of a licensee or former licensee to apply for a license for a new license period, or may suspend, or revoke a license already granted to a milk hauler after determination by the commission that the hauler has not complied with the provisions of this act and rules, regulations and orders issued by the commission pursuant thereto.

"Before refusing to grant or reissue, or before suspending or revoking a license, the commission shall afford the applicant for the license, an opportunity to be heard under the same procedure as provided in section 405 of this act."

"Milk haulers licensed under this act shall keep within the Commonwealth the following records: (1) A record of all milk transported, shipped or hauled, including for each individual trip or movement the type and quantity of milk hauled by origin and destination, consignor and consignee. (2) Such other records and information as the commission may deem necessary for the proper enforcement of this act.

"The commission also may from time to time require certain reports to be filed by milk haulers pursuant to rules, regulations or orders of the commission.

"Persons, associations, or corporations engaged in transporting milk in cans from farms where it is produced to a dealer's plant may be exempt from the provisions of this act."

Hauling charges by contract haulers are not regulated. Contract haulers negotiate with producer cooperatives and the rates are established in a competitive market and the hauling of milk in Pennsylvania is very competitive.

All handlers including contract haulers are licensed by the Commission so that their reports will allow the Commission to trace movement of milk.

In Connecticut the four major cooperatives have adopted rating plans for truck haulage of milk from farm to plant.

The objectives of these schemes are to provide efficiency in marketing the milk of members and to provide equity among producers.

In the CMPA Scheme, the large centers of population are basing points for measuring distance and the area around each basing point is zoned by 5-mile intervals. The rates increase by distance but decrease as the volume increases to as high as 8 cents for 360,000 pounds and over in a month. 1/

The basic rate is 26 1/2 cents for nearby producers, a $1.00 stop charge is added. "Special" milk calls for an additional 5 cents per hundredweight.

Haulage Rates in Maine

An examination of a sample of rates for different lengths of haul from farm to plant shows no particular pattern. Rates may be 30 cents for a 30-mile haul or 33 cents for a 2-mile haul. For 9-miles haul the rate varies from 25 to 55 cents per hundredweight.

1/ See Economic Analysis of Milk-Hauling Structure for members of a Producer cooperative. S. Johnson, G. K. Brinegar, Bulletin 353, June 1960, as amended November 29, 1966. College of Agriculture, University of Connecticut.

The majority of dealers hauling milk for local consumption own their trucks. There are a smaller number of independent truckers and a few farmers with their own trucks.

The establishment of rates is presumed to be by agreement between the dealer and the producers or between the truckers and producers. In other states the independent trucker rate is frequently left to open market forces. That is, where truckers bid for the business, the rates are presumed to reach levels somewhat close to cost.

In the case of dealer owned trucks, however, the competition is not so evident. The peculiar nature of the Maine Milk Market provides a higher administered price for milk processed and sold in Maine than for milk which is hauled out of state. Therefore, local markets are at a premium for many producers which places dealers in a somewhat superior bargaining position. This might encourage the establishment of haulage rates in excess of what would be reached under competition. This is not necessarily so, but the conditions exist for the occurrence of such an event. Pennsylvania faced with the same problem established a maximum rate for dealers which can be increased only on appeal.

In Maine the 102nd Legislature passed an act which states, "Any dealer may deduct an allowance for transporation from the producer's farm to dealer's dairy plant pursuant to a reasonable schedule of charges filed with the commission, with a copy to each affected producer, at least 30 days prior to the proposed effective date. Any interested producer or any organization representing producers may petition the commission at any time to review the reasonableness of any such schedule of transportation charges, and the commission is empowered to suspend proposed

schedules pending hearing, and, after hearing, to disapprove and reject any schedules, then pending or theretofore in effect, found to be unreasonable."

The Federal Milk Marketing Order of Massachusetts and Rhode Island established mile zone differentials around the central market of Boston. In the 21st zone the transportation deduction is 47 cents. As the location of the farm becomes closer to the central market, the transportation charge decreases until in the nearby zone a premium is paid.

As proposed by Johnson and Brinegar it is possible to zone the secondary markets and establish uniform rates for producers to pay. The many scattered markets in Maine and the great variation on topography means similar variations in costs not necessarily related to mileage alone. The quantity of milk picked up at each stop will vary and the route with few stops will cost the trucker less in time and motion than the route with many stops.

An agreement on the effect of mileage and load variations on the haulage costs was made by a dealer in Portland, Maine. As the average pounds per pick-up decrease his rates increase. As the distance from the plant increases, the rate per hundredweight increases. Every other day pick-up is assumed. The rates vary from 17 cents for haulage up to 9 miles and 6,500 pounds and over per pick-up to as high as 40 cents for a small pick-up over 25 miles distance. A copy of the rate structure is enclosed.

Another milk dealer in Skowhegan, Maine, agrees on a set of rates based on mileage and size of load. Here rates vary from 15 cents to 35 cents per hundredweight. In both these examples, the truckers are independent operators.

Alonzo E. Bennett

R. F. D.

Lovell, Maine

Schedule of actual rates and charges for contract carriage of raw milk in bulk tank equipment from bulk milk tanks on farms of milk producers to the dairy plant of H. P. Hood & Sons in Portland, Maine. Pick-up to be on an every other day basis for all producers shipping less than 6,500 lbs. per pick-up. Rates given in cents per hundred pounds.

CLASS		ZONE		
Average pounds per pick-up averaged over each semi-monthly pay period		Distance of producer's farm from dealer's dairy plant, the nearest mile.		
		1	2	3
		0 - 9 miles	10 - 24 miles	25 miles and over
A	6,500 & over	17	21	25
B	5,500 - 6,499	19	23	27
C	4,500 - 5,499	21	25	29
D	3,500 - 4,499	23	27	31
E	2,500 - 3,499	25	29	33
F	1,500 - 2,499	27	31	35
G	500 - 1,499	29	33	37
H	under 500	32	36	40

Issued 5/16/66

Effective 7/1/66

Haulage Charges to Producers in Skowhegan, Maine
for Routes Varying from 1 1/2 to 15 Miles

	Average Load	Rate per Cwt.
1.	Less than 2,000	25
	2,000 - 2,500	20
	Over 2,500	15
2.	Less than 1,000	35
	Over 1,000	30
3.	Less than 1,000	30
	Over 1,000	25

These rates are somewhat lower than many rates charged producers. The most common rate in the state was 35 cents for hauls under 10 miles, but this includes various size loads and types of roads. As many of the trucks are owned by the dealer, there is also variation in the compteitive conditions under which rates are agreed upon.

STANDARDS FOR MILK PRODUCTION AND PROCESSING

The high quality of milk sold in Maine stores and delivered to Maine homes is the product of many years of experience by producers and handlers aided by legislation.

As milk consumption increased so did the demand for uniformity of quality and taste. While it is possible to remove some of the foreign odors and to standardize fat and non-fat solids content, the care and management of the cow herd and of the milking process on the farm remain of the greatest importance. Research and education supplemented the market preferences to develop the production of a uniformily high quality milk. This meant disease control, (bangs, brucellosis, tuberculosis) and it meant control over conditions in the barn, the milk house and the yard, and of the feed and the pasture used.

After the farm, the quality problem continues through the processing plant and through the transportation procedure until final consumption.

The great variation in production practices which depend on the producer's individual training, his opinions and the productivity of his farm necessitate the establishement of standards for production conditions in order to meet market demands for a uniform quality product and to protect consumers' health.

Each state has developed its standards for the sanitary production of milk. In Massachusetts a Milk Regulation Board assumed the responsibility. In New Hampshire the Division of Public Health Service developed standards. In Maine the development of standards to be used is in the hands of the Commissioner of Agriculture as outlined in the Maine Milk Law.

The initial request for quality came from the dealers who had to sell the

product to the public. Because of the commercial significance of the industry however, the state cooperated in the programs and eventually legislation was passed which provided the needed authority to carry out the programs.

Just as with new techniques and new equipment, producers and dealers are faced with capital expenditure, so the maintenance of quality frequently required some capital improvements, at additional cost. This was one of the earliest cost-price squeezes which have since been experienced continuously by dairymen and dealers.

DUTIES OF THE COMMISSIONER

Chapter 163, P. L. 1961, Maine Milk Law 1/

Sec. 87-A Inspection; analysis. The commissioner shall inspect the production, manufacture, transportation, storage and sale of milk, cream, butter and all other dairy products, substitutes thereof, or imitations thereof.

The commissioner shall have free access at all reasonable hours to any dairy farm, milk plant, vehicle, establishment, premises or place where milk or milk products, substitutes thereof, or imitations thereof, are or may be produced, collected, handled, processed, pasteurized, bottled, packaged, stored, sold or otherwise prepared for distribution for the purpose of inspecting such dairy farm, milk plant, vehicle, establishment, premises or place to determine if any of the provisions of sections 87-A to 87-G are being violated; and to secure samples or specimens of any milk, cream, milk products, substitutes, or imitations thereof, after paying or offering to pay the market value for such samples. The commissioner shall make or cause to be made examination of samples secured under this section to

1/ Maine Dept. of Agr. Chapter 32, Revised Statutes, 1954

determine whether or not any provisions of sections 87-A to 87-G are being violated.

The commissioner may seize without warrant such cans, bottles, containers, and equipment used in the production, handling, processing, pasteurizing, bottling, or used in the purchase or sale of milk or cream as may be needed as evidence of violation of any provisions of sections 87-A to 87-G.

The commissioner may, in his discretion, publish the results of all analyses with the names of the persons, firms, corporations, associations and societies from which the samples analyzed were taken or the name of the milk dealer. He may, in his discretion, issue a report of the results of all analyses, for distribution to such newspapers in the state as may request a copy."

Sec. 87-C. Licensing; application; fee; revocation. "No milk dealer shall sell milk or cream without first obtaining a license from the commissioner. No person shall produce grade A milk for sale without first obtaining a license from the commissioner to produce grade A milk, and no person shall pasteurize grade A milk for sale without first obtaining a license from the commissioner to pasteurize grade A milk.

The commissioner shall have the power, after due hearing, to revoke or suspend any license issued under sections 87-A to 87-G, when it appears that any statement upon which it was issued, was false or misleading, or that any of the provisions of sections 87-A to 87-G and the rules and regulations issued thereunder have been violated."

There are eight full time farm and plant inspectors in Maine, two inspect frozen dairy products and the calibration of bulk tanks. There is one supervisor. An inspector will visit each Maine Dairy firm once every six months for purposes of advising the farmer on ways and means of meeting the officials standards for milk

producers shipping to local or out of state markets.

A copy of an inspection report is given in the appendix. This report deals with the cow's health, lighting and floor construction of the milking barn, and the milk house, the toilet and water supply, utensils and equipment and methods of milking. Where violation of the same regulation is apparent on two successive inspection calls, the dealer who buys the milk is notified and asked not to purchase this milk under the suggestion of a possible loss of license, until the producer has made the corrections.

Most of the larger dealers have their own farm inspection service also and they frequently work in cooperation with the state inspection service to minimize the number of visits and to agree on the scores. The possibility of conflict is thus minimized. The inspectors are trained for their tasks and there may be occasions of difference of opinion between a producer and an inspector. Part of this is a natural resentment at being told what to do on his own farm and in part resentment toward the market structure to which he has to conform. There is no necessary relationship between size of farm and compliance. The changes required may entail large financial outlays or be a minor expenditure. The producer has the responsibility of securing loans or capital from his own resources. Sometimes this will result in a producer going out of business and may be one of many factors encouraging this decision. Just as the advent of the farm tank required investment which is more than some producers could afford, so certain requirements to meet standards will encourage exit from dairy farming.

Interstate Shipments

The increases in milk production, improved transportation and the growth of distant markets changed the markets in milk from local outlets to ones which required milk to be shipped across state lines. As each state had developed its own particular standards there existed differences in the interpretation of the ordinances among states. The shipment of milk across state lines became subject to the barriers of state regulation dealing with quality and minimum health standards.

The incidence of milk barn diseases in the U.S. has been reduced in recent years. In 1938 they constituted 25 percent of all disease outbreaks due to infected foods and water. Milk is now associated with only 2 1/2 percent of such reported outbreaks. Many groups have contributed to this achievement ..... The Public Health Service has contributed to the protection of the milk supply of the Nation through technical assistance, training, research, evaluation and certification activities .... problems associated with the sanitary control of milk have become complex because of new products, new processes, new chemicals, new material and new marketing patterns.

The responsibility for insuring the ready availability of and safety of milk and milk products is not confined to an individual community or a State or the Federal Government, it is the concern of the entire Nation." 1/

The grade A Pasteurized Milk Ordinance was not produced by the Public Service alone. It was developed by milk sanitation specialists representing production, processing, administration, education and technology.

1/ 1965 Recommendation of the U.S. Public Health Service Grade A Pasteurized Milk Ordinance.

The general adoption by states of the National Ordinance for the examination of milk and milk products would facilitate the shipment of milk across state lines without discrimination of one group of producers from another.

"Experience has demonstrated that a strict enforcement of the ordinance leads to a better and friendlier relationship between the health authority and the industry". 1/

In addition to the influence of the Public Health Service Ordinance there is a Code of Agreements adopted by a National Conference on Interstate Milk Shipments. In New England uniform dairy standards were established at a Governors Conference of Milk Officials March, 1962.

Rhode Island, Maine, Vermont and New Hampshire agreed on their inspection requirements. Milk can move between these states without further inspection of farms and still meet the requirements necessary before permission to import is granted by the Commissioners of Agriculture or whichever authority is responsible for milk inspection.

The interpretation of inspection requirements in Massachusetts and Connecticut are not quite the same as in the rest of New England. This imples that a Maine producer shipping to Massachusetts will be inspected by the Maine inspectors every 6 months. In addition the dealer to whom he is shipping may inspect his farm (although because of cooperation of dealers with the State Department of Agriculture he is likely to accompany the state inspector) and the Massachusetts inspector visits for an official inspection before shipments to his state are allowed.

1/ 1965 Recommendation of the U.S. Public Health Service Grade A Pasteurized Milk Ordinance. p. 36

Any differences in interpretation which may exist can cause inconvenience to and resentment by the milk producer. It would not be correct to imply from the evidence on hand that one inspection is or is not more rigorous than the other. However, it does point to the value of adopting the Public Health Service or some other standards by those states practicing interstate shipments.

With short supplies likely in some years milk may have to be purchased on short notice from out of state dealers or producers. To know that such states have the same regulations and the same interpretation would facilitate this movement. Maine buys from New Hampshire or Vermont without question and vice versa.

The purchase of milk for use in military bases or other federal installations is likely to require farms supplying this milk to meet Public Health Service Ordinance. Perhaps milk used in school lunch programs may have to meet this inspection before deliveries can be made. The Public Health Service provides training courses and farm visits attended voluntarily for purposes of encouraging uniformity in interpretation of the ordinance. The differences in New England are in general so minor that one could expect elimination of all differences in the near future, if appropriate action were taken.

Identity Labeling

The Public Health Service proposed milk ordinance states:

"Identity," as used in this section, is defined as the name and address of the milk plant at which the pasteurization takes place. It is recommended that the voluntary national uniform coding system for identification of pasteurization plants at which milk and milk products are packaged, be adopted in order to provide a uniform system of codes throughout the country.

In cases where several pasteurization plants are operated by one firm, the common firm name may be utilized on milk bottles or containers: PROVIDED, that the location of the plant at which the contents were pasteurized is also shown, either directly or by a code. This requirement is necessary incorder to enable the health authority to identify the source of the pasteurized milk. The street address of the pasteurizing plant need not be shown when only one plant of a given name is located within the municipality.

The identity labeling requirement may be interpreted as permitting plants and persons to purchase and distribute, under their own label, milk and milk products processed and packaged at another plant, provided, that the label reads, "Processed at ..... (name and address)," or that the processing and packaging plant is identified by proper code.

Misleading Labels

The health authority shall not permit the use of any misleading marks, words, or endorsements upon the label. He may permit the use of registered trade designs or similar terms on the bottle cap or label when, in his opinion, they are not misleading and are not so used as to obscure the labeling required by the Ordinance. The use of super grade designations shall not be permitted. Grade designations such as "Grade AA Pasteurized," "Selected Grade A Pasteurized", "Special Grade A Pasteurized," "Premium," etc., give the consumer the impression that such a grade is significantly safer than Grade A pasteurized. Such an implication is false, because the Ordinance requirements for Grade A pasteurized milk, when properly enforced, will insure that this grade of milk will be as safe as milk can practicably be made.

NOTE. Milk or milk products shall be labeled in accordance with the provisions of Section 4 of this Ordinance and, when shipped interstate, shall fulfill the applicable requirements of the Federal Food, Drug, and Cosmetic Act, as amended.

The New Hampshire Laws and Regulations relating to pasteurized milk includes the following:

Labeling Pasteurized Milk and Cream

"Pasteurized Milk and Cream to be Labeled. All bottles, cans or other packages of pasteurized milk and cream shall bear the word PASTEURIZED, together with the name and address of the plant at which pasteurization was effected. Provided, that where the pasteurization and bottling are done for another dealer and such dealer's name appears on the cap, that of the plant need not also appear if this arrangement is a matter of record with the local health department. This is to mean that the name and address must appear on the closure in the case of bottled milk. The closure labeling requirements shall not apply to single service paper containers."

Maine

Sec. 3. R.S., C. 32, sec. 87-D, amended. The 3rd paragraph of section 87-D of chapter 32 of the Revised Statutes, as enacted by section 1 of chapter 163 of the Public Laws of 1961, is amended to read as follows:

'It shall be unlawful for any milk dealer to sell any milk, or milk products as defined in sections 87-A to 87-G, the container of which is not plainly marked or labeled with the name of the contents, the word "pasteurized" or the word "natural" in accordance with the quality therein contained and the name and address of the licensed dealer and sufficient information to identify the milk plant where packaged.'

Sec. 4, R.S., c. 32, sec. 87-D, amended. Section 87-D of chapter 32 of the Revised Statutes, as enacted by Section 1 of Chapter 163 of the Public Laws of 1961, is amended by adding at the end a new paragraph, as follows:

'It shall be unlawful for any person to sell, offer or expose for sale pasteurized milk or cream which has not been handled, processed or packaged in a milk plant operated by a dealer licensed in accordance with section 87-C.'

Appendix I

County	No. Farms by Type - Dairy 1949	No. Farms by Type - Dairy 1964	Total All Farms 1949	Total All Farms 1964	Percent of Dairy to All Farms 1949 Percent	Percent of Dairy to All Farms 1964 Percent
Androscoggin	102	191	1543	627	26.0	30.5
Aroostook	109	115	4614	2292	2.4	5.0
Cumberland	322	117	2284	879	14.1	13.3
Franklin	333	93	1179	451	28.2	20.6
Hancock	90	16	1348	460	6.7	3.5
Kennebec	558	256	2828	1405	19.7	18.2
Knox	102	55	1101	669	9.3	8.2
Lincoln	116	52	1099	416	10.6	12.5
Oxford	444	146	1861	716	23.9	20.4
Penobscot	705	275	3288	1173	21.4	23.4
Piscataquis	133	66	829	302	16.0	21.8
Sagadahoc	122	33	501	253	24.3	13.0
Somerset	643	254	2141	822	30.0	30.9
Waldo	346	175	1959	942	17.7	18.6
Washington	113	31	1656	591	6.8	5.2
York	406	164	2127	877	19.1	18.7
State	4944	2039	30358	12875	16.3	15.8

Appendix II

Number of Dairy Cows, Farms and Milk Cows per Farm, Maine

County	Change in Numbers 1949-1964	Percent	Number of Milk Cows 1949	Number of Milk Cows 1964	Number of Farms Reporting Milk Cows 1949	Number of Farms Reporting Milk Cows 1964	Milk Cows Per Farm Reporting 1949	Milk Cows Per Farm Reporting 1964
Androscoggin	- 60	.8	6880	6820	945	322	7	21
Aroostook	-6043	47.5	12724	6681	3185	783	4	8
Cumberland	-2946	41.4	7117	4171	1245	306	6	14
Franklin	-1459	28.9	5037	3578	816	269	6	13
Hancock	-1552	74.8	2074	522	678	96	3	5
Kennebec	- 625	5.6	11141	10516	1628	619	7	17
Knox	- 720	30.7	2343	1623	569	174	4	9
Lincoln	- 896	37.8	2366	1470	616	179	4	8
Oxford	-1765	27.6	6381	4616	1256	397	5	12
Penobscot	-3215	23.7	13556	10341	1977	596	6	17
Piscataquis	- 513	17.5	2926	2413	526	152	6	16
Sagadahoc	- 833	43.6	1907	1074	310	127	6	8
Somerset	-1827	16.4	11100	9273	1238	503	8	18
Waldo	-1112	16.7	6645	5533	1188	392	6	14
Washington	-1206	49.2	2450	1244	768	131	3	9
York	-1507	20.9	7214	5707	1192	368	6	16
State	-26,279	25.8	101861	75582	18337	5414	6	14

Appendix III

Milk Sold as Whole Milk

County	1949-1964 Percent of Change	1949 Million lbs.	1954 Million lbs.	1959 Million lbs.	1964 Million lbs.
Androscoggin	75.6	33,156	36,022	50,061	58,224
Aroostook	57.4	24,903	45,859	45,973	39,198
Cumberland	11.2	31,132	34,862	35,864	34,646
Franklin	11.9	22,177	22,431	22,580	24,808
Hancock	56.3	5,586	7,571	9,111	2,437
Kennebec	69.9	48,340	61,347	92,140	82,156
Knox	28.3	9,890	9,671	8,700	12,690
Lincoln	28.9	8,033	9,492	13,171	10,360
Oxford	44.8	26,805	33,361	44,171	38,820
Penobscot	33.5	63,236	82,479	103,057	84,463
Piscataquis	72.9	11,499	17,665	16,026	19,889
Sagadahoc	-8.1	7,205	7,978	10,512	6,618
Somerset	55.0	49,706	66,413	87,804	77,040
Waldo	59.4	28,052	37,199	43,556	44,730
Washington	10.0	7,635	7,986	10,306	8,399
York	46.3	32,495	38,328	42,463	47,554
State	44.4	409,850	518,664	635,450	592,032

STATE OF MAINE
DEPARTMENT OF AGRICULTURE
DIVISION OF INSPECTION
AUGUSTA

MILK REGULATIONS AND STANDARDS

IN ACCORDANCE WITH AUTHORITY GRANTED IN SECTION 87-G OF CHAPTER 163, P.L. 1961, AND IN DIRECT OBEDIENCE TO A SPECIFIC MANDATE OF THE SAME STATUTE, AND AFTER INVESTIGATION AND PUBLIC HEARING, THE FOLLOWING RULES AND REGULATIONS ARE ADOPTED AND PROMULGATED AND STANDARDS OF OF IDENTITY, QUALITY, AND PURITY ARE ESTABLISHED, WHICH ARE DEEMED NECESSARY TO SUPPLEMENT AND GIVE FULL EFFECT TO SECTIONS 87-A TO 87-G OF SAID CHAPTER.

1. MILK HANDLERS - HEALTH

No person with any disease in a communicable form, or who is a carrier of such disease, or who shall care for any person having any such disease, shall handle milk, milk products, milk containers or equipment. Every person connected with a dairy fram or milk plant shall pass such examinations as the commissioner may deem necessary, and every such person shall submit such specimens of bodily discharges as the commissioner may require. Such examinations may be made by the local health officer or by a licensed physician approved by the health officer. No person with an infected cut or lesion on hands, arms or other parts of the body shall handle milk, milk products, milk containers or equipment. No milk dealer or sub-dealer shall knowingly accept, sell or distribute milk or milk products on dairy farms where there is a case of a communicable disease or carrier of such disease unless it is produced and handled in conformance with the requirements of the Commissioner of the Maine Department of Health and Welfare. The delivery and collection of milk and milk products containers to places where communicable disease exists shall bein a manner approved by the Commissioner of the Maine Department of Health and Welfare.

2. COWS - HEALTH

All milk shall be from herds which are located in a modified accredited tuberculosis free area as determined by the United States Department of Agriculture. After July 1, 1962 all milk shall be from herds which are located in an officially certified brucellosis free area. All such herds shall comply with the Maine Department of Agriculture requirements for the control and eradication of these diseases. Tests and retests shall be made and any reactors disposed of in accordance with the latest requirements approved by the United States Department of Agriculture and the Maine Department of Agriculture.

All milk and cream sold as raw milk or raw cream must be from cows having passed a negative tuberculin test and a negative brucellosis blood test within one year.

All cows shall be free from disease and cows producing abnormal milk shall be removed from the herd. Such other tests and examinations as the commissioner may deem necessary to determine the health of the cows shall be made at intervals and by methods prescribed by him, and any diseased animals or reactors shall be disposed of as he may require.

3. PRODUCTION

All milk sold or offered for sale shall be clean and free from filth, abnormal secretions, and foreign substances such as manure, insects, blood, pus, excessive leucocytes and objectionable flavors. The standard plate count of milk before pasteurization shall not be more than 100,000 colonies of bacteria per milliliter. The standard plate count of milk after laboratory pasteurization, in a laboratory approved by the commissioner, shall not be more than 10,000 colonies of bacteria per milliliter.

4. DAIRY BARNS

(a) Lighting and Ventilation. A dairy farm shall consist of a dairy barn, milking barn or milking parlor which shall be adequately lighted and well ventilated. Such sections of the milking barn or dairy barn where cows are milked shall be provided with windows so arranged that the light is properly distributed, and they shall be kept clean. The window area in all *new dairy barns or milking barns shall be at least 7% of the floor area.

Such sections of the dairy barn, milking barn, or milking parlor where cows are kept or milked shall be well ventilated and shall not be overcrowded. Well ventilated means free from strong odors, dust and excessive moisture. A minimum of 400 cubic feet of air space per stall or stanchion shall be provided in *new dairy barns or milking barns. Adequate space shall be provided for each animal in loose housing systems. No horses, swine, fowl or other animals shall be permitted in parts of the barn used for dairy purposes.

(b) Floors, Gutters and Walks. All floors, gutters and walks in such sections of the dairy barn, milking barn, or milking parlor where cows are milked shall be tight, smooth and sound. The floors shall be graded and drained properly and shall be kept clean and in good repair. A proper gutter shall be provided of sufficient width, depth and pitch to promote cleanliness of the dairy cows, provide proper drainage and to prevent possible contamination of the milk or the cleaned equipment. All floors, walks, gutters and wall and floor joints in *new dairy barns, milking barns or milking parlors, shall be constructed of concrete or other approved impervious and easily cleaned material.

(c) Walls and Ceilings. The walls and ceilings of the dairy barn, milking barn, or milking parlor shall be tight and smooth with a minimum of ledges where dust and dirt may collect. They shall be kept clean, in good repair, and shall be whitewashed at least once a year or may be painted when needed or finished in a manner approved by the commissioner. Feed shall be stored and handled in such a manner as to best prevent the presence of flies and excessive dust in such sections of the dairy barn, milking barn or milking parlor where cows are milked. Walls of all *new dairy barns, milking barns or milking parlors shall be made of impervious material to a height of at least 12 inches above the floor.

(d) Cow Yard. The cow yard shall be graded, drained as well as practicable, and kept clean and free from all accumulations of manure and waste feed. Cattle housing areas shall be properly drained, shall furnish reasonably firm footing for the animals, shall be free from waste feed, and shall be maintained so as to keep the cows clean. It is recommended that all places where cows gather such as barn or milking parlor entrances and exits, outside feed, watering and exercising areas be constructed of concrete or other approved impervious material. This recommendation shall be deemed a requirement in all loose housing systems. The loafing shed floor, however, need not be constructed of concrete. Swine and other domestic animals shall not be permitted in the cow yard.

(2) Manure Disposal. All manure shall be removed and stored or disposed of in such manner as to prevent the breeding of flies therein or the access of cows to piles thereof. Manure shall not be piled against dairy buildings and there shall be no excessive accumulations of manure near the dairy barn, milking barns, milking parlor or milk room. Storage of manure in barn cellars, manure pits, or sheds that

are properly constructed and maintained may be permitted. Dead animals shall be removed immediately from the premises and properly disposed of.

5. MILK HOUSE OR ROOM

Each dairy or dairy farm shall be provided with a milk house or room of sufficient size with proper facilities for the cooling to and storing at a temperature of less than 45°F., of all **milk, and the storing on a metal rack of all sterilized containers and utensils.

Milk dealers, producer dealers and producers having bulk milk tanks or conveying milk through pipe lines shall have a milk house or room containing adequate facilities for the cleaning and sanitizing of all equipment and containers which shall be done in the milk house or room. The milk house or room shall be provided with an adequate supply of hot and cold water under pressure. The milk house or room of all milk dealers and producer dealers shall be provided with a stationary three-compartment sink or other milk bottle or can washing and sanitizing equipment which is approved by the commissioner. Farm bulk milk tanks shall be installed in the milk house or room and operated in compliance with the instructions issued by the commissioner, governing the installation and use of bulk milk tanks and their operation. The milk house or room shall be used for no other purposes than stated above except with the written permission of the commissioner.

(a) Lighting and Ventilation. The milk house or room shall be well lighted, with both artificial and natural light, ventilated and free from dust. All openings shall be effectively screened throughout the fly season and shall include outward openings, self-closing screened doors. The window area in all *new milk houses shall not be less than 10% of the floor area.

(b) Floors. The milk house or room shall be provided with a tight, smooth floor constructed of concrete or other equally impervious material, graded to provide proper drainage and shall be kept clean. The milk house shall be provided with trapped drains and wastes shall be disposed of in a satisfactory manner. Floor and wall joints shall be tight and impervious.

(c) Walls and Ceilings. The walls and ceilings shall be of such construction as to permit easy cleaning and shall be tight and smooth and washable with a minimum of ledges. All walls of all *new milk houses shall be made of impervious material to a height of at least 12 inches above the floor.

(d) Location. The milk house or room shall be so located and the operations shall be so conducted as to prevent any contamination to the milk or to the cleaned equipment. The milk house shall be separated from the dairy barn, milking barn or milking parlor and shall not open into any room used for domestic purposes, or into any undesirable place. It shall be located near enough to the dairy barn, milking barn or milking parlor so that the milk may be carried directly to the milk house or room for the purpose of straining. Milk shall not be carried from that part of the barn where it is milked through the horse barn, barn floor or grain room or any unsanitary place to the milk house or room. Milk houses or rooms attached to the side of a dairy barn, milking barn, or milking parlor shall be connected with a six foot ventilated vestibule or covered walk with self-closing double doors. Other arrangements may be approved by the commissioner which are equally effective in preventing the entrance of flies, dust, or odors into the milk, milk house or room.

(e) Cleanliness. The floors, walls, ceilings and equipment of the milk house or room shall be kept clean at all times. All necessary means for the elimination of flies shall be used.

6. TOILET

Dairy farms shall be provided with on or more sanitary toilets, conveniently located, properly constructed, operated and maintained. No toilet shall open directly into any milk house or room.

7. WATER SUPPLY

The water supply for all dairy purposes shall be adequate, protected and safe. Approved vacuum breakers shall be installed where necessary.

8. UTENSILS

(a) Construction. All containers, equipment or utensils used in the production, handling, storage or transportation of **milk shall be made of a smooth, impervious, non-corrodible, non-toxic material, and shall be so constructed as to be easily cleaned, and shall be kept in good repair. Milk handling equipment shall be of a structural design to meet recognized national standards or approved by the commissioner. Joints and seams shall be flush. No woven wire strainers shall be used. Single service containers, closures, gaskets and other articles used shall have been manufactured, packaged, transported and handled in a sanitary manner. Milk shall be strained only through single service sterilized strainer pads, filter bags or cloths and shall not be re-used.

(b) Cleanliness. All utensils, containers and equipment except single service

containers used in the production, handling, storage, transportation or sale of **milk shall be thoroughly cleaned after each usage and subjected effectively before each usage to an approved bactericidal treatment with steam, hot water (180°F) or chemical agent. Chemical solutions shall not be used for bactericidal treatment more than once.

(c) Storage. After bactericidal treatment, all utensils, containers, and equipment used in the production, handling, storage, transportation or sale of ** milk shall be stored in the milk house or room in such manner as to be protected from contamination. All equipment shall be free from an accumulation of moisture at time of milking. Between bactericidal treatment and usage, containers and equipment shall not be handled or operated in such a manner as to permit contamination of the **milk or to the cleaned equipment.

The milk house storage and cleaning requirement may be waived by the commissioner for pipe line milkers providing the other provisions of this section are complied with.

Single service articles shall be purchased and stored only in sanitary tubes, wrappings, or cartons; and shall be kept therein in a clean dry place until used, and shall be handled in a sanitary manner.

9. MILKING AND HANDLING

The flanks, bellies and tails of all milking cows shall be free from visible dirt at the time of milking. Abnormal milk shall be so handled and disposed of as to preclude the infection of the cows and the contamination of milk utensils and equipment. Milkers' and milk handlers' hands shall be clean. Wet hand milking is

prohibited. Milkers and milk handlers shall wear clean outer garments while milking or handling **milk, containers, utensils and equipment. Milk stools, milking machine vacuum systems, straps and surcingles shall be kept clean and stored above the floor when not in use.

(a) Removal of Milk. Each pail of milk shall be removed immediately to the milk house or room. All milk shall be strained and poured in the milk house or room, or in a properly protected milk dumping station approved by the commissioner.

(b) Cooling. All **milk shall be cooled immediately, after milking, to a temperature of less than 45 F., and held at that temperature until delivered to the consumer or until pasteurized in a milk plant. Cooling tanks shall have an overflow pipe so installed as to prevent the submerging of milk containers. The cooling water shall be kept fresh, clean, and the level shall be as high as any milk in the containers. No milk shall be held outside the farm bulk milk tank.

(c) Bottling and Packaging. **Milk shall be bottled or packaged from approved mechanical equipment in such manner as to prevent any part of the person or clothing from coming in contact with any surface with which **milk comes in contact. Overflow or drip milk shall not be sold for human consumption.

(d) Capping. Capping of **milk shall be done in a sanitary manner by approved mechanical equipment. The cap or cover shall protect the pouring lip to at least its largest diameter.

10. VEHICLES AND PREMISES

All vehicles used for the transportation of **milk shall be constructed and operated so as to protect their contents from the sun, from freezing and from con-

tamination, and shall have the name of the dealer prominently displayed thereon. The immediate premises of the dairy shall be kept neat and clean.

11. GRADE A RAW MILK

Grade A raw milk shall be produced on dairy farms conforming with the provisions and recommendations for *new barns and milk houses.

Grade A raw milk shall be bottled or packaged and capped on the dairy farm where it is produced. The standard plate count shall not be more than 10,000 colonies of bacteria per milliliter.

Grade A dairy farms shall have a milk house or room provided with a sufficient supply of hot and cold water under pressure and it shall contain adequate facilities for the cleaning and sanitizing of all equipment and containers which shall be done in the milk house or room. All milk pails used on grade A dairy farms shall be of a small mouth design.

* The word "new" shall mean new construction, or remodelling commenced after the effective date of these regulations.

** So far as applicable the word "milk" shall mean milk, cream, flavored milk, flavored dairy drink, skim milk, non-fat or fat-free milk.

12. GRADE A PASTEURIZED MILK

Grade A pasteurized milk is grade A milk which has been pasteurized. It shall be handled in separate equipment or in equipment which has been thoroughly cleaned after handling other grades of milk and sanitized effectively immediately before handling grade A milk. Grade A pasteurized milk may be from cows not

tested annually for tuberculosis and brucellosis.

No milk shall be labelled grade A unless the commissioner is satisfied that it has been properly segregated during production, transportation, handling, pasteurizing and packaging. The standard plate count of grade A pasteurized milk shall not be more than 5,000 colonies of bacteria per milliliter.

13. PASTEURIZING PLANTS

(a) Floors. The floor and wall joints of all rooms in which milk is handled stored, or in which milk utensils or equipment is washed shall be tight and constructed of concrete or other impervious material.

(b) Walls and Ceilings. Walls and ceilings shall be tight. In all *new construction, the walls of rooms in which milk or equipment is handled or washed shall be constructed of concrete or similar impervious material to a height of at least 3 feet above the floor. Ledges shall be kept to a minimum and inside window sills shall slope downward.

(c) Doors and Windows. Outside doors shall open outward and shall be kept closed when not in use. The pasteurizing room shall have suitable self-closing doors at all entrances.

(d) Lighting and Ventilation. All rooms shall be provided with a minimum of 10 foot candles of light on all working surfaces, with the exception of storage rooms. All rooms shall be adequately ventilated to prevent condensation. The rooms shall be kept clean.

(e) Protection from Contamination. All milk shall be conveyed from the receiving equipment to the processing equipment and from the processing equipment to the cooler and filler through sanitary piping. Producer cans shall not be handled in the pasteurizing room.

Bulk truck tanks and equipment shall be washed and sanitized in a suitably equipped room which is separate from the pasteurizing room and the bottle washing room. The bulk truck tank and equipment shall be handled so as to prevent contamination of the milk.

Milk ingredients used in the manufacture of milk products shall be handled and stored so as to prevent contamination of the product.

Poisonous substances, insecticides, rodenticides, detergents and sanitizers shall be correctly labelled and handled, and shall be stored in a room not used for handling **milk.

(f) Toilet. Sanitary toilets and convenient hand washing facilities shall be provided, including hot and cold running water, soap and approved towels. Hand washing signs shall be posted.

(g) Water Supply. All plumbing shall be installed in conformity with the plumbing code of the State Department of Health and Welfare.

(h) Milk Handling Equipment. All milk shall be pasteurized and handled in equipment provided with suitable controls. The pasteurizing equipment and controls shall be constructed, installed and operated in a manner approved by the commissioner so that all of the product is properly pasteurized and thereafter protected from contamination.

All milk plant equipment shall be constructed, installed and operated so as to meet the approval of the commissioner. So far as is practicable, the commissioner may be guided by the requirements of the current United States Public Health Service Milk Ordinance and Code in approving the construction, installation and operation of the milk plant and equipment.

Cream, high fat and flavored milk products shall be pasteurized at 150°F., or higher, for 30 minutes, or at 166°F., or higher, for 15 seconds.

Milk shall not be heat treated or pasteurized more than once except as may be especially permitted by the commissioner.

The interior of all Cleaned in Position milk pipe lines shall be smooth or properly gasketed, and return, recirculating lines shall be of the same or equivalent material as the milk line.

(i) Disposal of Wastes. All wastes shall be disposed of in such a manner that they do not permit the breeding of flies or create unsanitary conditions.

(j) Bactericidal Treatment. Effective bactericidal treatment shall mean bottles having a bacterial plate count of not more than 1 colony of bacteria per milliliter of capacity; and cans and equipment of not more than 100 colonies of bacteria per 8 square inches of milk contact surface, and free from coliform organisms. Hot water, steam, or chemicals shall be used for bactericidal treatment, except that other equally effective measures may be approved by the commissioner.

Cleaned in Position systems shall have a recording thermometer of proper range connected in the return line near the downstream end so that a time and temperature record is obtained of the cleaning and bactericidal treatment.

Bottles and cans shall be washed and sterilized in an approved bottle or can washer or in a stationary 3-compartment sink. Washed bottles and cans shall be rinsed before being subjected to chemical bactericidal treatment.

(k) Storage and Handling of Containers and Equipment. Clean bottles and cans shall be stored at least 12 inches above the floor on metal racks. Dispenser

cans after sanitizing shall be stored, filled, handled and transported on clean metal racks or surfaces.

(l) Storage of Caps and Single Service Products. All containers or articles removed from the shipping container shall be stored in a suitable cabinet until used.

(m) Cooling. Each refrigerator or chest where **milk is stored shall be provided with an approved thermometer which shall be properly located.

(n) Bottling and Packaging. All **milk shall be bottled and packaged in approved mechanical equipment. Dispenser cans shall be properly sealed at the plant where contents are pasteurized.

(o) Capping. All caps, parchment paper, and single service containers that have been exposed to contamination shall be discarded. No loose caps shall be used.

(p) Personnel - Cleanliness. All persons handling **milk shall be neat and clean and the use of tobacco is prohibited.

(q) Vehicles. All vehicles used for the transportation of **milk shall be kept clean and contaminating material shall not be transported with **milk or **milk containers. Milk tank trucks, tank cars and shipping vats shall be subjected to the following provisions:

(1) Milk shall be conveyed to and from tanks only through sanitary piping or approved flexible piping which shall be capped when not in use.

(2) Inlets and outlets of all transportation tanks shall have tight fitting dust caps or covers.

(3) Milk dealers shall not accept shipments of milk without prior approval from the commissioner. Every such shipment shall be accompanied with a bill of lading, stating the consignee's name, the sources and amount of milk shipped, the

shipping and receiving points, and the consignor's name and address. Tanks shall be properly sealed immediately after loading, and the seal shall not be broken until the contents are delivered at the consignee's milk plant. Such bills of lading shall be available to the commissioner and shall remain on file for at least a six month period.

THESE STANDARDS AND REGULATIONS FOR MILK SUPERSEDE ANY WHICH HAVE BEEN PREVIOUSLY PROMULGATED BY THE COMMISSIONER OF AGRICULTURE.

THESE STANDARDS AND REGULATIONS ARE TO BECOME EFFECTIVE JANUARY 1, 1962 AND ARE HEREBY ADOPTED AND I HAVE TODAY SIGNED IT WITH MY HAND AND HEREWITH AFFIXED THE SEAL OF THE DEPARTMENT OF AGRICULTURE.

Dated this 18th day of December 1961

Signed E. L. Newdick
Commissioner of Agriculture

Chapter 603, Sec. 2952 Revised Statutes of Maine 1964 Organization

The Maine Milk Commission, as heretofore established, shall consist of 2 producers, a dealer, a producer-dealer and 2 consumers, all of whom shall be residents of the State. They shall be appointed by the Governor with the advice and consent of the Council and shall serve for a term of 4 years and until their successors have been duly appointed and qualified. The Commissioner of Agriculture shall be ex officio a member of said commission.

Sec. 2953. Powers and Duties

The commission shall have power to supevise, regulate and control the purchasing, distribution and sale of milk within the State, in such a manner as to supplement such supervision and regulations as are not imposed by existing statutes or by lawful ordinances or rules and regulations of the several cities and towns of the State. The commission shall have no power to modify, add to or annul any sanitary regulations imposed by any state or municipal authority, or to compel pasteurization in any market area. The commission in administering this chapter shall adopt such policies as are consistent with the promotion of marketing programs which progressively eliminate those conditions in the milk industry necessitating the present law. The commission shall cooperate with the Commissioner of Agriculture and with representatives of the industry in devising marketing programs to implement such policies. In administering this chapter, it shall have power to conduct hearings, subpoena and examine under oath dealers with their records, books and accounts and any other person from whom information may be desired to carry out the purposes and intent of this chapter and any member of the commission may sign subpoenas and administer oaths to witnesses.

Any member of the commission or its representatives may enter at all reasonable hours all places where milk is being received, processed, stored or otherwise handled and shall have access to all books and records relating to milk for the purpose of ascertaining facts to enable the commission to administer this chapter. The commission may adopt, promulgate and enforce all rules and orders necessary to carry out this chapter.

The commission may act as mediator or arbitrator to settle any controversy or issue among or between producers, dealers and consumers, any of whom may petition the commission in writing to change prices or conditions in any market area.

R.S. 1954, c. 33, Sec. 3; 1957, c. 407

Sir: This inspection report is to notify you of violations which are marked with a cross (X).

Approved ..... Reinspect ..... Unsatisfactory .....

COWS

1. **Cows, Health:** (15)
Date tested for T. B. (a) .....
Date tested for Bangs (b) .....
Evidence on file (c) .....
No extensive induration of udders (d) .....
No cows giving abnormal milk (e) .....
Other tests as required (f) .....
Diseased animals removed from herd (g) .....

MILKING BARN

2. **Lighting:** (1)
Adequate natural and/or artificial light properly distributed (a) .....
3. **Air Space and Ventilation:** (1)
Well ventilated (a) .....
No overcrowding (b) .....
4a. **Floor Construction:** (1)
Floor areas concrete or other impervious and easily cleaned material when required; in good repair (a) .....
Graded to drain (b) .....
Other barn portions separated (c) .....
4b. **Floor Cleanliness:** (2)
Cleaned, as required (a) .....
No swine, fowl, horses, or dead animals (b) .....
5. **Walls and Ceiling:** (1)
Painted biennially or whitewashed annually or other satisfactory finish (a) .....
Clean; in good repair (b) .....
Ceiling tight if storage overhead (c) .....
Feed room or bins dust-tight with door or cover (d) .....
6a. **Cowyard, Grading and Draining:** (1)
Graded to drain (a) .....
No pooled wastes (b) .....
6b. **Cowyard, Cleanliness:** (1)
Cowyard clean and loose-housing areas properly maintained (a) .....
No swine (b) .....
7. **Manure Disposal:** (4)
Fly breeding minimized by approved disposal methods (a) .....
Stored inaccessible to cows (b) .....

MILK HOUSE

8a. **Floors:** (1)
Smooth; concrete or other impervious material; in good repair (a) .....
Graded to drain (b) .....
8b. **Walls and Ceilings:** (1)
Approved material and finish (a) .....
Good repair (b) .....
8c. **Lighting and Ventilation:** (1)
Adequate natural and/or artificial light properly distributed (a) .....
Adequate ventilation (b) .....
Doors and windows closed during dusty weather (c) .....
8d. **Screening:** (2)
All openings effectively screened and doors open outward and self-closing, unless flies otherwise kept out (a) .....
8e. **Miscellaneous Requirements:** (2)
Used for milk-handling purposes only (a) .....
Milk house operations not conducted elsewhere (b) .....
No direct opening into living quarters or barn except as permitted by regulations (c) .....
Adequate water-heating facilities (d) .....
2-3* compartment stationary wash rinse vats of adequate size (e) .....
Wastes properly disposed of (f) .....
*Milk bottled in approved equipment (g) .....
*Operated in sanitary manner (h) .....
*No hand capping (i) .....
*Pouring lip of container protected (j) .....
*Caps purchased in tubes and kept in clean, dry place (k) .....
*Name and address of dealer, product and quality identity on container (l) .....
* Applies to producer dealers
9. **Cleanliness and Flies:** (3)
Floors, walls, windows, shelves, tables and equipment clean (a) .....
No trash or unnecessary articles (b) .....
Necessary fly-control measures used (c) .....

TOILET AND WATER SUPPLY

10. **Toilet:** (5)
Provided; conveniently located (a) .....
Constructed and operated properly (b) .....
No evidence of human defecation or urination about premises (c) .....
Clean; no direct opening into milkroom (d) .....
11. **Water Supply:** (5)
Safe sanitary quality (a) .....
Adequate in quantity (b) .....
Easily accessible (c) .....

UTENSILS AND EQUIPMENT

12. **Construction:** (3)
Smooth, heavy-gauge material, non-corrodible surface, non-absorbent, non-toxic, easily cleanable; joints and seams flush (a) .....
Good repair (b) .....
Straining, single-service pads used (c) .....
Small-mouth pails (seamless, if new) (d) .....
13. **Cleaning:** (5)
Cleaned after each usage (a) .....
Must look and feel clean (b) .....
14. **Bactericidal Treatment:** (5)
All milk containers and equipment subjected to approved bactericidal process (a) .....
15. **Storage:** (2)
Left in treating chamber of bactericidal solution until used or stored properly above floor (a) .....
Single-service articles properly stored (b) .....
Equipment and utensils not exposed to toxic substances (c) .....
Returned milk cans promptly stored (d) .....
16. **Handling:** (1)
No handling of milk-contact surfaces after bactericidal treatment (a) .....

MILKING

17. **Udders and Teats: Abnormal Milk:** (4)
Milking done in barn or milking parlor (a) .....
Udders and teats clean (b) .....
Rinsed with bactericidal solution just prior to milking (c) .....
Abnormal milk excluded, and properly disposed of (d) .....
18. **Flanks:** (2)
Flanks, bellies, and tails of cows clean at time of milking (a) .....
Brushing completed before milking begun (b) .....
Clipped when required (c) .....
19. **Milk Handlers: Hands and Body:** (2)
No infections on hands, arms or body (a) .....
Washed; then rinsed with bactericidal solution before milking and upon recontamination (b) .....
Clean and dry while milking or handling milk (c) .....
Hand-washing facilities, including soap, water and individual clean towels convenient to milking operations (d) .....
20. **Clean Clothing:** (1)
Clean outer garments (a) .....
21. **Milk Stools and Surcingles:** (1)
Clean; stored above floor in clean place (a) .....
Stools of easily cleanable construction, no padding (b) .....
22. **Removal of Milk:** (1)
Immediate removal to milk house or straining room when required (a) .....
Straining done in milk house or straining room, not in barn unless can protected by well-fitting cover and protected from manure and splash (b) .....
23. **Cooling:** (5)
Milk cooled to 45° F., or less (a) .....
24. **Vehicles and Surroundings:** (1)
*Vehicles clean, name of dealer shown (a) .....
Constructed so as to protect milk (b) .....
No contaminating substances transported (c) .....
Surroundings clean, free from insect breeding and rodent harborages (d) .....
* Applies to producer dealers
25. **Milk Quality:** (20)

(over)

MAINE DEPARTMENT OF AGRICULTURE — BUREAU OF DAIRY INSPECTION

Name ..... P. O. Address .....

No. of cows ..... Amount produced ..... Sold to .....

Other sources of supply .....

Amount purchased ..... Gallons sold daily Retail Wholesale

Milk ....

Milk Products ....

Date ..... Time .....

.....
Inspector

Violation of the same requirement on two successive inspections calls for immediate action

Remarks: