FARMER EVALUATION OF PROCUREMENT POLICIES AND PRACTICES OF A SELECTED GROUP OF DAIRY PROCESSING FIRMS

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PREFACE

Studies covering buyers and sellers in the same market complement each other and offer the possibility of viewing the same problems from different perspectives. At the time this study was initiated, two studies of milk buyers in a selected northwestern Wisconsin milk market had been completed. They showed that the management of buying firms held particular views about the responses of sellers to different competitive techniques. The purpose of this study was to determine how accurately buyers had assessed seller response and why sellers respond as they do.

Funds for this research were provided by the Wisconsin Agricultural Experiment Station. Suggestions, guidance, and cooperation from many people were equally as valuable.

Excellent cooperation was given by the Department of Agricultural Economics at the University of Wisconsin. The investigator is indebted to Robert L. Clodius, senior author of the two studies of buyers, for assistance in planning this study and pretesting the questionnaire.

Special credit goes to Frank Groves, John Moore, and Robert Miller, graduate assistants at the University of Wisconsin, for their help with supervising the field crew and interviewing dairy plant managers. Groves also helped

with pretesting the questionnaire and devoted many hours to coding and statistical work. Harlow W. Halvorson, University of Wisconsin, served as statistical consultant and his efforts are greatly appreciated.

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CHAPTER I

INTRODUCTION

The purpose of this study was to obtain an evaluation by dairy farmers of the milk procurement policies and practices used by dairy processing firms in a particular dairy marketing region of northwestern Wisconsin. Two previous studies of the market[1] revealed that three types of facts were needed as the basis for recommendations that might lead to greater dairy marketing efficiency in the area. Three specific purposes of the study, therefore, were: (1) to determine the extent and accuracy of the milk marketing information possessed by dairy farmers in the area; (2) to find out why they reacted to specific milk procurement policies and practices as they did; and (3) to obtain opinions on how they might react to certain changes in milk procurement policies and practices.

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[1] Robert L. Clodius, Darrell F. Fienup, and R. Larry Kristjanson, Procurement Policies and Practices of a Selected Group of Dairy Processing Firms, Part 1, Some Aspects of Market Structure, Competitive Behavior, and Market Results (Wisconsin Agricultural Experiment Station Research Bulletin 193, January, 1956), and Part 2, Managerial Aspects of Price and Nonprice Competitive Behavior Among Nine Dairy Processing Firms (Wisconsin Agricultural Experiment Station Research Bulletin 199, February, 1957).

Several conclusions from the two earlier studies were taken as the hypotheses for this investigation. To provide background and to place this research in the proper perspective, pertinent findings from the two previous studies are presented in this first chapter. The hypotheses are then stated. They are followed by a section on the economic theory that provided the framework for the research.

Personal interviews of dairy farmers and dairy plant managers were used to obtain the data for this study. Chapter II explains the method of procedure.

Characteristics of the sellers and their market environment are presented in Chapter III. The chapter is primarily descriptive, giving such details as ages, education, ownership of farms, size of farm operations, distances from sellers' farms to dairy plants, and types of buyers.

The next two chapters contain the most significant data of the study. Chapter IV is primarily an analysis of sellers' knowledge of and response to price. It deals with the reasons why sellers changed plants, their views of a "good buyer," base prices, methods of payment, differentials, premiums, and hauling charges. Opinions that do or might influence sellers' marketing decisions are included.

Chapter V is an analysis of the data collected about 11 nonprice services. It includes sections on the services provided by the 20 buyers, sellers' evaluations of and response to the services, and the dual roles of haulers and fieldmen in providing the services and soliciting patrons.

A summary of the findings and recommendations for improving dairy marketing efficiency in the area is given in Chapter VI.

Review of Previous Research

The importance of this study can best be shown by a brief review of the earlier work dealing with the same market. Two intensive studies of the buying side of the market had been completed before this study was planned. The first study was concerned with price aspects and factors relating to price in the procurement of milk within an eight-county area of northwestern Wisconsin.[2] The second study was devoted to nonprice factors in milk procurement.[3] These studies showed, as have studies in other markets,[4] that dairy processing firms emphasize nonprice factors in milk procurement and follow average pricing policies.

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[2]Darrell F. Fienup, "Price Aspects of Milk Procurement Under Conditions of Imperfect Competition" (unpub. Ph.D. dissertation, University of Wisconsin, 1955).

[3]Ragnar L. Kristjanson, "Nonprice Factors in Milk Procurement" (unpub. Ph.D. dissertation, University of Wisconsin, 1955).

[4]Similar conclusions were drawn from earlier studies at the University of Connecticut, Purdue University, and the University of Kentucky. John J. Dillon, Seven Decades of Milk, A History of the New York Dairy Industry (New York, 1941), contains similar conclusions.

Price Policies. Research by Pienup and Kristjanson showed that dairy plant management believed dairy farmers to be quite unresponsive to price within less than a 5-cent per hundredweight range of variations. They found that managers as well as fieldmen believed that a firm must consistently pay at least 5 cents above the average price of competing firms up to 6 months before patron members change to the higher paying plant. This means that a firm could vary its price within a possible 10-cent range and its number of patrons would remain fairly constant.

The plant study[5] also showed that a high price may attract patrons, but that patrons gained on the basis of a higher price alone will probably change firms as price falls. Therefore managers held the opinion that patronage of a firm seemed more stable where patrons were held by personal and service inducements rather than by high prices alone.

Opinions of managers regarding farmer responsiveness to changes in price also applied to hauling rates. Hauling rates in the area had been quite inflexible and were not considered strategic factors to be manipulated in short run procurement decisions.[6]

Haulers and Fieldmen. Clodius and co-workers found

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[5]The terms "plant study," "study of the buying side," and "original plant survey," as used in this study, refer to the studies conducted by Clodius, Pienup, and Kristjanson in the same market.

[6]Clodius, Pienup, and Kristjanson, Part 2, p. 51.

that haulers, and to a lesser extent fieldmen, were considered by management to be a substitute for price manipulations in procurement.[7] Fieldmen were regarded as the most useful for gaining new patrons, but haulers were considered the most influential in keeping them. However, managers believed that fieldmen confused farmers by engaging in gossip and rumors about plant financial conditions, prices, and butterfat tests, making it difficult for farmers to make precise marketing decisions. Data gathered in the plant study supported the view that firms in procurement difficulties would probably fare better financially if they improved the quality of their field force than if they increased their pay price.[8]

Criticisms that fieldmen engaged in gossip and rumor were also directed at haulers. However, Clodius and coworkers concluded that criticism of the hauler may have more serious implications for the future as firms move to bulk milk procurement.

Methods of Payment. Paying patrons for milk on the basis of butterfat content and on a fat and solids basis was found to further complicate the price picture. Management believed the systems of payment used in the area could not be easily compared by patrons.[9]

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[7]Ibid., p. 50.

[8]Ibid., p. 54.

[9]Ibid., p. 51.

Nonprice Practices. Seven nonprice services were found to be commonly used by the plants studied to gain or hold patrons. The services were evaluated as follows:[10]

1. Farm supplies at discount probably saves farmers some costs, the firm's cost is covered by a 10 percent mark-up, and the practice should be continued.

2. Advance payments to patrons shortens the time interval between receipt of milk and payment for it, costs the plant relatively little, and should be continued.

3. Free milk cans lead to misuse of cans on the farm and thus add to costs of the industry. This practice should be discontinued. Farmers could supply their own milk cans and plants could provide a retinning service.

4. Assistance in financing new equipment and buildings appears beneficial to plant and patron and enables a farmer to obtain loans free of interest, except in the case of one firm. A danger lies in overextending this service by firms without large financial reserves.

5. Assignments by dairy firms may provide credit for the farmer, but the greatest benefit appears to be to the business establishment making the sale. Dairy firms might consider making a charge to business firms to cover costs of handling assignments.

6. Group medical insurance for patrons provides a

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[10]The evaluations presented here are a condensation from Clodius, Fienup, and Kristjanson, Part 2, pp. 52-53.

needed service, but much confusion exists on the coverage and costs of the various plans. Explanation of the various plans is needed.

7. Cost of twice-a-month payment for grade B milk could be reduced by adopting the grade A system of making one check a "guess check" and the final one the actual amount owed the farmer.

Other Findings About the Market. A belief in the strength of the "cooperative idea" was found to be important in determining management policies and practices. Management believed that the cooperative idea offsets to some extent the need for fieldmen by cooperatives, but managers of cooperatives also thought that the cooperative idea was losing some of its appeal.[11]

The market was considered fairly competitive because small firms did compete actively against large firms.[12] Furthermore, two or three large firms had consistently paid higher than average prices for the area.

There were indications that the market may eventually become one of a few large firms as small firms become fewer and as large firms continue to grow. The possibilities of collusion are greater when the number of firms is small. However, about half of the large firms were cooperatives. Clodius, Fienup, and Kristjanson concluded that the continuance

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[11] Clodius, Fienup, and Kristjanson, Part 2, pp. 30-31.

[12] Ibid., Part 1, p. 40.

of cooperatives as an alternative for farmers would be the best assurance of effective competitive forces in the farmers' interest.

Managers estimated that their plants operated at only 30 percent to 50 percent of capacity in slack milk production periods such as the fall and winter.[13] Average costs per hundredweight of milk handled could be lowered if plant output could be increased to capacity.

The plant study showed a need for better market information. No formally organized reporting service was provided. Farmers need accurate price information if they are to realize the greatest income from the sale of their milk. Clodius and co-workers concluded that even though prices paid in the area might be essentially the same, accurate price information might tend to make farmers more price responsive.

Because some of the conclusions of the studies outlined above consist largely of management's appraisal of sellers, a related study dealing with the seller's appraisal of the buyer would provide greater insight into operations of the market.

Hypotheses to be Tested

The conclusions presented above were made the hypotheses of this investigation of the selling side of the market for

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[13] Ibid., Part 2, p. 51.

the purpose of orientation. The conclusions were summarized into a major hypothesis, which can be stated as: Management of a selected group of dairy processing firms is essentially correct in its appraisal of farmers' reactions to price and nonprice policies followed in milk procurement.

Proof of the major hypothesis depends upon evidence that will support the following hypotheses:

1. Farmers are unresponsive to price changes of 5 cents or less per hundredweight of milk.

2. A dairy processing firm must pay a price of 5 cents or more above average per hundred pounds of milk for the procurement area for six months before any substantial number of farmers will switch to the higher paying firm.

3. Farmers are as unresponsive to changes in hauling rates as to changes in price.

4. Confusion about methods of payment for milk discourages farmers from changing to a new firm.

5. Personal relations between farmer and hauler discourage the farmer from changing to a new firm.

6. Fieldmen and haulers confuse farmers by engaging in gossip and rumor about plant financial conditions, prices paid, and accuracy of butterfat tests and thereby increase the difficulties farmers face in making wise marketing decisions.

7. A substantial percentage of dairy farmers mistrust milk tests made by dairy plants and believe there is manipulation of tests to influence patrons.

8. Dairy products processing cooperatives have a unique advantage in milk procurement because of the esteem of the "cooperative idea" held by farmers, but this appeal is declining.

9. Nonprice policies followed in procurement are firmly established and if discontinued by a firm will result in a loss of patrons.

10. Detailed price information would tend to make dairy farmers more price responsive.

Applicable Theory

The hypotheses provided direction to the study. Appropriate economic theory was used as the analytical tool. Ideas from the theory of imperfect competition were used throughout this study. The investigator drew most heavily upon Commons,[14] Robinson,[15] Nicholls,[16] and Galbraith.[17]

Business Goodwill. In his chapter on the price bargain Commons discussed three types of goodwill which seemed pertinent to this study. According to Commons, all goodwill begins with personal goodwill which results when a customer

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[14] John R. Commons, Legal Foundations of Capitalism (New York, 1932).

[15] Joan Robinson, The Economics of Imperfect Competition (London, 1948).

[16] William H. Nicholls, Imperfect Competition Within Agricultural Industries (Ames, 1941).

[17] J. K. Galbraith, American Capitalism: The Concept of Countervailing Power (Boston, 1952).

is satisfied with a transaction with the owner of a business. In at least one case in this study the intangible bond of personal goodwill seemed to exist between patrons of a small plant and the owner-cheesemaker. Although the firm offered fewer services than competitors and paid average or lower prices, several patrons volunteered the information that they would remain with the cheesemaker as long as he was in business. This personal bond had developed through the years because the cheesemaker had treated his patrons in such a way that they felt that they were getting a "square deal."

Location goodwill was the second type of goodwill stressed by Commons. In the market studied a dairy plant was often the largest or the only industry in a small town. Farmers, anxious to keep their trading centers alive, apparently continued to ship milk to a firm that paid average or lower prices in order to support the plant and town. Location goodwill was also the obstacle that could not be overcome in an attempt to combine two small dairy processing cooperatives into one larger, more efficient plant. Several farmers interviewed stated that each community wanted the new plant to be located in "their town" and as a result the idea had to be abandoned.

Business goodwill, the third type discussed by Commons, becomes important as a firm grows and personal contact declines between management and customer. In the case of milk procurement, business goodwill is exemplified by the patron satisfied with price and services received. Thus in an area

where there is little variation in prices paid, services become the factors manipulated to maintain the goodwill of patrons.

As part of the action of maintaining business goodwill, nonprice services are used in the sense of product differentiation. That is, management of one firm may emphasize more services, better services, or a service not offered by competing firms as a method of differentiating the firm in the minds of patrons. Commons' conclusion that "goodwill is a competitive asset and diminishes in value with an increase in the supply of competing goodwills"[18] applied to the adoption of nonprice services by firms procuring milk in the area studied.

Circular Interdependence of Buyers. Nicholls arrives at conclusions similar to Commons, but he says service differentiation arises from the circular interdependence of firms. A distinguishing characteristic of oligopoly or oligopsony is the fact that each firm can, by a change in its own policies, bring about a change in policies of rivals. The changes in policies of rivals are then reflected back to the first firm, creating a "circular interdependence among the few firms' price and volume policies."[19]

Nicholls says an entrepreneur soon recognizes circular

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[18] Commons, p. 206.

[19] Nicholls, p. 114.

interdependence and is able to estimate the extent and timing of rival reactions to a change in his own policy. In such a situation "price would approach the same level as under formal collusion"[20] even though firms are completely independent. Such non-aggressive policies lead to the oligopolist or oligopsonist trying to differentiate itself through services.

According to Nicholls, a general class of services is differentiated if any significant basis exists in the minds of sellers for preferring the services of one buyer over those of another. As service differentiating he lists such things as convenience of location, reputation or personality, dispatch with which a farm product is handled and payment made, fairness of grading, weighing, or testing, and hauling facilities offered. Insofar as such factors, "whether tangible or intangible, real or merely fancied," vary from buyer to buyer, "the services in each case are different, and each seller takes them into account in his choice of a particular buyer as the outlet for his product."[21]

Once producer preferences are established, the buyer has partial independence of action and each oligopsonist has a purchase curve unequivocally its own, Nicholls says. He describes the results as follows:

This curve will be rising, its position and elasticity

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[20] Ibid., p. 130.

[21] Ibid., p. 198.

> depending upon the availability of other buyers offering a similar, though no longer identical, complex of services to the seller. The given firm, therefore, is a monopsonist with regard to his own particular group of sellers, but is subject to the competition of other buyers offering more or less imperfectly substitutable services, the competition of which sets a limit upon his exploitation of his own clientele. Thus if he offers a price somewhat lower than those offered by rival buyers, he will lose only those patrons whose preferences for his firm are least strong. On the other hand, with the payment of a relatively high price, he may expect to attract some producers whose preferences for other buyers are not strongly established.
>
> Given a change in the price offered by a given buyer, however, his gain or loss of volume will, of course, depend upon whether or not his rivals likewise change their prices.[22]

The situation described by Nicholls applied to the market studied.

Cooperative Action by Sellers. Organized or collective action is frequently advocated when farmers are unable to cope with other classes in the economic system. Commons suggests economic rather than political action in such cases. There is always a weakness in the appeal by farmers to "administrative economics" as a remedy for economic weakness because "appropriations are easily reduced by their opponents in Congress on the plea of economy and the administration of the law intended to favor the farmers is thereby made ineffective, although remaining nominally in force."[23] His views of political action as a weak substitute for economic

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[22] Ibid., pp. 200-201.

[23] Commons, The Economics of Collective Action (New York, 1950), p. 212.

action deserve attention, considering the market regulation and the "parity problem" currently facing the dairy farmer.

Galbraith's theory of countervailing power suggests cooperative action as a bargaining tool for sellers. Galbraith says the effectiveness of the bargaining transaction can be improved if the weak side organizes to countervail the power of the strong side.[24] This idea points toward producer associations as at least one means of making the market less imperfect. However, about half of the buying firms were already farmer-owned processing cooperatives. In such a situation it appears that sellers, through demands on their own cooperatives, could secure the highest price consistent with plant efficiency and the prices of processed products. The competitive struggle would then become one between cooperatives and non-cooperatives, but sellers would benefit from the increased attention to price competition.

The idea that sellers utilize their cooperatives as a means of countervailing the power of non-cooperative firms to force a return of excess profits to the seller is suggested by Evans.[25] Although suggested for apple producers

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[24]Such changes do not necessarily lead to more efficient use of resources as both sides may, by agreement, "milk" the consumer by setting a price high enough to produce abnormal profits. For a lively discussion supporting this view, see Walton Hamilton et al., Price and Price Policies (New York, 1938), pp. 474-510.

[25]Homer C. Evans, The Nature of Competition Among Apple Processors in the Appalachian Area (West Virginia Agricultural Experiment Station Bulletin 405, June, 1957), pp. 20-21.

marketing through a cooperative, it appears to have application to the dairy industry. Assuming that buyers do not make excess profits, sellers could utilize their cooperatives to force all buyers to be more "price conscious" in their competition and to provide more usable price information.

It has been suggested by Hamilton that regardless of attempts by sellers to countervail the power of the buyer in the raw milk market, that the advantage always remains with the buyer. He attributes this advantage to the fact that "milk by its very perishability lends itself to a buyers' market" so there is "an insistent pressure upon the producer to dispose of his wares at whatever price he can get."[26] He maintains that the strategic position of the buyer is superior because he can buy from many sources, import supplies, is better prepared financially, and in the case of a strike by sellers, the buyer can marshal public opinion in his cause. Being able to process and sell a variety of products, shift to the more remunerative commodities, and store some of them for long intervals means there is no similar compulsion upon the dealer to sell at any price.[27]

Hamilton states that an equality in bargaining power with the buyer has never been achieved by producers in the

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[26]Hamilton, p. 479.

[27]Ibid., p. 480.

dairy industry because they have never been able to maintain an effective control over supply.[28] To be effective, collective agreement should also comprehend all terms of the bargain, Hamilton maintains. He cites as problems that have not been effectively handled in the milk producer-buyer bargain, such items as: deductions for participation in the American Dairy Association and the National Dairy Council; hauling rates; buyer discretion in the calculation of producers' payments; and diversion of milk purchased for manufacturing purposes into fluid channels. He concludes his discussion of the bargaining transaction with the following:

> A collective effort by producers to participate in the making of price has not met with conspicuous success. Yet compared with individual bargaining the step, partial as it is, is significant; at any rate producers now sit at the table with distributors in the formulation of price policy. However, the focus upon the posted price, with little or no safeguard about other terms of the bargain, has left the farmer unprotected at many strategic points. . . . In the cooperative's struggle to make the agreed price effective, it faces a body of usage which antedate its own being and have all the force of established practice and custom. In its present development, the pricing system in milk is a distinctive institution, with collective agreement about posted price as the core and a fringe of the terms of the bargain still beyond the control of a party to the industry.[29]

Problems of Pricing. In discussing some of the theoretical aspects of administered price plans for the fluid

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[28] Ibid., p. 481.

[29] Ibid., pp. 489-490.

milk market, Beal and Bakken point to "surplus milk" as another problem complicating the bargaining transaction.[30] Because more milk is likely to be produced than buyers will take at the agreed price, the surplus must be sold at a lower price or processed by the producer cooperative. The former alternative is generally followed, they say, because a producer association will lack processing facilities. They conclude that such a situation leads to "price discrimination based solely on utilization." In the flush season a portion of the supply will not be sold in fluid form, but will be converted into cream, cottage cheese, and other products. Once a clientele for these products has been built up, it is likely to be maintained even at a loss of revenue.[31]

The farmer's price problem is complicated by the poor bargaining position of many creameries and cheese factories, according to Rojko.[32] He points out that because of smallness, lack of knowledge, limited financial strength, and the nature of the marketing system, many creameries and cheese factories are in a poor bargaining position in relation to

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[30]George M. Beal and Henry H. Bakken, Fluid Milk Marketing (Madison, Wisconsin, 1956), p. 231.

[31]Ibid., p. 234.

[32]Anthony S. Rojko, The Demand and Price Structure for Dairy Products (United States Department of Agriculture Technical Bulletin No. 1169 [Washington, D.C., May, 1957]), p. 116.

their buyers.[33] They sell their output of processed products at the going market price because they are too small to influence price in the central market. Further, Rojko says, since many creameries and cheese factories have inadequate capital to cope with changes in demands and supplies for dairy products, the price uncertainty and risk tends to be passed back to the producer of milk.[34] In short, the price received by the milk producer tends to be the central market price less cost of manufacturing, plus an allowance for profit. He says the profit margin, sometimes negative, is conditioned to a great extent by the degree of competition present in the supply area as determined by the number of alternatives available to the farmer for selling his milk.

Unlike the small creamery or cheese factory, manufacturers of evaporated milk operate on a national level and do attempt to regulate the supply of evaporated milk to some extent, Rojko says. The quantity of milk channeled into condenseries is affected by pricing policies of these firms that take into account the demand and stock position of evaporated milk in relation to the supplies of all milk and competitive prices in other outlets.[35] According to Rojko, large diversified plants significantly affect the setting in which dairy products are priced because they add flexibility

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[33] Ibid.

[34] Ibid.

[35] Ibid.

to the channeling of milk into different outlets.

The ideas just presented appeared to apply to the market studied. They indicate some of the obstacles to greater efficiency in dairy marketing and the complex problem facing dairy farmers desiring a more active role in the bargaining transaction.

Utility Analysis. In addition to the ideas already mentioned, the investigator adapted classical utility analysis as one method of explaining farmer attention and reaction to nonprice services. Classical utility theory begins with the assumption that an individual gets utility or satisfaction from the consumption of commodities. In economic theory the activities of rational individuals and firms are classified into a concept of maximizing behavior. Thus the individual seeks to maximize satisfaction or utility, within the limitations of his income, while the firm seeks to maximize profits subject to the limitations imposed by the production function.

Using the concepts of total utility and marginal utility, individual consumer behavior can be analyzed and individual consumer demand curves for commodities can be derived. The market demand curve for a commodity is then the horizontal summation of all individual consumer demand curves for that commodity.

Although examples of classical utility analysis are commonly confined to more tangible commodities, there is no valid reason why the principles cannot be applied to nonprice

services. With utility analysis it is theoretically possible to determine dairy farmer demand for different nonprice services, but that is not the major purpose of this study. The purpose here is to investigate why nonprice services are in reality a substitute for higher prices for milk and to attempt to give some insight into why they are acceptable substitutes.

Studies previously mentioned showed that, in general, dairy firms compete in milk procurement on a nonprice basis rather than on price. It is therefore reasonable to assume that the individual dairy farmer, as a consumer of nonprice services, attaches some significant utility value to each quantity of each service until at some level of consumption total utility reaches a maximum. It is not necessary for all dairy farmers to attach the same utility to the same quantity of each service. With these assumptions it can be shown that a change in nonprice services or a change in income due to a change in price can place the dairy farmer at a correspondingly higher or lower level of want satisfaction. This idea is illustrated in Figure 1.

In Figure 1 let the S axis represent various quantities of nonprice services and I various quantities of income from milk. The negatively sloping curves A, B, C, and D are iso-satisfaction curves, each curve representing equal amounts of satisfaction with varying combinations of net income and nonprice services. Each higher curve to the right indicates a higher level of want satisfaction.

The four curves, an infinite number could be drawn, express the points of indifference, so far as the farmer is concerned, between alternative amounts of income and nonprice services. Their shape indicates that when income is small, here assumed to be due to low prices, the farmer would be willing to substitute relatively large amounts of nonprice services for a small increase in income. At a high level of income he would be willing to give up a relatively large amount of income to obtain a relatively small increase in nonprice services. A tangent could be drawn at any point on a particular curve to indicate the rate at that point at which the farmer would be willing to substitute between income and nonprice services.

A straight line, such as SI or SI_1, indicates the various alternative opportunities the dairy farmer has in combining nonprice services and income to obtain want satisfaction, and it expresses the relative valuations placed on the two by the farmer. His equilibrium position is that combination of nonprice services and income which places him on the highest iso-want satisfaction curve. At S' quantity of services and I' income, the highest iso-want satisfaction curve attainable is B. The farmer's equilibrium position is at point E. Should income increase to I'', due to a rise in milk prices (his production is assumed to remain constant), then his equilibrium position would shift to point E' on curve C.

The line SI compared with SI_1 in Figure 1 represents

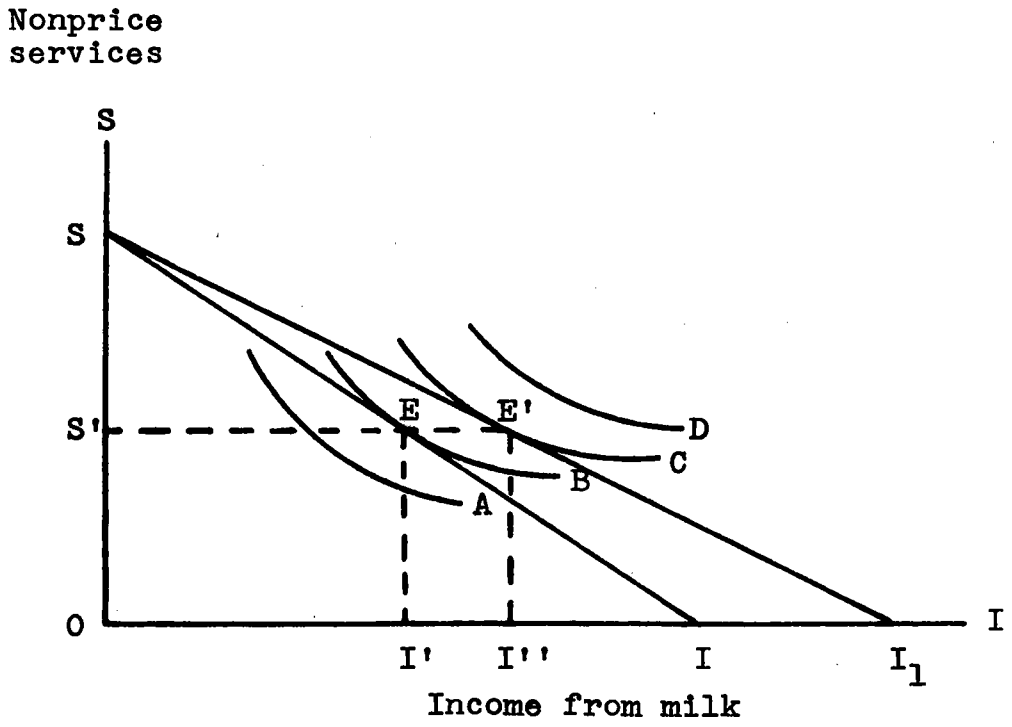

Fig. 1. Effects of a change in income due to price on the level of want satisfaction of a dairy farmer.

a valuation by farmers that income is valued rather highly relative to nonprice services and is suggestive of a period of extremely low price.[36] Higher prices bring about a decrease in the slope of this relative value line, indicated by SI_1, expressing the notion that it is easier to earn income because the price of milk has increased and farmers may value nonprice services relatively more. For every level of nonprice services the opportunity exists for more income. Thus, with an increase in the price per hundredweight of milk, the farmer is able to attain a higher level of want satisfaction although consuming the same quantity of nonprice services.

Varying the quantity of nonprice services instead of price will also place the dairy farmer on a different level iso-satisfaction curve, as indicated in Figure 2.

In Figure 2 the farmer is in equilibrium at point E on iso-satisfaction curve A where income is OI' and aggregate nonprice service consumed is OS'. Line SI is the opportunity line. At no other level of income and consumption could the farmer attain a higher level of want satisfaction. Should a dairy firm add other services having want satisfaction value to the farmer, or improve existing services to increase their want satisfaction value, the opportunity line

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[36] This observation suggested by Robert L. Clodius, "Theory of the Kinked Output Path Response," Journal of Farm Economics, XXXV (1953), pp. 431-432.

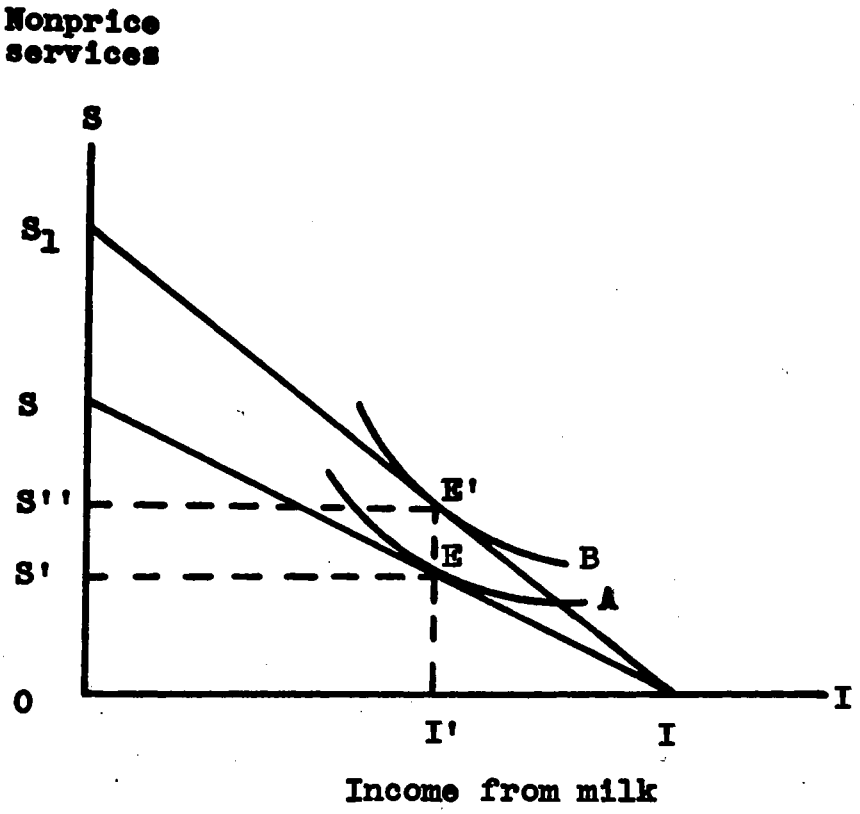

Fig. 2. Effects of a change in nonprice services on the level of want satisfaction of a dairy farmer.

would change its slope, as represented by S_1I, because the farmer has revalued his income in terms of nonprice services. Since income remains the same, the patron would attain a higher level of want satisfaction by consuming more nonprice services, indicated by the distance from S' to S'', where he would be in equilibrium at E' on curve B. Or, S_1 may be assumed to be the aggregate of want satisfaction values of the services offered by a competing firm which pays the same price as the first firm. The farmer then attains the higher level iso-want satisfaction curve B by changing to the other buyer.

The situation illustrated in Figure 2 is the most typical for the area studied. Firms paid the same or near the same prices per hundredweight so that farmers believed prices "averaged out" over time.

When a farmer believes that no appreciable increase in income can be obtained by changing to a plant that pays higher prices for a short time, such as one or two pay periods, he views nonprice services as the only means of attaining greater want satisfaction. Under such circumstances nonprice services can be used by a firm as an "acceptable" method of competition. Nonprice services are acceptable to the patron because he realizes they would add to his production costs if provided by himself and would therefore reduce his income, placing him at a lower iso-want satisfaction level.

It is logical to assume that a firm can provide certain

nonprice services to several hundred patrons cheaper than the individual patron could provide them for his own farm. It is also logical to assume that the farmer knows this. For example, field service from the plant is "free," but approximately the same service provided by the farmer would mean a call by a veterinarian or some other trained specialist and would likely involve a fee and perhaps mileage charges.

Other services might be provided by the patron, but at some sacrifice in total want satisfaction. For example, it costs very little for a dairy processing firm to have the hauler deliver dairy chemicals and supplies to the farmer. Cost to the farmer is wholesale price plus a markup of about 10 percent. A farmer would have to pay a higher price and on occasions make a special trip to town to purchase these supplies from other sources. The service saves him time as well as money.

When a farmer regards milk prices paid by competing firms to be the same and thus his income stabilized at a given level as among plants (changes in production and efficiency are ignored), the only way in which he can attain a higher level of want satisfaction is to use more nonprice services provided by the buyer or change to a firm that offers a service or services with higher want satisfaction values.

Because of the differences in individual preferences and the need for different factors on different farms, it can be assumed that some farmers would be on a higher level iso-

want satisfaction curve consuming services provided by plant A than by plant B. For example, the want satisfaction obtained by securing whey from a cheese plant may be of such relative importance to a cheese plant's patrons that they would forego all other services or even a higher price paid by another firm. The cheese plant's patrons are then at the highest level of want satisfaction attainable within the limitations of prices paid, services offered, and production techniques followed.

Analysis by use of the above model has not been presented as justification for maintaining the status quo. Rather, it has been presented to indicate the real problem involved. Either higher prices or services with higher want satisfaction value or more services would improve the utility to the dairy farmer. When competition on price alone leads to collusion or other actions which will place the patron at a greater disadvantage in the marketing transaction, further attention to nonprice services seems to be in the best interest of a sounder milk marketing program. More knowledge about the relative values patrons place on nonprice services may be the key to price consciousness and a more equitable marketing transaction. This possibility underlies many of the questions asked patrons in this particular study.

CHAPTER II

METHOD AND PROCEDURE

A brief discussion of the methods and procedure followed by Clodius, Fienup, and Kristjanson will provide background for this investigation. Their studies covered 49 firms operating 63 plants. The procurement area extended into eight counties in northwestern Wisconsin. Boundaries of the procurement area are shown in Figure 3.[1]

Managers of all 49 firms were interviewed. Basic procurement policies and practices were described, some knowledge of problems confronting managers and farmers was discovered, and prices paid farmers were related to the structural attributes of plants.[2]

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[1]Boundaries were as follows: the Chippewa River from the Mississippi to Cornell, Wisconsin, Highway 27 from Cornell north to Ladysmith, Highway 8 west from Ladysmith to Cameron, Highway 53 north from Cameron to Rice Lake, Highway 48 north from Rice Lake west to Cumberland, Highway 63 from Cumberland south to Highway 64, Highway 64 west to Stillwater, Minnesota, and from Stillwater along the St. Croix River south to the Mississippi. The area did not follow county boundaries since an attempt was made to study plants that had overlapping procurement areas.

[2]Fienup, p. 24.

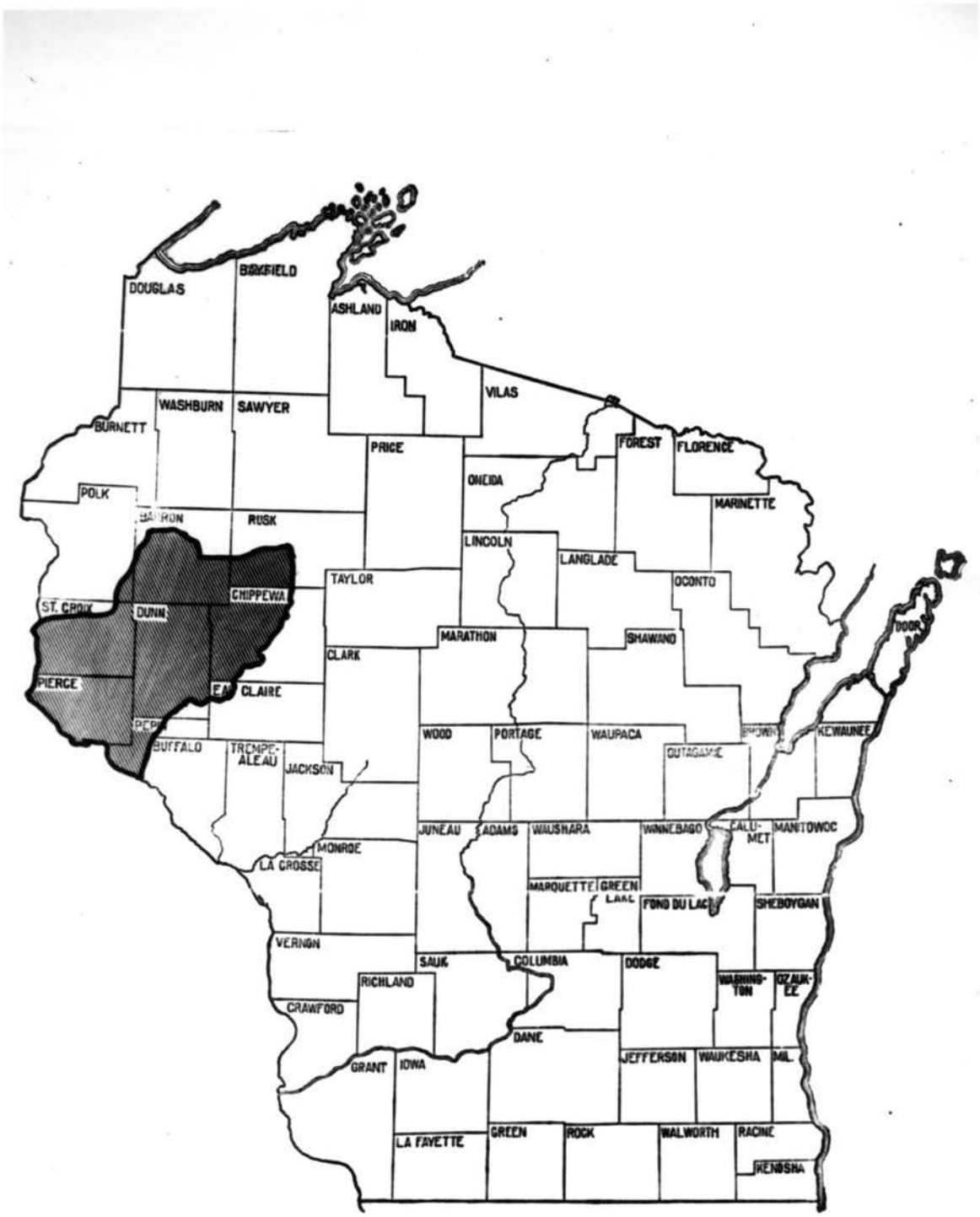

Fig. 3. AREA OF STATE INVOLVED IN SURVEY

The results indicated that 8 large firms in the area handled more than 50 percent of the milk. Managers of 6 of the large firms and 2 smaller firms were again interviewed to determine whether any appreciable difference in procurement policies existed between the large firms and the smaller ones.[3]

Selecting the Sample

Results of the plant survey, a study of agricultural census figures of the region, and the plotting of dairy plants on township maps indicated differences in the competitive situation in the northern and the southern portion of the procurement area. For this reason interviews were made in both regions of the procurement area.

An area sampling technique was used for several reasons. The original plant study was made on an area basis and no attempt was made to draw inferences about a larger population. Interviews with dairy farmers only were needed. Current information on prices, hauling rates, differentials, methods of payment, and services was needed. An area sample of patrons would limit the number of plants that would have to be visited. To avoid interviewing patrons of plants outside the original procurement area, it was necessary to sample as far inside the boundary as possible. An area sample also appeared to be the most practical from the

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[3] Ibid., p. 25.

standpoint of time and funds available.

The size and location of the farmer sample areas were determined in the following manner. County plat books were used to estimate the concentration of farms. Census figures showed that about 73 percent of the farms within the procurement area were dairy farms. On the basis of the probability of answers to certain questions in the schedule, it was estimated that approximately 250 interviews from each area would be needed for reliable results. An allowance of about 20 percent was made for unobtainable interviews and error in estimating the concentration of dairy farms. Such calculations indicated that an area of about 75 square miles would be needed for the northern subsample and 120 square miles for the southern subsample. Sample areas of such size were considered to be too large to fall completely under the dominance of one dairy plant.

The northern subsample area was located near the center of the region served by the greatest number of dairy plants. The southern subsample was located as far away from dairy plants as possible. The original survey area, plant locations, and the two subsample areas are shown in Figure 4.

As well as could be determined in advance, the areas were selected to produce interviews with patrons selling to independent plants, cooperatives, and multiple-plant corporations. An effort was also made to select areas where patrons of all types of plants would be represented.

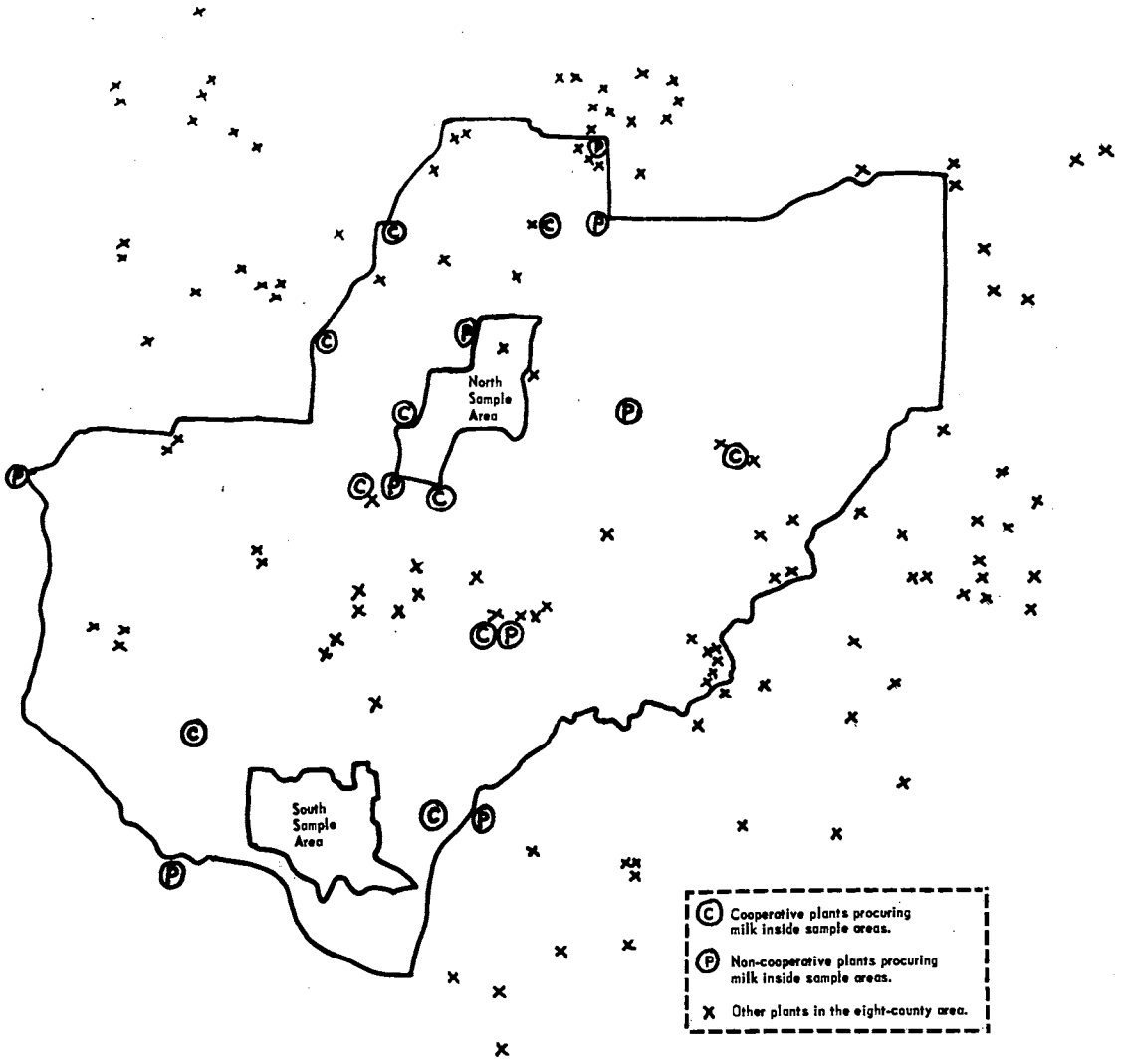

Fig. 4. ORIGINAL SURVEY AREA, FARMER-SAMPLE AREAS, AND DAIRY PLANTS

Boundaries for the two subsample areas were determined by the highways, town roads, and streams shown on township maps in county plat books.[4] Only farmers dwelling inside the boundaries were interviewed. When a farmer's land and all buildings except the dwelling fell inside the boundary but his house was situated on the opposite side of a boundary, the farmer was excluded from the sample. Three villages

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[4]Boundaries for the north area were: County Trunk O north out of Boyceville to Highway 64, east on Highway 64 to Highway 25, north on Highway 25 to the town road south of sections 4, 5 and 6 in Dallas Township, west on the town road to County Trunk F, south on F to the north edge of Sheridan Township, west 3.2 miles and then south one mile to County Trunk V, south on V to Highway 64, west on Highway 64 to County Trunk Q, south on Q to County Trunk O. Boundaries for the south area were: County Trunk AA south out of Maiden Rock to County Trunk E, south on E to County Trunk K, east on K to County Trunk J, north on J to Highway 183, south 2 miles on Highway 183 to the first town road east, east on the town road 0.6 mile to the first town road north, north on the town road 1.7 miles then east 2.5 miles to County Trunk N, north on N to Plum Creek, northwest along Plum Creek to County Trunk SS, west on SS to the east boundary of Maiden Rock Township, north along the Maiden Rock Township boundary to the southeast corner of Union Township, north on the first town road to Highway 10, east on Highway 10 to County Trunk ZZ, north on ZZ to Z, east on Z to County Trunk S, north on S for 1.5 miles to the second town road west, then west 1.5 miles to the first town road south, then south 3 miles to the first town road west, west and north along the town road to the north edge of Union Township at the northeast corner of section 5, west on a town road for 2 miles, then 0.5 mile south, then west along a town road to Highway 10, west on Highway 10 to the west boundary of Salem Township, south on the town road at the west edge of Salem Township, to the northwest corner of Maiden Rock Township, then southeast along the town road to Highway 35, east on Highway 35 to Maiden Rock.

fell within the sample area. The largest was Plum City with a population of 355.[5]

Pretesting the Questionnaire

A pretest was made by leaving the questionnaires to be completed by farmers. This pretest proved that the cost and time involved in leaving schedules, returning to pick them up, and checking them with patrons would be as great as for personal interviews.

Two pretests were made by direct interviewing. After the first such pretest, the schedule was shortened by rewording and combining certain questions and omitting others. Several specific questions on radio, television, newspapers, and farm magazines as sources of dairy marketing information were omitted when it became obvious they would produce little worthwhile information. The first pretest also showed the need for further coding of answers to shorten the time required to complete an interview.

Some answers given by respondents during the second pretest were added to the schedule and three questions were eliminated, but no further pretesting was done. A sample of the final questionnaire is included in Appendix A.

A questionnaire for use in interviewing plant managers was then prepared (see Appendix A). Questions relating to prices, hauling rates, differentials, methods of payment,

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[5] The Wisconsin Blue Book (Madison, 1954), pp. 545-546.

and types of services duplicated those on the schedule for patrons. The questionnaire for plant managers was not pretested.

Other Preparations for Interviewing

An interviewers handbook (see Appendix A) was then prepared and on 2 occasions the 20 interviewers were given instructions. Interviewers were all college students. All but three were seniors or graduate students and all had farm backgrounds. Several had previous experience in interviewing. Except for graduate students on assistantships, all were paid an hourly wage. It was thought that an hourly wage, plus car mileage and other expenses, would discourage falsifying interviews. All interviewers were quartered at one motel in Menomonie, Wisconsin, throughout the interviewing so that completed schedules could be checked at the close of each day's work.

In an effort to provide the most favorable reception for interviewers, 2,709 mimeographed letters bearing the signatures of county agricultural agents (see Appendix A) were sent to all rural route box holders on all mail routes passing through or near the subsample areas. The letters were mailed in time to be received 3 or 4 days before interviewing began. The letter explained that the area had been selected as a sample for a research project by the University of Wisconsin College of Agriculture and that interviewers seeking information about milk marketing and farmers'

opinions of dairy plants would be calling the next week.

No other advance information was given out about the survey because it was thought that some fieldmen or haulers might try to discourage farmers from being interviewed.

Before going into the field each interviewer was given schedules, an interviewer's handbook, a copy of the letter from county agents to be shown to patrons, and a detailed map. The maps were reproductions of appropriate townships in county plat books. The interviewer's assigned portion of the area was marked off as a subarea. These subareas were kept small, between 3 and 4 square miles, so an interviewer could become familiar with landmarks in a short time. Each interviewer was instructed to call at all houses within his area.

The first three questions on the schedule were designated "qualifications for interview." If occupants of a house did not qualify as dairy farmers the house was so marked on the interviewer's map. All those selling milk or cream to a dairy plant on the date the interviewer called were classified as dairy farmers. When a dairy farmer refused to grant an interview, his house was so coded on the map. Three attempts were made to interview farmers not at home. After three attempts their houses were coded as "not at home." Several dairy farmers employed off the farm were interviewed on the job even though it was necessary to drive outside the subsample areas to obtain the interviews.

When all dairy farmers in a subarea had been interviewed,

refused to grant an interview, or could not be found at home, the interviewer turned in his map and was assigned another area. The maps and completed schedules could then be used by a supervisor to check for "faked" interviews. Interviewers understood that such checks would be made. Several spot checks failed to produce any falsified interviews.

During the period of interviewing, the interviewers were required to report to a supervisor each noon and then again at the close of the day. Supervisors kept a survey area map up to date, kept tallies of interview data, and interviewed plant managers.

Time required per interview ranged from about 30 minutes for the better informed farmers to nearly 2 hours for those not so well informed or others who required verbal "persuasion" to get them to grant an interview. Two and one-half days were required to obtain the 257 interviews in the northern area and 3 days for the 286 in the southern area. Total farmers in the subsample areas and the number of interviews obtained are shown in Table 1, page 39.

Completed schedules were checked daily for the names of the firms to which the farmers interviewed sold milk. Managers of all 20 plants where the 543 interviewees sold milk were interviewed.

TABLE I

PERCENTAGES OF DAIRY FARMERS INTERVIEWED, NORTH AND SOUTH AREAS, NOVEMBER 1957

Classification	North		South	
	Number	Percent	Number	Percent
Total farmers	344	100.00	458	100.00
Nondairy farmers	53	15.41	124	27.07
Total dairy farmers	291	84.59	334	72.93
Dairy farmers not at home	25	7.26	36	7.86
Dairy farmers refusing to grant an interview	9	2.62	12	2.62
Dairy farmers interviewed	257	74.71	286	62.45

As soon as interviewing was completed, answers were coded (coding instructions are included in Appendix A), placed on IBM cards, tabulated, and analyzed. Discussion of the findings begins in the next chapter.

CHAPTER III

CHARACTERISTICS OF SELLERS AND THE MARKET ENVIRONMENT

The characteristics of sellers and their market environment provide background for the detailed analysis of later chapters. This chapter describes the personal characteristics of sellers, gives pertinent data about their farming operations, discusses the number and types of buyers, and describes other aspects of the market environment.

Characteristics of Sellers

A majority of the 543 sellers interviewed were middle-aged or older (see Table II) and had completed 8 or fewer grades of school (see Table III). Eighty-three percent[1] were full owners of farms and the remaining 17 percent were divided nearly equally between part owners, renters, and family tenants (see Table IV, page 42). Only three hired managers were interviewed. Less than 3 percent of the sample were women.[2]

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[1]All percentages except those in tables have been rounded off to the nearest whole number.

[2]Women were interviewed only when they operated the farm or when they helped decide where the milk or cream was sold and the farm operator was not available for interview.

TABLE II

AGE DISTRIBUTION OF THE 543 SELLERS IN THE STUDY

Age	Number	Percent
Under 25 years	18	3.32
25 to 34 years	84	15.47
35 to 44 years	130	23.94
45 to 54 years	152	27.99
55 to 64 years	108	19.89
65 years and over	51	9.39
Total	543	100.00

TABLE III

YEARS OF SCHOOL COMPLETED BY THE 543 SELLERS

Years of school completed	Number	Percent
Under 5 years	22	4.05
5 to 8 years	347	63.90
9 to 11 years	71	13.07
12 years (completed high school)	89	16.39
13 to 15 years (some college)	12	2.20
16 years (completed college)	2	.39
Total	543	100.00

TABLE IV

OPERATOR-OWNERSHIP OF FARMS BY THE 543 SELLERS

Type of operator-ownership	Number	Percent
Full owner	451	83.05
Part owner	35	6.45
Tenant	31	5.71
Family tenant	23	4.24
Hired manager	3	.55
Total	543	100.00

Farming Operations. Most farms in the sample were typical family-sized operations. The most common size of farm, operated by 21 percent of the sellers, fell within a range of 140 acres to 179 acres. Sixty-one percent of the sellers operated farms of 140 acres or larger. Distribution of sellers according to the size of farm operated is shown in Table V.[3]

Small to medium sized dairy herds were the most common and milk production per farm was relatively low. Seventy-three percent of the sellers had dairy herds ranging from 14 to 35 cows. There were more herds of 14 cows or less than herds of 35 cows or more (see Table VI). Of the sellers, 63 percent marketed 400 pounds or less of milk per day during the month preceding interviewing, while 31 percent marketed 200 pounds or less (see Table VII, page 44).

[3]For brevity the terms "north" and "south" have been used to designate the subsample areas in both tables and text.

TABLE V

SIZES OF FARMS, INCLUDING RENTED AND LEASED LAND, OPERATED BY SELLERS IN THE NORTH AND SOUTH AREAS

Acres in farm	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
Under 50	10	3.89	8	2.80	18	3.32
50 to 99	46	17.90	46	16.08	92	16.94
100 to 139	50	19.45	51	17.83	101	18.60
140 to 179	63	24.51	49	17.13	112	20.62
180 to 219	26	10.12	41	14.34	67	12.34
220 to 259	24	9.34	35	12.24	59	10.87
260 to 449	38	14.79	53	18.53	91	16.76
500 and over	0		3	1.05	3	.55
Total	257	100.00	286	100.00	543	100.00

TABLE VI

NUMBER OF DAIRY COWS KEPT BY SELLERS IN THE NORTH AND SOUTH AREAS

[Includes milking and dry cows, but not bred heifers]

Number of dairy cows	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
1 to 8	10	3.89	21	7.34	31	5.71
9 to 13	29	11.28	45	15.73	74	13.63
14 to 19	65	25.29	69	24.13	134	24.68
20 to 25	78	30.35	80	27.98	158	29.10
26 to 35	50	19.46	56	19.58	106	19.52
36 to 50	22	8.56	15	5.24	37	6.81
51 or more	3	1.17	0	0	3	.55
Total	257	100.00	286	100.00	543	100.00

TABLE VII

POUNDS OF MILK SOLD PER DAY BY SELLERS, NORTH AND SOUTH AREAS, OCTOBER 1957

Pounds of milk	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
Under 100	5	1.95	30	10.49	35	6.45
100 to 200	53	20.62	79	27.61	132	24.30
201 to 300	49	19.07	38	13.29	87	16.02
301 to 400	48	18.68	41	14.34	89	16.39
401 to 500	33	12.84	31	10.83	64	11.79
501 to 600	15	5.84	14	4.90	29	5.34
601 to 700	10	3.89	12	4.20	22	4.05
701 to 800	11	4.28	9	3.15	20	3.68
801 to 900	6	2.33	3	1.05	9	1.66
901 or more	10	3.89	13	4.55	23	4.24
Did not know	17	6.61	16	5.59	33	6.08
Total	257	100.00	286	100.00	543	100.00

Forty-three percent of the sellers reported an annual gross income from milk that fell within a range of $2,501 to $5,000, and about one-third reported a gross income from milk above $5,000 (see Table VIII). More than half of the sellers stated that 80 percent or more of their gross farm income was derived from the sale of milk. Another 23 percent said they received from 61 percent to 80 percent of their gross farm income from milk (see Table IX).

TABLE VIII

SELLERS' ANNUAL GROSS INCOME FROM MILK,
NORTH AND SOUTH AREAS, 1957

Gross income (dollars)	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
250 to 1,200	6	2.33	18	6.29	24	4.42
1,201 to 2,500	35	13.62	58	20.28	93	17.13
2,501 to 5,000	111	43.19	124	43.36	235	43.28
5,001 to 10,000	80	31.13	66	23.08	146	26.88
10,001 to 25,000	19	7.39	15	5.24	34	6.26
Did not know	6	2.34	5	1.75	11	2.03
Total	257	100.00	286	100.00	543	100.00

TABLE IX

SHARE OF GROSS FARM INCOME DERIVED FROM MILK,
NORTH AND SOUTH AREAS, 1957

Percentage of income	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
1 to 20	1	.39	3	1.05	4	.74
21 to 40	7	2.72	17	5.94	24	4.42
41 to 60	6	2.34	69	24.13	75	13.81
61 to 80	30	11.67	93	32.51	123	22.65
81 to 100	211	82.10	100	34.97	311	57.28
Did not know	2	.78	4	1.40	6	1.10
Total	257	100.00	286	100.00	543	100.00

Most sellers used milking machines, but relatively few had pipeline milking systems. Slightly more than one-fifth had bulk milk tanks. The percentages using these three production techniques are shown in Table X.

TABLE X

MILK PRODUCTION EQUIPMENT USED BY SELLERS, NORTH AND SOUTH AREAS, 1957

Equipment	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
Milking machine	231	89.88	250	87.41	481	88.58
Pipeline milking system	15	5.83	8	2.80	23	4.25
Bulk tank	29	11.28	85	29.72	114	20.99

Although sellers were inclined to patronize the closest dairy plant, a substantial percentage shipped their milk 20 miles or more. Seventy-three percent shipped their milk more than 10 miles and 30 percent shipped more than 20 miles (see Table XI). However, 60 percent of the sellers reported that they were patronizing the closest plant that purchased their grade of milk (see Table XII).

TABLE XI

DISTANCE FROM SELLERS' FARMS TO CURRENT BUYER, NORTH AND SOUTH AREAS, NOVEMBER 1957

Distance (miles)	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
Less than 1	3	1.17	0	0	3	.55
1 to 5	67	26.07	0	0	67	12.34
6 to 10	27	10.50	40	13.99	67	12.34
11 to 20	78	30.35	160	55.94	238	43.83
More than 20	80	31.13	81	28.32	161	29.65
Did not know	2	.78	5	1.75	7	1.29
Total	257	100.00	286	100.00	543	100.00

TABLE XII

DISTANCE FROM SELLERS' FARMS TO A CLOSER BUYER WHO PURCHASED THEIR GRADE OF MILK, NORTH AND SOUTH AREAS

Distance (miles)	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
No closer plant	138	53.69	189	66.08	327	60.22
Less than 1	2	.78	0	0	2	.37
1 to 5	17	6.61	5	1.75	22	4.05
6 to 10	33	12.84	30	10.49	63	11.60
11 to 20	59	22.95	53	18.53	112	20.63
More than 20	5	1.95	5	1.75	10	1.84
Did not know	3	1.17	4	1.40	7	1.29
Total	257	100.00	286	100.00	543	100.00

Differences Between Areas. There were several differences in the characteristics of the two subsample areas. Dairy farming was more intensive in the north than in the south. Although farms averaged slightly smaller in the north, dairy herds averaged slightly larger. Annual gross farm incomes, as well as the percentages of gross farm incomes derived from the sale of milk, were larger in the north.

A higher percentage of the sellers in the north sold grade A milk, lived closer to the plant that purchased their milk, and in general had more alternatives in the number of plants that might buy their grade of milk. More sellers in the south had made investments in bulk tanks despite the fact that dairying was not as important a source of income as in the north. Bulk tanks are frequently associated with the production of grade A milk. However, in the south 30 percent of the sellers used bulk tanks, but only 20 percent sold grade A milk. In the north only 11 percent used bulk tanks, but 41 percent sold grade A milk.

Characteristics of Buyers

In this study a buyer was any firm that purchased milk from one or more of the farmers interviewed. Twenty firms procured milk from the 543 sellers. Two firms, one a cooperative and the other a non-cooperative, procured milk in both the north and the south areas. When the areas were considered separately, 15 firms procured milk in the north and

7 procured milk in the south.

Forms of Plant Ownership. Cooperatives slightly outnumbered non-cooperatives when buyers were classified according to the type of plant ownership. There were 11 cooperatives and 9 non-cooperatives. On an area basis, 8 cooperatives and 7 non-cooperatives procured milk in the north and 4 cooperatives and 3 non-cooperatives procured milk in the south. Seventy-one percent of all sellers, 65 percent in the north and 77 percent in the south, patronized cooperatives.

Types of Dairy Plants. The multiple-products manufacturing plant was the most common type of dairy plant in the market area. Sixteen of the 20 buyers were multiple-products manufacturing plants, 3 were milk receiving stations, and 1 was a cheese plant. There were 8 cooperative multiple-products plants, 4 non-cooperative multiple products plants, 2 non-cooperative receiving stations, and 1 non-cooperative cheese plant procuring milk in the northern area. In the south 3 cooperative multiple-products plants, 3 non-cooperative manufacturing plants, and 1 cooperative receiving station were procuring milk.

Of the 20 buyers, all but 1 purchased grade B milk and 14 purchased grade A milk. There were 13 buyers of both grades of milk, 6 buyers of grade B milk only, and 1 buyer of grade A milk only. The ratio of buyers of grade A milk to grade B milk was practically the same in each area, but there were twice as many buyers of each grade in the north

as in the south.

Nine of the buyers operated bulk routes, but the percentage of firms procuring milk by the bulk method was the highest in the south. Six of the 15 firms procuring milk in the north operated bulk procurement routes, compared with 5 out of 7 firms in the south.

Other Characteristics of the Environment

One of the most striking features of competition in the area was the extent of inter-market penetration of firms in their search for greater supplies of milk. The extensive overlapping of procurement areas had resulted in an extravagant amount of crosshauling and duplication of collection routes.[4] Figure 5 shows the overlapping of procurement areas of the 15 firms that procured milk from the 257 dairy farmers interviewed in the northern area. No section of the north was under procurement by less than 5 of the 15 firms. As shown in Figure 6, page 52, no section in the south was under procurement by less than 2 of the 7 buyers.

The 20 buyers were tied together by overlapping of procurement areas even though some of the firms may not have been directly competing for the same patrons. The 2 firms that procured milk in both areas linked the 2 areas and all the plants procuring milk in each. Such a situation is

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[4] Clodius, Pionup, and Kristjanson, pp. 11-12.

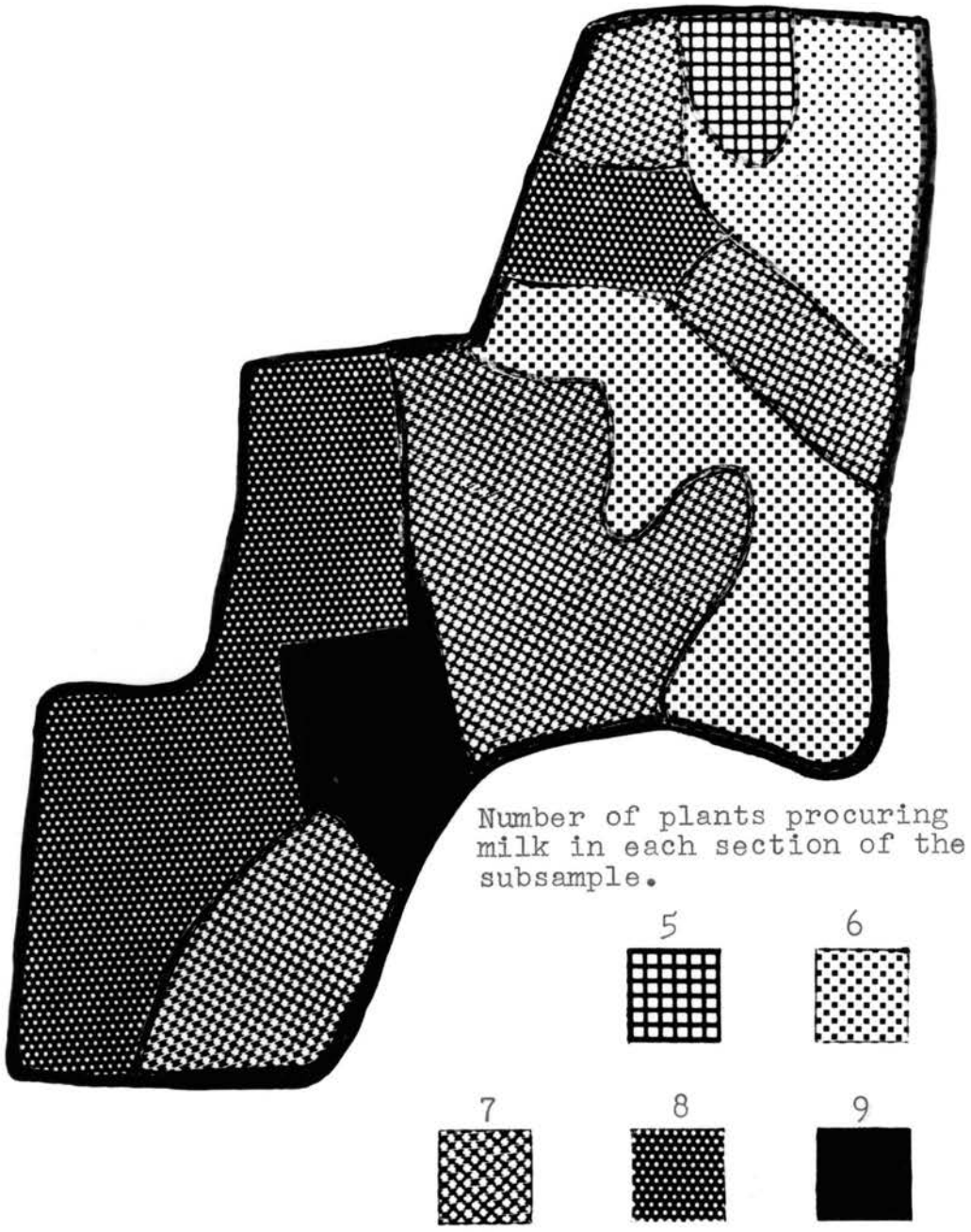
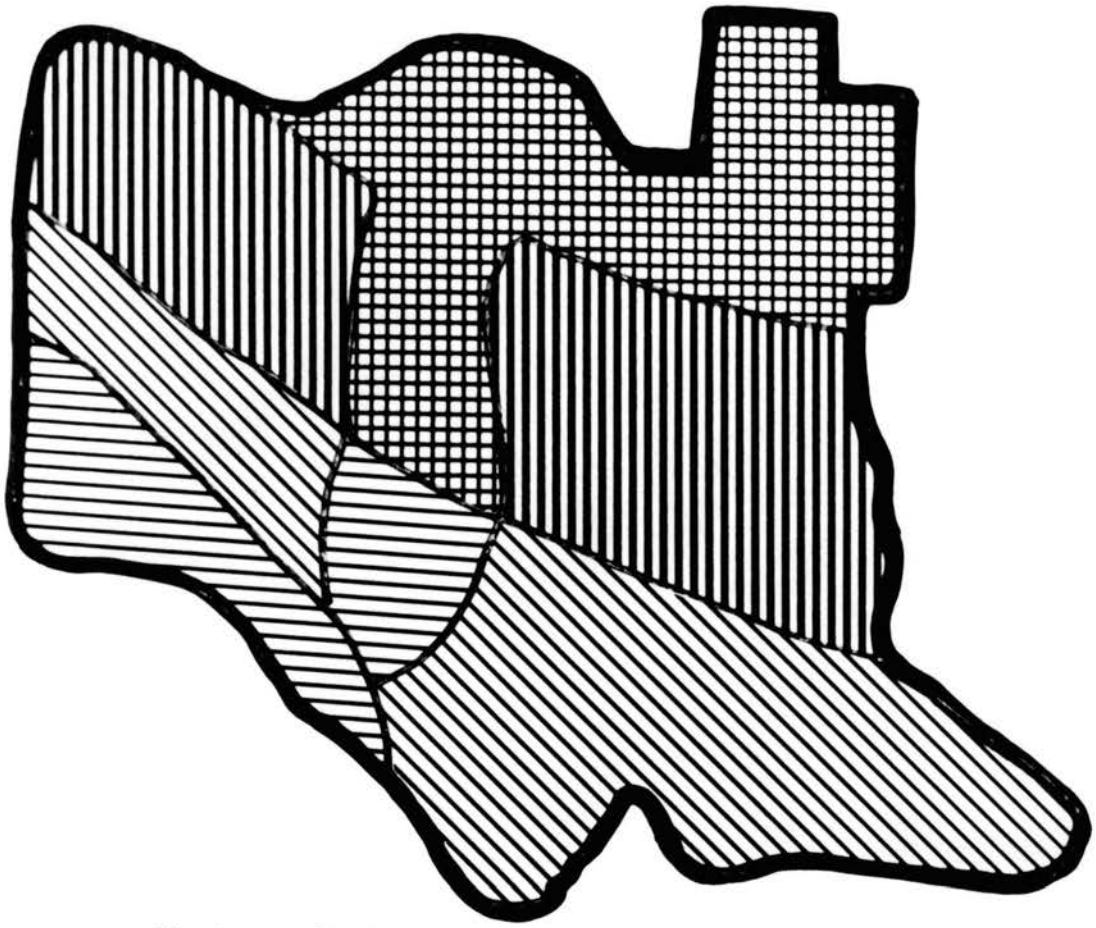


Fig. 5. Overlapping procurement areas of the 15 plants procuring milk in the north subsample area.



Number of plants procuring milk in each section of the subsample.

Fig. 6. Overlapping procurement areas of the 7 plants procuring milk in the south subsample area.

illustrative of Nicholls' circular interdependence[5] discussed in Chapter I.

In addition to the 20 plants whose procurement areas have been plotted on Figure 5 and Figure 6, there were more than 40 other plants procuring milk within the original plant survey area shown in Figure 4, page 33.[6] If the procurement areas of these other plants were plotted, the entire market area would probably show a concentration of overlapping procurement areas much like that in the areas where dairy farmers were interviewed.

That plants may expand their procurement areas in the search for greater volume, leading to an even greater overlapping of procurement areas and crosshauling, is a definite possibility. Managers of all plants procuring milk in the south and 12 managers of plants in the north said that they were looking for larger volume. Only three managers in the north said their plants had sufficient volume. These plants consisted of a large private manufacturing plant which was part of a multiple-plant operation that received only grade A milk; a large cooperative manufacturing plant which procured both grades; and a small cooperative manufacturing plant that received only grade B milk.

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[5]Nicholls, p. 114.

[6]In the original study of buyers 49 firms operated 63 plants that procured milk inside the boundary shown in Figure 4, page 33.

Bulk Milk Procurement. A major difference between buyers in the two areas was in their emphasis on bulk milk procurement. A higher percentage of plants in the south operated bulk routes and paid a higher average premium on bulk milk than in the north.

Nine of the 20 plants operated bulk routes and all but 2 paid a premium on bulk milk (see Table XIII). At one plant in the north all grade A producers used bulk tanks and all grade B producers used cans, yet the firm did not pay a premium designated as a premium on bulk milk. However, the firm paid a base price for grade A milk of $3.75 per hundredweight and a differential of 7.2 cents per point, compared with the next highest grade A base price in the area of $3.58 per hundredweight and a differential of 7 cents per point. The plant's hauling rates for bulk milk were the highest in the area so that the net return per hundredweight of grade A bulk milk to the producer would be equivalent to the average grade A price plus a bulk premium of 5 cents to 10 cents above that of competing plants.

Six of the 15 plants procuring milk in the north operated bulk routes, compared with 5 out of 7 in the south. The average bulk premium for all plants was 15 cents per hundredweight, compared with an average of 12 cents for the north and 17.5 cents for the south.[7] Eleven percent of the patrons

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[7]One northern firm did not pay a bulk premium designated as such. One in the south declined to report the bulk premium. Both were excluded when calculating average bulk premiums.

in the north had bulk tanks, compared with 30 percent in the south. This indicated that greater emphasis had been given to bulk milk procurement in the southern area.

TABLE XIII

BULK MILK PREMIUMS PAID BY NINE FIRMS WITH BULK ROUTES, NORTH AND SOUTH AREAS, LAST HALF OF SEPTEMBER 1957

Plant number, type, and form of ownership		Premium per 100 pounds (cents)
	North Area	
1[a]	Coop. mfg.	None
3	Coop. mfg.	10
6	Coop. mfg.	15
7[b]	Coop. mfg.	15
9	Non-coop. mfg.	10
12[b]	Non-coop. mfg.	10
	South Area	
16	Coop. receiving station	25
17[c]	Coop. mfg.	20
7[b]	Coop. mfg.	15
18	Coop. mfg.	No answer
12[b]	Non-coop. mfg.	10

[a]Procured only grade A milk in bulk and no portion of payment was designated as a bulk premium.

[b]Procured milk in both areas.

[c]Procured both grades in bulk but paid a premium on grade B bulk milk only.

As procurement routes were longer in the south, firms in that area could likely achieve greater reductions in milk collection costs by bulk milk procurement and every-other-day pick-up. This apparently explains the higher average premiums paid on bulk milk in the southern area.

Two firms, both in the northern area, paid a premium of 5 cents per hundredweight for grade A milk cooled by mechanical refrigeration. Both firms paid the average area price for grade A milk and did not operate bulk procurement routes. Although mechanically cooled milk in cans should average higher in quality than that not cooled by mechanical refrigeration, the premium appeared to be one method of competing with firms paying a premium on bulk milk.

Influence of Price Supports. Postwar government price support operations in the dairy industry have affected competition among firms in the procurement market.[8] Government price supports probably have made it possible for the more inefficient dairy farmers and dairy plants to remain in operation. Price support operations have covered butter, milk powder, and cheese. Thus, firms producing one or more of the supported products may have been in a different competitive position than plants producing non-supported products. Furthermore, a multiple-products firm with a certain government market for one or more of its products may have confined its output to those with a guaranteed price. In other words,

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[8] Clodius, Fienup, and Kristjanson, p. 12.

price supports for certain manufactured dairy products may have led to the channeling of resources into categories where they have not contributed the most to net national product. However, the consequences of government price support operations on managerial decisions and the procurement of milk are outside the scope of this study. They have been mentioned here because they are a part of the market environment in the area studied.

Summary

An analysis of data concerning the characteristics of sellers showed them to be typical Wisconsin dairy farmers with incomes from dairying that were about average to slightly below average for the state. Most of the sellers were situated 10 or more miles from the dairy plant that purchased their milk, but more than half sold to the closest plant.

The overlapping of plant procurement areas indicated that most sellers had ample alternatives regarding dairy plants, grades of milk, and cooperatives versus non-cooperatives. The alternatives regarding plants that procured bulk milk and the types of plants were not so numerous.

A major difference between the two subsample areas was in the larger number of plants procuring milk in the north and the larger percentage procuring bulk milk in the south. Some differences were noted in the characteristics of sellers

in each area. When these differences appear to be important, they are mentioned in connection with the analyses in chapters that follow.

CHAPTER IV

SELLERS' RESPONSE TO PRICE

Accuracy and quantity of information are of prime importance when making economic decisions. Only when appropriate facts are known is it possible to determine whether a firm is operating under maximizing conditions. To be certain that he obtains the highest total cash return per hundredweight of milk sold, the seller of milk must have accurate knowledge of base prices, differentials, premiums, and hauling rates of plants in his marketing area. The extent and accuracy of sellers' price information is presented in this chapter. Also included is an analysis of opinions that appeared to influence sellers' marketing decisions.

Selecting a Buyer

An analysis of the reasons sellers gave for changing plants, for patronizing their current buyers, and the length of time they had sold to current buyers indicated that sellers played a rather passive role in the marketing transaction.

Most sellers believed they had several alternatives in plants that would buy their grades of milk. No seller was of the opinion that no other but his current buyer would

purchase his milk. The distrubution of sellers according to opinions about the number of alternative buyers and the number of milk collection routes by their farms is shown in Table XIV.

TABLE XIV

DISTRIBUTION OF SELLERS ACCORDING TO OPINIONS ABOUT THE NUMBER OF OTHER BUYERS WHO WOULD PURCHASE THEIR MILK AND COLLECTION ROUTES BY FARMS

Number of other buyers	Total Number	Total Percent	Number of collection routes by farm	Total Number	Total Percent
1	32	5.89	1	79	14.55
2	68	12.52	2	105	19.34
3	131	24.13	3	109	20.07
4	130	23.94	4	91	16.76
5	70	12.89	5	67	12.34
6	39	7.18	6	41	7.55
7 or more	23	4.24	7 or more	34	6.26
Did not know	50	9.21	Did not know	17	3.13
Total	543	100.00		543	100.00

The number of buyers interested in increasing their milk volume and the overlapping of procurement areas indicated ample marketing alternatives existed for most sellers. Only four sellers had ever tried to change to other firms and were unsuccessful because the firms refused to accept their milk. Managers of all but three plants stated that they were interested in securing a larger volume of milk.

Although alternative marketing opportunities existed, sellers seldom changed plants. All but 6 percent had sold to current buyers for a year or longer. Nearly two-thirds of the sellers had sold milk to current buyers for 5 years or longer, and 15 percent had sold to current buyers for more than 20 years. Eighty-five percent of those who had changed plants within the previous 5 years had sold milk to only 1 other plant. Of the 172 who had changed plants during the 5 years, 28 percent had changed for the involuntary reason that a "plant went out of business." As shown in Table XV, nearly as many in the northern area had been forced to change plants as had changed for other reasons. Dissatisfaction with "test, weight, or price" was the most common reason for changing buyers in the southern area.

TABLE XV

REASONS WHY 92 SELLERS IN THE NORTH AND 80 SELLERS IN THE SOUTH CHANGED PLANTS, 1953-57

Reason	Number		
	North	South	Total
Test, weight, or price	29	35	64
Other plant went out of business	47	1	48
Fieldman, hauler, plant manager	5	9	14
Wanted to sell grade A or bulk milk	4	9	13
Didn't want to sell grade A or bulk	1	7	8
Other reasons	14	16	30
Did not know	1	6	7
Total	101[a]	83[a]	184[a]

[a]Include multiple answers.

The passive role of sellers was further indicated by the number, nearly one-fifth, who gave "former plant went out of business" as the reason they began patronizing current buyers (see Table XVI). However, being forced to select a new buyer did not explain why the new firm was chosen from remaining alternatives. Thus, the 104 such replies must be disregarded or interpreted as "did not know." When this is done then "higher price" ranks first as the reason sellers began patronizing current plants.

TABLE XVI

REASONS WHY THE 543 SELLERS BEGAN PATRONIZING CURRENT BUYERS

Reason	Number		
	North	South	Total
Former plant went out of business. . . .	50	54	104
Higher price	44	24	68
Neighbor recommended plant	24	30	54
Plant was closer, hauling rates lower. .	37	15	52
Test or weight	7	37	44
Plant was a cooperative.	27	15	42
To change grade or to bulk	23	17	40
Plant honesty, financial stability . . .	14	12	26
Because of hauler.	10	6	16
Better services offered.	8	8	16
Quality test or inspection	6	3	9
Method of payment.	6	1	7
Other reasons.	11	54	65
Did not know	10	21	31
Total	277[a]	297[a]	574[a]

[a]Totals are greater than the number interviewed in each area because of multiple answers.

"Higher price" and "test or weight" were not combined in Table XVI, as in some later tables, because they were answers to an open-end question. When combined they slightly exceed the replies that a "former plant went out of business."

Price and honesty were each mentioned by nearly half of the sellers as factors involved in decisions about where they would sell their milk. An open-end question, "When making your decision as to where to sell milk, what are you looking for in a plant?" was the last one on the questionnaire. According to frequency of mention, the largest group of sellers look for the "plant paying the highest price" (see Table XVII).

Replies to the closing question, along with those to related questions, indicated that a higher cash return for milk would be the most important factor in selecting a buyer for about one-fourth of the sellers.

"Plant honesty, fair weights and tests" ranked second as the factor most frequently involved in decisions about where milk would be sold. This is in line with other findings, discussed later, which point up the confusion and suspicion surrounding the accuracy of milk weights and tests.

The decision on where to sell milk, particularly in regard to changing plants, was generally made by the farm owner or operator. One-fourth of the sellers did not discuss the decision on where to sell with anyone. Forty percent talked with the husband or wife. Others in the

household, including children, were next in importance in this regard. About 8 percent had been encouraged by the spouse or other members of the family to change to another buyer, but less than 3 percent had changed after being encouraged to do so.

TABLE XVII

FREQUENCY OF MENTION OF FACTORS INVOLVED IN DECISIONS OF THE 543 SELLERS ABOUT WHERE THEY WOULD SELL MILK

No.	Factor	Total Number	Total Percent
1.	Plant paying highest price	281	25.71[a]
2.	Plant honesty, fair weights and tests	225	20.59[a]
3.	Progressive plant with good management	135	12.35[a]
4.	Plant in sound financial condition	110	10.06
5.	Plant providing a variety of services	103	9.42
6.	Dependable hauler	76	6.95
7.	Plant with stable market for products	45	4.12
8.	Cooperative form of ownership	40	3.66
9.	Size of plant (large or small)	16	1.46
10.	Plant providing good field service	14	1.28
11.	Miscellaneous	26	2.38
12.	Did not know	22	2.02
	Total	1,093[b]	100.00

[a]Significance of difference between factors 1,2: t=2.83, df=1,092, P less than 0.01; factors 2,3: t=5.16, df=1,092, P less than 0.01.

[b]Includes 367 sellers mentioning more than one factor.

Sellers' Price Information

Although 50 percent of the dairymen said that they received enough price information, other data indicated that a much smaller percentage could have been certain that they obtained the highest possible cash return for their milk. Sellers lacked an organized method of obtaining prices paid by alternative buyers.

Price Information Provided by Firms. All buyers provided their patrons with price information and records of daily milk weights, but the form and frequency of the information varied. All but one firm gave patrons information on base prices, differentials, and fat tests as frequently as each pay period, which was twice a month for most firms. This information was usually included with the milk check. One firm mailed patrons a postal card giving base prices and differentials each time there was a change in price. One firm sent the record of daily milk weights the day after milk checks were received by patrons. One firm had the hauler copy the daily milk weights onto a chart in the patron's milkhouse. Another firm followed a similar plan provided that a patron requested a record of daily milk weights.

Six firms sent their patrons newsletters at intervals ranging from monthly to "occasionally." The occasional letters were usually timed to report a change in prices paid by the firms. Two firms used postal cards for such purposes.

The type and frequency of information supplied by most buyers appeared to be adequate to keep patrons informed about prices paid by their respective buyers. However, the extent and accuracy of sellers' knowledge of prices indicated that much of the information provided by buyers was not utilized by their patrons or that it was beyond the comprehension of many patrons. Only 2 percent of the sellers said that they did not get any price information from their buyers.

Other Sources of Price Information. Sellers depended most heavily upon neighbors and friends for information about prices paid by alternative buyers (see Table XVIII). A price card distributed by one of the firms procuring milk in both the northern and southern areas ranked second in frequency of mention. The card gave the prices paid by the firm for milk of various levels of butterfat content. Apparently only the one firm was using this competitive technique at the time patrons were interviewed. About one-fifth of the sellers obtained some information about prices paid by alternative buyers from haulers, fieldmen, and other plant personnel. Newspapers were the only mass medium mentioned as a source of such information.

Three-fourths of the sellers found out what other firms paid 3 times a year or more often, 45 percent as often as once a month. However, data presented in a later section shows that relatively few sellers know the highest and lowest prices paid by firms procuring milk in their areas.

Most sellers apparently lacked sufficient price information to make marketing decisions largely on the basis of price.

TABLE XVIII

FREQUENCY OF MENTION BY THE 543 SELLERS OF SOURCES OF PRICES PAID BY ALTERNATIVE BUYERS

Source	Number
Neighbor or friend	415
Price card (one firm)	105
Own hauler or fieldman	57
Other haulers or fieldmen	44
Other plant personnel	14
Newspaper	10
Total	645[a]

[a]Includes multiple answers.

Base Prices per Hundredweight of Milk. The range of prices paid indicated that some farmers might have increased their net returns about 30 cents per hundredweight of milk sold merely by changing to the highest paying plant in their area. Even so, the price data also indicated a tendency of firms to follow average pricing policies.

At the time of interviewing, the most recent pay period for which complete price data were available was the last half of September 1957. Base prices per hundredweight of 3.5 percent grade A milk ranged from $3.35 to $3.75. The most commonly paid price for grade A milk was $3.50 per

hundredweight, paid by 6 firms. The average of the base prices paid by the 14 firms buying grade A milk was $3.54[1] per hundredweight.

The base prices per hundredweight of 3.5 percent grade B milk ranged from $3.01[2] to $3.27. The most common grade B milk price, paid by 9 firms, was $3.20 per hundredweight, and the average base price for 18 of the firms buying grade B milk was $3.17 per hundredweight.[3] The base prices paid by firms for each grade of milk are given in Table XIX.

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[1]One firm paid for grade A milk at the rate of 99 cents per pound of butterfat, which is equivalent to $3.465 per hundredweight of 3.5 percent milk. This figure was used in calculating the averages.

[2]One firm paid for grade B milk at the rate of 86 cents per pound of butterfat, equivalent to $3.01 per hundredweight of 3.5 percent milk. Another paid 87 cents per pound of fat, equivalent to $3.045 per hundredweight of 3.5 percent milk.

[3]Nineteen firms purchased grade B milk, but the manager of one refused to give price information or hauling charges for his plant. This manager said that his plant used the Froker method of payment and that the price paid was "f.o.b. plant." Forty-five of the firm's patrons were interviewed and 14 said they received less than 90 cents per pound of butterfat and 2 said they received more than 90 cents per pound of butterfat. The remainder said they were paid per hundredweight of 3.5 percent milk. Of these, 4 received less than $3; 3 received $3 to $3.10; 2 received $3.21 to $3.30; 1 received above $3.61; and 19 said that they did not know what they received for milk for the previous pay period.

TABLE XIX

BASE PRICES PAID FOR 3.5 PERCENT MILK BY THE 20 BUYERS, NORTH AND SOUTH AREAS, LAST HALF OF SEPTEMBER 1957

	Plant number, type, and form of ownership	Base price per 100 pounds	
		Grade A (dollars)	Grade B (dollars)
	North Area		
1	Cooperative manufacturing	$3.75	$3.20
2	Cooperative manufacturing	3.50	3.25
3	Cooperative manufacturing	3.50	3.10
4	Cooperative manufacturing	3.50	3.20
5	Cooperative manufacturing	3.50	3.15
6	Cooperative manufacturing	3.40	3.20
7[a]	Cooperative manufacturing	3.35[a]	3.20[a]
8	Cooperative manufacturing		3.25
9	Non-cooperative manufacturing	3.58	3.20
10	Non-cooperative receiving station	3.50	3.27
11	Non-cooperative manufacturing	3.50	
12[a]	Non-cooperative manufacturing	3.41[a]	3.20[a]
13	Non-cooperative receiving station		3.20
14	Non-cooperative manufacturing		3.20
15	Non-cooperative cheese plant		3.01
	South Area		
16	Cooperative receiving station	3.71	3.10
17	Cooperative manufacturing	3.60	3.20
7[a]	Cooperative manufacturing	3.35[a]	3.20[a]
18	Cooperative manufacturing		3.10
12[a]	Non-cooperative manufacturing	3.41[a]	3.20[a]
19	Non-cooperative manufacturing	f.o.b. plant	
20	Non-cooperative manufacturing	3.465	3.045

[a]Procured milk in both areas.

Cooperatives paid a wider range of prices for grade A milk than did non-cooperatives, but the reverse was true for grade B milk. The variation in prices paid for grade A milk by cooperatives was 40 cents per hundredweight, compared with 17 cents for non-cooperatives. The variation in prices paid for grade B milk by cooperatives was 15 cents per hundredweight, compared with 21 cents for non-cooperatives.

The greatest variation in base prices for both grades of milk was in the northern area where there were twice as many buyers as in the southern area. The average base price for grade A milk was nearly 1 cent lower in the north than in the south, but the average base price for grade B milk was nearly 5 cents higher in the north.[4] The two firms buying milk in both areas paid relatively low prices for grade A milk and 3 cents above average for grade B milk.

Sellers' Knowledge of Base Prices. Slightly more than half of the sellers knew the base price they received for milk for the previous pay period, but nearly one-third apparently did not fully understand the meaning of base price. Some farmers apparently interpreted base price to mean the net return to the farmer per hundredweight of milk sold. Others may have confused the base price with the price they received for milk of a test other than 3.5 percent fat. Some others may have thought the base price included such extras as bulk premiums.

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[4]Prices paid by the two firms procuring milk in both areas were included when calculating averages for each area.

Fifteen percent of the sellers stated that they did not know the price received for milk for the previous pay period and 85 percent gave a price supposedly paid by their respective buyers. A tabulation of patrons per plant showed that only 54 percent quoted a price within the same range as the one reported by their buyer.[5] No important difference was noted in the accuracy of information possessed by patrons of any particular firm. As shown in Table XX, sellers of grade B milk were slightly better informed about the base price received than were sellers of grade A milk. This difference can probably be attributed to the smaller spread in the prices paid for grade B milk.

Of those who gave an incorrect base price, 60 percent of the sellers of grade A milk gave a price that was below the one reported by their buyers, compared with 44 percent of the sellers of grade B milk. There was no significant difference between the percentage of grade A milk producers in either area who gave the correct base price. However, 63 percent of the sellers of grade B milk in the north knew the base price, compared with 46 percent in the south. Fifty-eight percent of all sellers in the northern area gave an accurate base price, compared with 49 percent in the southern area. A higher percentage of grade B milk producers in the southern area lacked knowledge of base prices than any

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[5]The 45 patrons of the firm with "f.o.b. prices" were excluded from all analyses involving base prices, differentials, and hauling rates.

other group. Differences by grades of milk and area are shown in Table XXI.

TABLE XX

DISTRIBUTION OF 162 GRADE A AND 336 GRADE B MILK PRODUCERS ACCORDING TO KNOWLEDGE OF BASE PRICES RECEIVED, SEPTEMBER 1957

Accuracy of price quoted by producer	Producers of grade A milk		Producers of grade B milk		Total producers	
	Number	Percent	Number	Percent	Number	Percent
Correct	80	49.38	187	55.65	267	53.61
Incorrect	78	48.15	87	28.87	175	35.14
Did not know	4	2.47	52	15.48	56	11.25
Total	162[a]	100.00	336[b]	100.00	498	100.00

[a]Includes 4 patrons paid per pound of butterfat; 2 knew the price per pound of fat and 2 gave an incorrect price.

[b]Includes 5 patrons paid per pound of butterfat; 4 knew the price per pound of fat and 1 gave an incorrect price.

$X^2=20.81$, df=2, P less than 0.01.

Sellers' Knowledge of Highest Price. Despite the fact that half of the sellers found out what alternative firms paid as often as once a month, few knew the highest price paid in their area. Three percent said the highest price was above $3.60 per hundredweight, when the highest price paid in both areas was above $3.70. Sixteen percent of the sellers in the north and 4 percent in the south said the highest price was above $3.50, which was a common price for grade A milk.

TABLE XXI

DISTRIBUTION OF 498 SELLERS OF GRADE A AND GRADE B MILK, NORTH AND SOUTH AREAS, ACCORDING TO KNOWLEDGE OF BASE PRICES, SEPTEMBER 1957

Accuracy of price quoted by seller	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
Grade A						
Correct	51	19.84	29	12.03	80	16.06
Incorrect	51	19.84	27	11.20	78	15.66
Did not know	3	1.17	1	0.41	4	0.80
Grade B						
Correct	97	37.75	90	37.34	187	37.55
Incorrect	41	15.95	56	23.25	97	19.48
Did not know	14	5.45	38	15.77	52	10.44
Total	257[a]	100.00	241[b]	100.00	498	100.00

[a]Includes 5 producers of grade B milk paid per pound of butterfat; 4 knew the price per pound of fat and 1 did not know.

[b]Includes 4 producers of grade A milk paid per pound of butterfat; 2 knew the price per pound of fat and 2 gave an incorrect price.

$X^2=10.71$, df=2, P less than 0.01 for grade B producers; X^2 not significant for grade A producers.

Sellers of grade B milk may have interpreted the question to mean the highest price paid for that grade, although grade of milk was not specified. When the analysis was broadened to mean the highest grade A milk price for producers of that grade and highest grade B price for producers of grade B milk, then 16 percent of all sellers possessed

accurate knowledge of the highest price paid in their area.

Because the highest paying firms might not have had procurement routes covering all of each area, the highest price analysis was further broadened to include the two highest prices paid for each grade of milk in each area. In this case 20 percent of all sellers possessed accurate knowledge of the highest price, 26 percent of the grade A milk producers, compared with 17 percent of the grade B milk producers. The range of estimates of highest price given by sellers of grade A milk is shown in Table XXII and those by sellers of grade B milk in Table XXIII.

TABLE XXII

GRADE A MILK PRODUCERS' ESTIMATES OF THE HIGHEST PRICE PAID PER HUNDREDWEIGHT OF MILK, NORTH AND SOUTH AREAS, LAST HALF OF SEPTEMBER 1957

Price range (dollars)	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
3.00 to 3.10	1	0.95	2	3.51	3	1.85
3.11 to 3.20	0	0.	0	0.	0	0.
3.21 to 3.30	0	0.	1	1.75	1	0.62
3.31 to 3.40	6	5.71	1	1.75	7	4.32
3.41 to 3.50	25	23.81	0	0.	25	15.43
3.51 to 3.60	25	23.81	3	5.62	28	17.28
3.61 and up	8	7.62	6	10.53	14	8.64
Did not know	40	38.10	44	77.20	84	51.86
Total	105	100.00	57	100.00	162	100.00

TABLE XXIII

GRADE B MILK PRODUCERS' ESTIMATE OF THE HIGHEST PRICE PAID PER HUNDREDWEIGHT OF MILK IN THE NORTH AND SOUTH AREAS, LAST HALF OF SEPTEMBER 1957

Price Range (dollars)	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
90 cents or less per pound of fat	0	0	5	2.18	5	1.31
Under 3.00	0	0	1	0.44	1	0.26
3.00 to 3.10	0	0	4	1.75	4	1.05
3.11 to 3.20	13	8.55	38	16.59	51	13.39
3.21 to 3.30	27	17.76	5	2.18	32	8.40
3.31 to 3.40	5	3.29	1	0.44	6	1.57
3.41 to 3.50	9	5.92	0	0	9	2.36
3.51 to 3.60	5	3.29	2	0.87	7	1.84
3.61 and up	3	1.97	1	0.44	4	1.05
Did not know	90	59.22	172	75.11	262	68.77
Total	152	100.00	229	100.00	381	100.00

Perhaps the most significant figures in Table XXII and Table XXIII, from the standpoint of this study, were the numbers who stated that they did not know the highest price paid in their area.

Twenty-seven percent of the sellers believed that their current buyers consistently, over a period of a year or longer, paid higher prices than others in their area. As shown in Table XXIV, at least some patrons of 15 of the 20 firms held such opinions. Two managers, one in each area, stated that their firms consistently attempted to pay the highest

TABLE XXIV

OPINIONS OF THE 543 PATRONS ABOUT WHETHER THEIR CURRENT BUYERS CONSISTENTLY PAID THE HIGHEST BASE PRICE PER HUNDREDWEIGHT OF 3.5 PERCENT MILK

[For a period of 1 year or longer]

Plant number, type and form of ownership	Price per hundredweight Grade A (dollars)	Grade B (dollars)	No. selling to plant	No. who knew base price[a]	No. believing plant paid highest price in area
1. Cooperative manufacturing	3.75	3.20	10	8	2
2. Cooperative manufacturing	3.50	3.25	4	2	1
3. Cooperative manufacturing	3.50	3.10	38	12	2
4. Cooperative manufacturing	3.50	3.20	10	8	2
5. Cooperative manufacturing	3.50	3.15	2	2	0
6. Cooperative manufacturing	3.40	3.20	25	15	2
7. Cooperative manufacturing	3.35	3.20	32	18	9
8. Cooperative manufacturing		3.25	62	31	47
9. Non-cooperative manufacturing	3.58	3.20	6	6	6
10. Non-cooperative receiving station	3.50	3.27	40	32	14
11. Non-cooperative manufacturing	3.50		14	5	7
12. Non-cooperative manufacturing	3.41	3.20	33	23	15
13. Non-cooperative receiving station		3.20	8	5	0
14. Non-cooperative manufacturing		3.20	1	0	0
15. Non-cooperative cheese plant		3.01	5	4	0
16. Cooperative receiving station	3.71	3.10	70	29	8
17. Cooperative manufacturing	3.60	3.20	132	66	2
18. Cooperative manufacturing		3.10	2	1	0
19. Non-cooperative manufacturing	3.465	3.045	4	4	2
20. Non-cooperative manufacturing	f.o.b. plant		45	f.o.b. plant	8

[a]For one pay period, the last half of September 1957.

price, although they did not for the period on which data were collected. Only 35 of the 172 patrons of those 2 "high paying" firms believed the firms consistently paid the highest price in the area.

Knowledge of Lowest Price. Sellers were no better informed about the lowest price than about the highest price paid in their areas. Their estimates of lowest price ranged from below $3 to $3.60 per hundredweight. The lowest prices were $3.01 in the north and $3.05 in the south. Thirteen percent of the sellers said the lowest price was within a range of $3 to $3.20 per hundredweight, but 79 percent said that they did not know the lowest price paid in their area.

Knowledge of Premium on Grade A Milk. Sellers were comparatively well informed about whether current buyers purchased one or both grades of milk, but a relatively small number knew the premium paid on grade A milk over grade B milk. Eighty-nine percent possessed accurate information about whether current buyers purchased one or both grades of milk and 8 percent knew the correct premium.

There was little variation between firms in the percentage of patrons who knew the grades of milk purchased, except for the plant for which price information was not provided. Of the 45 sellers to that plant, 23 believed the firm purchased both grades of milk instead of grade B milk only, for which the plant was licensed. When the sellers to this 1 firm were disregarded, 96 percent in the south and 89 percent in the north possessed accurate information on the

grades of milk purchased by their respective buyers.

To calculate the accuracy of knowledge about the premium on grade A milk, the most commonly paid ranges, 21 to 25 cents in the north and 36 to 40 cents in the south, were used for patrons of firms that did not procure grade A milk. The premium for the firm paying per pound of fat was obtained by multiplying the fat prices by 3.5 to obtain the price per hundredweight of 3.5 percent milk. The average base price for grade B milk in the north was used to determine the premium paid by the one plant in that area that purchased grade A milk only. These calculations made it possible to check the premiums quoted by patrons of plants that procured only one grade of milk against a premium commonly paid in the area.

As shown in Table XXV, the percentage of grade A milk producers who possessed accurate knowledge of grade A premiums was double that of patrons selling grade B milk.

Producers of grade A milk were inclined to underestimate and producers of grade B milk were inclined to overestimate the size of the premium paid on grade A milk. Of those who quoted a premium that proved to be incorrect, 84 percent selling grade A milk and 34 percent selling grade B milk gave a premium that was lower than the one paid by their respective buyers or was common to their area.

TABLE XXV

DISTRIBUTION OF GRADE AND GRADE B MILK PRODUCERS ACCORDING TO KNOWLEDGE OF GRADE A PREMIUMS, SEPTEMBER 1957

Accuracy of premium quoted	Sellers of grade A milk		Sellers of grade B milk		Total sellers	
	Number	Percent	Number	Percent	Number	Percent
Correct	20	12.35	22	5.77	42	7.74
Incorrect	74	45.68	88	23.10	162	29.83
Did not know	68	41.97	271	71.13	339	62.43
Total	162	100.00	381	100.00	543	100.00

X^2=41.25, df=2, P less than 0.01.

Appeal of the Premium on Grade A Milk. A substantial percentage of the producers of grade B milk indicated that the price paid for grade A milk was not great enough to encourage them to convert to grade A milk production. Forty percent said the cost of converting to grade A milk production was prohibitive, and 14 percent were undecided as to what premium would encourage them to make the change. Ten percent would require a premium within a range of 76 cents to $1.50 per hundredweight; 14 percent would require a premium of 51 cents to 75 cents; and nearly 22 percent said the premium could be 50 cents or less. Prices paid for grade A milk ranged from 15 cents to 61 cents per hundredweight above those for grade B milk. This indicated that the sellers who would be influenced by a price difference of 50 cents or less lacked accurate price information.

Methods of Payment

Methods of calculating the price paid for milk by the 20 buyers contributed to the seller's difficulty of determining whether he obtained the highest total cash return for his milk. Three methods of payment were used. Two firms paid for milk on the basis of pounds of butterfat. Fourteen paid per hundredweight of adjusted 3.5 percent milk.[6] Four managers said their firms paid according to the "Froker" plan.[7]

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[6]Plants paying for milk on the basis of a standardized or "adjusted" fat content pay a premium, called the "fat differential," for each 0.1 percent butterfat per hundredweight on all milk with a fat content higher than the adjusted level. An equivalent amount is deducted when calculating the price paid for milk with a fat content below the standardized level. Thus a plant with a fat differential of 7 cents and a base price of $3.50 per hundredweight of 3.5 percent milk would pay $3.57 for 3.6 percent milk and $3.43 per hundred pounds of 3.4 percent milk.

[7]The Froker method of payment takes into account the fat and solids-not-fat content of the milk, the market value of their products, and the costs or charges in processing and marketing these products. The price paid when the Froker method is used depends upon the initial base price for milk of a given test, such as 3.5 percent butterfat content, and a "price differential" instead of the conventional fat differential. The price differential is the net value to the plant of 0.1 pound of butterfat and 0.04 pound of solids-not-fat. The price differential is based on the idea that for each 0.1 percent change in the fat content of milk there is a corresponding change of approximately 0.04 percent in nonfat solids. See Rudolph K. Froker and Clifford M. Hardin, Paying Producers for Fat and Solids-Not-Fat in Milk, Wisconsin Agricultural Experiment Station Research Bulletin 143, February, 1942).

One manager in each area was questioned in detail about the methods of payment used. Both were of the opinion that almost every firm paid according to the Froker method, but the replies of other managers did not substantiate this view. However, in early 1953 it was estimated that 50 percent of the Wisconsin firms buying milk for manufacture were using the Froker plan and that the number using it was increasing rapidly.[8] These facts make it necessary to question the accuracy of the number of firms reported here to be paying by the method.

Regardless of whether the Froker method or the hundredweight of adjusted 3.5 percent milk was used to calculate the price paid, managers said that patrons were told the method of payment was "per hundredweight of adjusted 3.5 percent milk." Such explanations prevented sellers from distinguishing between two methods in common use in the area. Only 1 of the 543 patrons said that he was paid by the Froker method, although 4 firms, with about one-fourth of all the patrons interviewed, paid according to the Froker method.

Greater accuracy regarding the methods of payment used by firms in this study is desirable for two reasons. First, firms paying according to the Froker method pay prices that are more closely associated with utilization of the milk than those paying by other methods. Second, the Froker method

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[8] Paying Producers for Fat and Solids-Not-Fat in Milk, (University of Wisconsin Extension Service Circular 449, May 1953).

"tends to favor lower testing milk within each breed and between breeds"[9] as compared with other methods.

Although farmers did not understand that three methods of payment were being used in the area, they were aware that differences in the rate of payment existed. By changing buyers they often received a higher or lower return for the same quantity of milk. They associated the change in total return with manipulation of milk tests and weights although the variations probably resulted from the difference in method of payment. Uncertainty about the rate they might receive discouraged many from changing to a new buyer. Adequate explanation of the methods of payment would help eliminate some of the suspicion surrounding the accuracy of milk tests and weights. Such explanations had not been attempted.

Knowledge of Differentials. More sellers knew the amount of the differential paid by current buyers than knew the base price, hauling charge, or the grade A premium. Three-fourths of the sellers knew the differential paid by current buyers. As shown in Table XXVI, more producers of grade A than grade B milk knew the differential. This difference can apparently be explained by the smaller range of variation and the smaller number of different differentials paid on grade A milk.

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[9] Ibid., p. 8.

TABLE XXVI

DISTRIBUTION OF 489 SELLERS OF GRADE A AND GRADE B MILK ACCORDING TO KNOWLEDGE OF DIFFERENTIALS PAID BY 17 BUYERS, SEPTEMBER 1957

[Excludes sellers to the 2 firms that paid per pound of fat and 1 with f.o.b. prices]

Accuracy of differential quoted	Sellers of grade A milk		Sellers of grade B milk		Total sellers	
	Number	Percent	Number	Percent	Number	Percent
Correct	128	81.53	240	72.29	368	75.26
Incorrect	21	13.38	35	10.54	56	11.45
Did not know	8	5.09	57	17.17	65	13.29
Total	157	100.00	332	100.00	489	100.00

$X^2=13.65$, df=2, P less than 0.01.

More sellers in the southern area knew the differentials than in the northern area (see Table XXVII). Ninety-two percent of the sellers of grade A and 78 percent of the sellers of grade B milk in the southern area knew the differentials paid by their buyers. In the northern area 76 percent of the sellers of grade A and 65 percent of the sellers of grade B milk knew the differentials.

TABLE XXVII

DISTRIBUTION OF 489 SELLERS, NORTH AND SOUTH AREAS, ACCORDING TO KNOWLEDGE OF DIFFERENTIALS PAID BY 17 BUYERS, SEPTEMBER 1957

[Excludes sellers to the 2 firms that paid per pound of fat and 1 with f.o.b. prices]

Accuracy of differential quoted	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
Correct	177	69.96	191	80.93	368	75.26
Incorrect	46	18.18	10	4.24	56	11.45
Did not know	30	11.86	35	14.83	65	13.29
Total	253	100.00	236	100.00	489	100.00

$X^2=23.50$, df=2, P less than 0.01.

The smaller range of variation in differentials in the southern area probably accounted for the difference in levels of knowledge of sellers in the two areas. All grade B and all but 1 grade A milk processors in the southern area paid a differential of 7 cents per point. The differentials for grade A milk in the northern area ranged from 7 cents to 8 cents per point, while those for grade B milk varied from 6.8 cents to 8 cents per point. The differentials paid by all buyers are shown in Table XXVIII.

TABLE XXVIII

DIFFERENTIALS PAID PER ONE-TENTH POUND OF BUTTERFAT BY 20 FIRMS, NORTH AND SOUTH AREAS, SEPTEMBER 1957

[No distinction has been made between the conventional fat differential and the "price differential" used with the Froker method of payment]

Plant number, type, and form of ownership	Differential per point Grade A (cents)	Grade B (cents)
North Area		
1 Cooperative manufacturing	7.2	7.0
2 Cooperative manufacturing	7.2	6.9
3 Cooperative manufacturing	7.2	6.5
4 Cooperative manufacturing	7.0	7.0
5[a] Cooperative manufacturing	8.0	8.0
6 Cooperative manufacturing	7.0	7.5
7[b] Cooperative manufacturing	7.3	7.0
8 Cooperative manufacturing		7.2
9 Non-cooperative manufacturing	7.0	6.5
10 Non-cooperative receiving station	7.3	7.2
11 Non-cooperative manufacturing	7.1	
12[b] Non-cooperative manufacturing	7.0	7.0
13 Non-cooperative receiving station		7.0
14[a] Non-cooperative manufacturing		6.8
15 Non-cooperative cheese plant		none
South Area		
16 Cooperative receiving station	7.0	7.0
17[a] Cooperative manufacturing	7.0	7.0
7[b] Cooperative manufacturing	7.3	7.0
18 Cooperative manufacturing		7.0
12[b] Non-cooperative manufacturing	7.0	7.0
19 Non-cooperative manufacturing	none	none
20[a] Non-cooperative manufacturing	f.o.b. plant	

[a]Used Froker method of payment.

[b]Procured milk in both areas.

At most firms the differential on grade A milk was higher than the differential for grade B milk. This resulted in a wider spread between prices of the two grades than was indicated by their base prices. Differentials averaged 7.17 cents per point for grade A milk and 7.03 cents per point for grade B milk. The range of differentials was greatest in the northern area and the averages for both grades of milk were a fraction of a cent per point higher in that area.

Two explanations for the variation in differentials seem plausible. The first is that the differentials paid accurately represented the net gain to each plant from an increase of 0.1 pound of fat per hundredweight of milk (0.1 pound of fat and 0.04 pound of non-fat-solids for firms paying by the Froker method). If this was the case, then low differentials indicated inefficient firms or relatively low prices received for processed products, or both.

The second possible explanation is that firms manipulated differentials instead of the base price, or along with the base price, to gain or maintain patrons or to keep patrons confused. Differentials would thus be used to draw attention away from the base price to a factor which has less significance in determining the amount of the patron's milk check. The fact that 54 percent of the sellers knew the base price and 75 percent knew the differential paid by their respective buyers supports this view. Detailed price information for several pay periods would be needed to determine

whether differentials were manipulated largely to gain or keep patrons. However, the range of differentials as well as changing of differentials undoubtedly contributed to making sellers suspicious of the validity of butterfat tests.

The Stability of Hauling Charges

Hauling charges had been relatively stable in the area, indicating that plant managers did not consider them factors to be manipulated in procuring or maintaining patrons. This conclusion is supported by the findings of Clodius and co-workers.[10] Hauling charges of the 20 buyers had been in effect for an average of 6.4 years. Seven of the firms had maintained the same rates for 10 years or longer and only 2 had changed rates within the previous 2 years. One of these firms had raised its rate for bulk milk 2 cents per hundredweight, but its rate for cans, which had been in effect for 10 years, was maintained. The rates for all firms are shown in Table XXIX.

Sixty percent of the sellers had paid the same hauling charges for more than 2 years, some as long as 12 years. Rates in effect at the time of interviewing had been paid by 10 percent of the sellers from 1 to 2 years, by 4 percent from 6 months to 1 year, and by 5 percent for less than 6 months. Fifteen percent did not know how long they had paid current rates, and the remainder hauled their own milk and

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[10] Clodius, Fienup, and Kristjanson, Part 2, p. 51.

TABLE XXIX

HAULING CHARGES OF THE 20 BUYERS PROCURING MILK IN THE NORTH AND SOUTH AREAS, SEPTEMBER 1957

Plant number, type and form of ownership		Rate per 100 pounds milk	
		Cans (cents)	Bulk (cents)
	North Area		
1	Cooperative manufacturing. . . .	18	26
2	Cooperative manufacturing. . . .	16 to 20	
3	Cooperative manufacturing. . . .	19	19
4	Cooperative manufacturing. . . .	20	
5	Cooperative manufacturing. . . .	18	
6	Cooperative manufacturing. . . .	20	18
7[a]	Cooperative manufacturing. . . .	20	17
8	Cooperative manufacturing. . . .	18	
9	Non-cooperative manufacturing. .	20 to 24	20 to 24
10	Non-cooperative receiving station.	18	
11	Non-cooperative manufacturing. .	18	
12[a]	Non-cooperative manufacturing. .	20	20
13	Non-cooperative receiving station.	17 to 20	
14	Non-cooperative manufacturing. .	18 to 26	
15	Non-cooperative cheese plant . .	18	
	South Area		
16	Cooperative receiving station. .	20	15
17	Cooperative manufacturing. . . .	20.6	20
7[a]	Cooperative manufacturing. . . .	20	17
18	Cooperative manufacturing. . . .	21	21
12[a]	Non-cooperative manufacturing. .	20	20
19	Non-cooperative manufacturing. .	20	
20	Non-cooperative manufacturing.	f.o.b. plant	

[a]Procured milk in both areas.

did not pay hauling charges.

Hauling rates per hundredweight of milk varied from 16 cents to 26 cents for milk in cans and from 12 cents to 26 cents on bulk routes. Rates for can routes averaged 19.4 cents per hundredweight, compared with 19.8 cents for bulk routes.[11] Can-hauling rates averaged 1 cent higher and bulk-hauling rates averaged 1.7 cents lower in the southern area than in the northern area.

Knowledge of Hauling Rates. A higher percentage of sellers possessed accurate information about hauling rates than about any other price factor except differentials. Sixty-five percent of the sellers gave a hauling rate that proved to be correct when checked with the rate reported by their buyers (see Table XXX). Significantly more sellers in the north knew the correct hauling rates. Most of the sellers who quoted an incorrect rate were within 4 cents per hundredweight of the rate reported by their buyers, but quotations ranged from 10 cents below to 10 cents above those given by plant managers.

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[11] To calculate the average hauling charges a median figure was used for plants with multiple rates. Although replies by sellers indicated that the firm paying on an f.o.b. basis charged hauling rates of 19 cents to 21 cents, the firm was excluded when calculating the averages.

TABLE XXX

DISTRIBUTION OF 489 SELLERS, NORTH AND SOUTH AREAS, ACCORDING TO KNOWLEDGE OF HAULING RATES CHARGED BY CURRENT BUYERS

[Excludes 9 patrons who hauled their own milk and 45 who sold to the firm with f.o.b. prices]

Accuracy of rate quoted	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
Correct	174	70.17	144	59.75	318	65.03
Incorrect	55	22.17	41	17.01	96	19.63
Did not know	19	7.66	56	23.24	75	15.34
Total	248	100.00	241	100.00	489	100.00

X^2=23.03, df=2, P less than 0.01.

Types of Rate Manipulation. Although rates had been relatively stable per hundredweight, buyers had practiced certain types of rate manipulation. Two managers reported that they paid a subsidy to haulers on long routes. One firm charged a different rate for hauling each grade of milk. Another had a minimum hauling charge for small producers which was equal to the rate charged on the longest routes. Four firms had multiple rates for the same type of routes. Managers of these firms reported the lowest rates were for "very short routes." However, it is possible to change the interpretation of "very short routes" to suit the competitive situation.

Nevertheless, several facts indicated that hauling rates were fairly representative of the cost of procuring milk and that the rates were not seriously regarded as factors to be manipulated for gaining or maintaining patrons. Most hauling was done by contract haulers who had some voice in establishing the hauling rates.[12] Subsidizing of haulers did not appear to be a widespread practice. Hauling charges had been relatively stable. Firms interested in obtaining a larger volume of milk had been forced to establish longer routes and charge higher hauling rates. Although 60 percent of the patrons sold to the closest plant, 30 percent were 20 miles or more from their plants.

Opinions about a Change in Hauling Rates. A majority of the sellers indicated that they would not necessarily be extremely sensitive to a small increase in hauling rates. Forty-seven percent said that they would remain with their current buyer if hauling rates were raised 3 cents per hundredweight of milk and the rates of all other haulers remained the same. Thirty-two percent would change buyers under such circumstances, 16 percent were undecided, and the remainder hauled their own milk and would not be affected by a change in rates.

A comparison of sellers on the basis of the rates paid showed that those who paid higher rates would be more inclined to change plants with an increase in rates. Sellers

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[12]Clodius, Pienup, and Kristjanson, Part 2, p. 15.

to firms with multiple rates were excluded from the comparison. The most common rates were within a range of 16 cents to 21 cents per hundredweight. Of those who paid a rate of 19 cents or less, 51 percent would change if their rates were raised 3 cents and the rates of other haulers remained the same. Sixty-five percent of those who paid rates of 20 cents or higher would change under similar conditions.

Other Factors Influencing Decisions

Opinions of sellers were obtained on several questions designed to help determine their sensitivity to price and to provide greater insight into their knowledge of milk marketing. Their replies are now considered.

Opinions on Price Determination. About three-fourths of the farmers had some knowledge of how the price of raw milk was determined in their market. Slightly more than one-fourth were of the opinion that dairy firms sold their manufactured products and then figured how much they could afford to pay for the milk used. Plant managers said this was a common method of determining prices. Other techniques mentioned by managers included basing the price of raw milk on the prices of processed products at Chicago or other large markets, and checking with other firms to find out what price they planned to pay. Nearly one-third of the sellers believed that one or both of these last methods were involved in determining the prices they received. Twenty percent did not know how dairy firms determined the price paid for milk.

Relative Importance of Price Factors. Sellers attached more importance to the butterfat test than to other factors as a determinant of their gross monthly milk check. Thirty-seven percent believed the butterfat test was of greater relative importance than base price, weight, or any combination of the three (see Table XXXI). Twenty-four percent said price and 8 percent said weight were the most important. Fifteen percent believed price, test, and weight were of equal importance.

TABLE XXXI

SELLERS' OPINIONS ABOUT THE RELATIVE IMPORTANCE OF BUTTERFAT TEST, BASE PRICE, AND WEIGHT OF MILK IN DETERMINING THE GROSS MONTHLY MILK CHECK

No.	Factor	Total Number	Total Percent
1.	Butterfat test	203	37.38[a]
2.	Base price per hundredweight	131	24.13[a]
3.	Price, test, weight of equal importance	79	14.55[a]
4.	Weight of milk	41	7.55[a]
5.	Price and test of equal importance	33	6.08
6.	Price and weight of equal importance	6	1.10
7.	Test and weight of equal importance	22	4.05
8.	Undecided	28	5.15
	Total	543	100.00

[a]Significance of difference between factors:
1,2: t=6.37, df=542, P less than 0.01;
2,3: t=5.35, df=542, P less than 0.01;
3,4: t=3.66, df=542, P less than 0.01.

Opinions about Milk Weights and Tests. Opinions of sellers about milk weights and tests tended to bind them to their buyers and discouraged changing to other firms. In general sellers believed they obtained accurate tests and weights from the firms to which they currently sold milk, but they suspected or were uncertain as to the accuracy of the tests and weights given by alternative buyers.

Ninety percent of the sellers believed that they received accurate weights and about 85 percent believed that they received accurate butterfat tests. As shown in Table XXXII, 27 percent believed that some buyers in their area manipulated butterfat tests or milk weights. An additional 37 percent were undecided on this question. Thus 64 percent suspected or were uncertain of the honesty of alternative buyers. Such suspicion and uncertainty discouraged sellers from changing firms.

TABLE XXXII

OPINIONS OF THE 543 SELLERS ABOUT THE ACCURACY OF MILK TESTS AND WEIGHTS

Opinion	Total Number	Total Percent
Believed milk weights received were accurate	488	89.87
Believed butterfat tests received were accurate	459	84.53
Believed some alternative buyers manipulated butterfat tests or milk weights	146	26.89

Sellers in the northern area, where butterfat tests averaged higher, were less suspicious of butterfat tests and milk weights than those in the southern area. Sellers suspected all types of dairy plants of manipulating milk tests and weights, but fluid milk plants were viewed with the most suspicion. A few more sellers in the southern area were suspicious of cooperatives than non-cooperatives, but the opposite was true in the northern area.

Opinions About Financial Condition of Buyers. The significance of rumors about financial conditions of dairy firms was indicated by the 64 percent of the sellers who said that they would change plants if they knew current buyers were in financial difficulty. Ten percent of the sellers, 16 percent in the north and 4 percent in the south, had heard of firms in their area that were currently in financial difficulties. Of the 52 who had heard such information, 32 obtained it from a neighbor or friend. Other sources and the number of times mentioned were: plant personnel other than fieldmen and haulers, 8; own hauler, 3; fieldmen of other plants, 2; and newspapers, 2. The remainder did not know where they obtained the information.

Opinions of sellers concerning firms in financial difficulties indicated that the bond between the patron and his buyer was not as strong in the northern area where there was the greatest number of buyers. Area figures are shown in Table XXXIII.

TABLE XXXIII

DISTRIBUTION OF SELLERS ACCORDING TO WHETHER THEY WOULD CHANGE PLANTS IF CURRENT BUYERS WERE IN FINANCIAL DIFFICULTY

Opinion	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
Would change	186	72.37	164	57.34	350	64.46
Would not change	55	21.40	89	31.12	144	26.52
Undecided	16	6.23	33	11.54	49	9.02
Total	257	100.00	286	100.00	543	100.00

$X^2=13.80$, df=2, P less than 0.01.

Common Prices and Services. Eighty-five percent of the sellers believed that all firms should offer the same services, while only 61 percent believed all firms should pay the same price for the same grades of milk (see Table XXXIV). The basis for such opinions could not be definitely determined from the data collected. Apparently sellers were aware that differences existed in the operating efficiency of dairy firms. They probably knew that the prices of processed products vary to provide price advantages to different types of plants at different times.

Another explanation might be that farmers realized that dairy firms had little influence on the price received for processed products, but that the firm had full control over the services extended to patrons. The difference in replies might be due entirely to the greater emphasis buyers gave to

nonprice services, compared with that of price.

TABLE XXXIV

DISTRIBUTION OF SELLERS ACCORDING TO WHETHER ALL BUYERS SHOULD PROVIDE THE SAME SERVICES AND PAY THE SAME PRICE FOR THE SAME GRADE OF MILK

No.	Opinion	Same price		Same service	
		Total		Total	
		Number	Percent	Number	Percent
1.	Yes	333	61.33[a]	464	85.45[a]
2.	No	180	33.15[a]	58	10.68[a]
3.	Undecided	30	5.52[a]	21	3.87[a]
	Total	543	100.00	543	100.00

[a]Significance of difference between items:
Price: 1,2: t=9.30, df=542, P less than 0.01;
2,3: t=11.51, df=542, P less than 0.01;
Service: 1,2: t=24.59, df=542, P less than 0.01;
2,3: t=4.31, df=542, P less than 0.01.

Opinions about Marketing Contracts. Contracts might be used to assure a processing firm an adequate volume of milk and thus offer an opportunity for increasing efficiency. Sellers were therefore asked if they would sign a contract to deliver milk to a plant for a year or more if other farmers in the area were signing contracts. Thirty-one percent said that they would sign such a contract, 50 percent said they would not, and the remainder were undecided. These replies indicated that about two-thirds of the farmers might resist attempts to use contracts in milk procurement. The details of any contract offered would likely determine the

success or failure of such a venture.

Appeal of the Cooperative Idea. The form of plant ownership appeared to have an important bearing on the marketing of milk in the area studied. Clodius and co-workers concluded that cooperatives in the area had a unique advantage in milk procurement because of the esteem of the "cooperative idea" held by farmers. However, the plant managers they interviewed believed the "cooperative idea" was declining in appeal. Data collected in this study provided some support for their hypothesis.

Although 71 percent of the sellers patronized cooperatives, just 48 percent believed that a cooperative dairy plant offered special marketing advantages to the dairy farmer. As shown in Table XXXV, "a share in ownership and profits" was most frequently mentioned as an advantage of the dairy processing cooperative. "Higher total price, including dividends" ranked second.

Nine percent of the sellers had been members in a dairy bargaining or marketing cooperative and had dropped membership, 13 percent in the north and 5 percent in the south. "Total price was too low" was given by nearly one-half as the reason for dropping membership. "Didn't offer enough services" and "didn't like plant management" were each mentioned by about one-fourth of those who had dropped out of a cooperative.

TABLE XXXV

OPINIONS OF 261 SELLERS ABOUT THE MARKETING ADVANTAGES OFFERED BY A COOPERATIVE DAIRY PLANT

Advantage	Total Number	Total Percent
Share in ownership and profits	163	24.01[a]
Higher total price, including dividends	116	17.09[a]
Cooperatives keep other plants in line	105	15.46
Greater market security	86	12.67
Cooperatives are more progressive	61	8.98
Better plant management	54	7.95
Provide more services	51	7.51
Management more friendly	43	6.33
Total	679[b]	100.00

[a]Significance of difference between items: t=3.15, df=678, P less than 0.01.

[b]Included 165 multiple answers.

As one test of the appeal of the "cooperative idea," sellers were asked if they would patronize a cooperative dairy plant if the total price it paid for milk, including dividends, was consistently 3 cents lower than the prices paid by other firms in the area. Just 28 percent of the farmers said they would sell to a cooperative under such conditions. In contrast, 47 percent said that they would remain with their current buyers if hauling rates were raised 3 cents and the rates of all other haulers remained the same. In either case the net return to the patron would be the same.

Eighty percent of the farmers said they would sell to a cooperative if the total price, including dividends, was the same as that paid by other firms in the area. This was 9 percent more than sold to cooperatives at the time of interviewing. Their replies, along with those to other questions, indicated a rather general belief that cooperatives in the area paid lower than average prices although this did not appear to be true.

A slightly lower percentage of patrons believed that they received accurate weights and tests from cooperatives than from non-cooperatives. Thirteen percent said that they had started selling to cooperatives because of "test, weight, or price," compared with 24 percent for non-cooperatives. As many patrons did not know why they started selling to a cooperative as had started because the plant was a cooperative.

Replies to questions concerning cooperatives indicated that the appeal of the "cooperative idea" was slightly stronger in the southern area, although the ratio of cooperatives to non-cooperatives was practically the same for each area. Thirteen percent of the sellers had dropped membership in cooperatives in the north, compared with 5 percent in the south. In the southern area 11 percent more of the sellers believed that a cooperative offered special marketing advantages and 9 percent less said cooperatives did not offer special advantages. A slightly higher percentage of sellers in the south would sell to a

cooperative if its total price was consistently 3 cents below the prices paid by competing firms. The south was the area with the smallest number of buyers and the lowest concentration of procurement routes, smallest variation in prices, lowest prices, lowest farm incomes, and less intensive dairying. Also in the southern area fewer sellers possessed accurate information about price.

From a more detailed analysis of the data relating to cooperatives versus non-cooperatives, Groves found that price was the strongest incentive for gaining or maintaining patrons for both forms of plant ownership.[13] Cooperatives did not appear to be engaged in any more of an intensive effort to maintain patrons than private firms.[14] Groves also found that 72 percent of the patrons of cooperatives sold to the closest plant, compared with 30 percent for non-cooperatives. This indicated that cooperatives may have gained and maintained membership largely on the basis of the "local plant idea" rather than on the idea of cooperation.[15] Fifteen percent more of the patrons to cooperatives knew their plant managers than did patrons of non-cooperatives.[16] This indicated that perhaps some of the

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[13]Frank W. Groves, "Some Aspects of Competition and Some Comparisons among a Selected Group of Wisconsin Dairy Farmers" (unpub. M.S. thesis, University of Wisconsin, 1958), p. 29.

[14]Ibid., p. 28.

[15]Ibid., p. 12.

[16]Ibid., p. 26.

loyalty to cooperatives resulted from personal relationships rather than from the appeal of the "cooperative idea."

Data were not available so that comparisons in the appeal of the "cooperative idea" could be made with some earlier periods. Such a comparison would be needed to adequately test the hypothesis of a decline in appeal. The conclusion from this study is that there appeared to be a decline in the appeal of the "cooperative idea." The apparent decline seemed to be due to three conditions. First, cooperatives had not fully utilized the beliefs of many sellers that dairy processing cooperatives provide special marketing advantages for dairy farmers.

Second, the number of alternative procurement routes, whether cooperative or non-cooperative, lessen a patron's dependence upon a particular cooperative as a market for his milk. Larger firms, both cooperative and non-cooperative, had expanded their procurement routes, offering alternatives to patrons of small cooperatives.

Third, the cooperatives followed about the same policies and offered the same services as non-cooperatives. Their failure or inability to pay a noticeably higher price had created an impression among many patrons that no real difference existed between the two types of dairy plant ownership.

Opinions about Public Relations. Most sellers approved of the community relations activities of their buyers and believed that discontinuing participation in these activities

would permit firms to pay little or no more for milk. Seventy-eight percent approved of dairy firms participating in fairs, parades, celebrations, youth projects, social functions, and similar events. Eleven percent were opposed and 11 percent were undecided about whether firms should participate.

Forty-six percent of the sellers believed that dairy firms could pay no more for milk if participation in community activities was discontinued. Seventeen per cent believed that firms could pay up to 2 cents per hundredweight more for milk if community activities were dropped, and 31 percent were undecided about whether firms could pay more. The remaining 6 percent believed that buyers could pay an increase of 2 cents to more than 10 cents per hundredweight of milk if community activities were discontinued.

Deductions for Dairy Products Promotion. Because deductions from the milk check to support the American Dairy Association's program decreased the farmers' total returns from milk, it was thought that some patrons might prefer to sell to a firm that did not participate in the checkoff program. Eighteen managers said deductions were made at their plants to support the American Dairy Association's program, and two managers declined to answer the question.

Seventy-two percent of the sellers participated in the checkoff program, but only 38 percent unreservedly favored the program. An additional 24 percent favored the program with qualifications (see Table XXXVI). Area differences

were significant.

TABLE XXXVI

SELLERS' OPINIONS OF THE AMERICAN DAIRY ASSOCIATION PLANT CHECKOFF PROGRAM, NORTH AND SOUTH AREAS

Opinion	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
Favored	76	29.57	130	45.45	206	37.94
Favored with qualifications	76	29.57	52	18.18	128	23.57
Disfavored	44	17.12	37	12.94	81	14.92
Undecided	61	23.74	67	23.43	128	23.57
Total	257	100.00	286	100.00	543	100.00

X^2=18.04, df=3, P less than 0.01.

Because deductions were voluntary and only 15 percent of the patrons disapproved of the deductions, few patrons could probably be gained by a firm's refusal to participate. On the other hand, making deductions for the program would fail to differentiate a firm sufficiently to attract many new patrons.

Sellers' Response to Price Factors

Numerous comparisons were made between groups of sellers in an effort to obtain a better understanding of their response to price. Generally the comparisons showed that sellers of grade A milk were better informed about price factors than sellers of grade B milk; that sellers who said

they did not get enough price information were better informed than those who said they received enough price information; and that sellers would respond to relatively small changes in price provided they were certain of the accuracy of their price information.

Quantity of Price Information. Sellers who believed that they did not get enough price information were more aggressive in their quest for price information than those who said that they received enough information. Although the difference was not great, more sellers who did not get enough price information found out what other firms paid more frequently than those who said they received sufficient information. Those who did not get enough price information were more inclined to depend upon a neighbor or friend for information on alternative prices. More had attended meetings during the previous year, 24 percent compared with 15 percent, where milk prices and milk marketing information had been discussed.

Only small differences were noted when the two groups were compared concerning the accuracy of knowledge of grade A milk premiums. The largest difference, about 6 percent, was in the greater number of those in the southern area who did not know the premium but said that they received enough price information.

Two differences were noted when the two groups were compared on the basis of which inducement would be the most effective in persuading sellers to change firms or to remain

with current buyers. First, 45 percent of those who did not get enough price information believed the promise of a higher price or test would be the most effective inducement, compared with 28 percent of the other group. Second, 24 percent of those who did not get enough price information were undecided as to how to rank the inducements, compared with 44 percent of those who received enough information.

Further comparisons revealed only slight differences. Comparisons were made on whether the firm paying the highest price would be the firm where the seller could expect the greatest total return for his milk; whether all buyers should pay the same price for the same grade of milk; the firms patronized; and whether all firms should offer the same services. Differences were usually less than 2 percent.

Other comparisons showed that a higher percentage of grade A milk producers would like more price information, but that a higher percentage of producers of grade B milk would likely be more responsive to a higher price. Of the patrons selling grade A milk, 55 percent in the north and 47 percent in the south would like more price information, compared with 48 percent of the grade B milk producers in the north and 37 percent in the south. Fifty-eight percent of the grade B milk producers in the south, the highest percentage of any group, believed that they received enough price information.

More producers of grade B milk, 39 percent compared with 30 percent for grade A milk, said that the "promise of a

higher price or a higher test" would be the most effective inducement that could be used to get them to change plants or to remain with their current buyers.

A comparison of the two groups on the three questions concerning the accuracy of milk tests and weights showed that a slightly higher percentage of grade B milk producers suspected the accuracy of milk tests and weights. Differences between grades and between areas were less than 5 percent, but differences between grade A and grade B sellers in the south ranged as high as 10 percent.

Price Information for Publication. Although sellers obtained price information from their respective buyers, they lacked an organized means of securing information about prices paid by alternative buyers. In an effort to find a solution to this problem, plant managers were asked if they had ever given or would give information about their firm's base prices, differentials, and hauling rates to mass media.

Only 2 managers said that they had ever been asked for such information by representatives of mass media and 3 had given price information for publication or broadcast. Thirteen managers would give information on base prices, hauling rates by routes, and differentials if they knew it would be used for publication or broadcast. Four managers said they would not give such information to mass media and three were uncertain.

A related study of mass media covering the market area revealed a general lack of interest in publishing local milk

price information.[17] Kendall found that only a few mass media representatives had ever tried to secure price information from dairy plant managers. With few exceptions, the newsmen expressed the attitude that local milk price information was not really essential "because farmers already know the prices."[18] However, most journalists in the area expressed a willingness to publish local dairy price information if they were not responsible for gathering the price quotations from the various dairy firms in their audience area.[19]

The replies by dairy plant managers and journalists to questions concerning the publication of local milk price information indicated that journalists had been somewhat negligent in serving a substantial portion of their audience. Nevertheless, they also indicated that mass media might be used as a means of informing dairy farmers of prices paid at alternative plants. The most suitable method for establishing such a price reporting system and the possible consequences are subjects for further study.

Unresponsiveness to Small Changes in Price. The farmers studied were quite unresponsive to milk price changes of 5 cents or less per hundredweight. Support for this hypothesis

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[17]Karen Kendall, "A Survey of the Availability of Milk Price Information in a Selected Group of Mass Media in Northwestern Wisconsin" (unpub. M.S. thesis, University of Wisconsin, 1958).

[18]Ibid., p. 25.

[19]Ibid., p. 26.

rests largely upon their lack of accurate price information and the fact that relatively few had changed buyers within the previous 5 years.

Had farmers been responsive to a temporary price change of 5 cents or less, most of them would have immediately changed plants following receipt of their milk checks for the last half of September 1957. Prices per hundredweight of milk varied as much as 40 cents for grade A milk and 26 cents for grade B milk. A large percentage of the sellers could have obtained a temporary price increase of 10 cents or more by merely changing to another hauler whose route passed by their farms. No such changing of plants was evident.

Incomplete price data obtained for the first pay period of October 1957 showed that several firms varied prices paid by 5 cents or more per hundredweight from the September level. However, only 33 sellers had sold to their current buyers for less than 1 year and 14 of the 33 had been dairy farmers less then a year. Few of the farmers could have responded to a price change of 5 cents or less because few would know that such a price change had occurred. A summary of sellers' "price knowledge" is given in Table XXXVII.

The data just presented also supports the hypothesis that "a dairy processing firm must pay a price of 5 cents or more above average per hundredweight of milk for the procurement area for 6 months before a substantial number of farmers will switch to the higher paying firm." As further support for this statement, 65 percent of the patrons said

that they did not sell to the firm that consistently paid highest prices. This indicated that a higher price alone did not appeal to the majority of sellers.

TABLE XXXVII

SUMMARY OF SELLERS' KNOWLEDGE OF PRICE INFORMATION, ONE PAY PERIOD, SEPTEMBER 1957

Price factor	Number	Percent
Knew base price paid by current buyer[a]	267	53.61
Knew highest price paid in their area	18	3.31
Knew lowest price paid in their area	22	4.05
Knew grade A milk premium	42	7.74
Knew differential paid by current buyer	368	75.26
Knew hauling rate charged by current buyer[b] . .	318	65.03

[a]Excluded 45 patrons of the firm with f.o.b. prices.

[b]Excluded 45 patrons of the firm with f.o.b. prices and 9 who hauled their own milk.

The deterrents to changing plants, dependence upon neighbor or friend as a source of information about prices paid by alternative plants, and the probable retaliatory action by other firms would likely keep many patrons from rapidly changing to a firm that consistently paid 5 cents above average prices. Unless one or more plants discontinued operations, the possibility of any firm in the area gaining a substantial number of patrons in a short time appeared rather remote.

Hauling rates varied sufficiently for sellers in the north to gain a rate decrease as great as 10 cents per

hundredweight for milk in cans and 9 cents for bulk milk. By changing plants sellers in the south could have obtained rate decreases of 3 cents for milk in cans and 6 cents for bulk milk. Had sellers been particularly responsive to differences in hauling charges, this fact would have shown up in the data collected. Had a large number of sellers been responsive to the differences in rates, firms charging the higher rates would have found it difficult or impossible to maintain patrons. Thus farmers in the area were as unresponsive to changes in hauling rates as to changes in price.

Detailed price information would tend to make dairy farmers more responsive to changes in prices and hauling rates. Replies to questions on inducements and the decision on where to sell milk showed that a higher price had great appeal to a substantial percentage of sellers. Most sellers did not possess enough price information to make their marketing decisions on the basis of price. As shown in Table XXXVII, page 110, the limiting factor for the largest number of sellers was the knowledge of the highest price paid in the area. An additional handicap was the suspicion with which sellers viewed alternative buyers. Publication of detailed price information would make sellers aware of the differences in prices and allay suspicion concerning alternative firms. This point is discussed in detail in the final chapter.

Summary

Few of the sellers studied, probably less than 4 percent, possessed sufficient price information to be certain that they were obtaining the highest possible cash return per hundredweight of milk marketed. Although actions and opinions of sellers indicated that they would be relatively sensitive to price, their lack of price information and suspicion of the accuracy of butterfat tests indicated that the majority did not base their short term marketing decisions on factors related directly to money income.

Sellers were reluctant to change plants despite the knowledge by many that they were not selling to the firm which consistently paid the highest price. Suspicion of manipulation of milk weights and butterfat tests, rumors of plant financial conditions, appeal of the cooperative idea, and some of the inducements mentioned during solicitation visits all tended to discourage sellers from changing plants.

Even were it assumed that sellers obtained sufficient price information from current buyers, they did not have a reliable means of obtaining information about prices paid by alternative buyers. Mass media in the area could provide adequate information on prices paid by alternative buyers because more than half of the plant managers were willing to give detailed price information for publication or broadcast. However, a related study showed that mass media in the area are not likely to publish such information unless

it is collected for them by a reliable agency.

Until some method is devised to provide farmers with suitable price information, their role in the marketing of raw milk will be a passive one. In the absence of comprehensive price information, and where price competition was not emphasized, farmers turned to nonprice services as guides in arriving at decisions about where to sell their milk. The various aspects of nonprice competition are considered in the next chapter.

CHAPTER V

SELLERS' RESPONSE TO NONPRICE SERVICES

This chapter discusses the data collected about nonprice services. The first section covers the nonprice services provided by the 20 buyers. Sellers' preferences for the services are then presented. In the third section sellers' responses to the individual services are discussed in detail. The section includes an evaluation of each service according to its ability to gain or maintain patrons for buyers. Because haulers and fieldmen were involved in providing important nonprice services, the last portion of the chapter deals with their roles in milk procurement.

Nonprice Services Provided by Buyers

There was an expansion in the number of nonprice services provided patrons by dairy firms during the 5 years of 1953 through 1957. The greatest expansion was in the number of firms helping patrons finance equipment and farm improvements and in the number that added group medical insurance.

In 1953 Clodius and co-workers reported that the 4 nonprice services most widely used and the percentages of plants

providing them were as follows: "farm supplies at discount," 94 percent; "advance payments to patrons," 90 percent; "free milk cans," 80 percent; and "financing new equipment and improvements," 47 percent.[1]

All firms surveyed in 1957 sold farm supplies such as soap, detergents, and milk filter discs to patrons at a discount. Fourteen of the 20 firms, 70 percent, helped patrons finance or secure financing for new equipment and farm improvements such as milk houses and milk coolers.

Little or no increase was evident in the number of firms adding the other two services that were most widely used in 1953. However, there was an increase in the use of some other services. Although most firms in the area had their haulers deliver dairy products in 1953,[2] by 1957 all firms surveyed had their haulers perform this service. The extent to which firms made assignments for patrons (deductions from their milk checks to pay on installment purchases) was not determined in 1953, but it was a relatively important service at that time.[3] All firms surveyed in 1957 made

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[1]Clodius, Fienup, and Kristjanson, Part 2, p. 15. The original plant survey covered 63 plants. All 20 plants in this study were included in the original survey.

[2]Ibid., Part 1, p. 35. See also Part 2, p. 45, which reports that 16 of the 27 haulers interviewed delivered dairy products to patrons.

[3]Ibid., Part 2, p. 28. Managers listed assignments as "important." Fieldmen gave equal importance to advance payments and assignments and placed both as more important than any other service.

assignments for patrons. Group medical insurance through dairy firms had been introduced in the five years prior to the original plant survey and was a service "in great demand among farmers"[4] by 1953. Five years later all but 2 of the 20 firms offered group medical insurance plans to patrons. One of the other firms planned to provide this service.

Of the 11 nonprice services on which information was obtained, 7 were used by 17 or more of the 20 firms (see Table XXXVIII). Only 2 firms offered their patrons as few as 6 of the services. Four firms provided 7 of the services, 8 provided 8 services, and 6 provided 10 services. Seven firms provided one or more services not included in the questionnaire, and no manager said his firm used the service of "gasoline, oil, or tires at discount."

Sellers' Preferences for Nonprice Services

Sellers were comparatively well informed about the availability of nonprice services. As shown in Table XXXIX, 75 percent or more of the sellers said that all but 4 of the services were provided by their buyers. Only 2 services were reported available to as few as 60 percent of the sellers.

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[4]Ibid., p. 29.

TABLE XXXVIII

USE OF 11 NONPRICE COMPETITIVE SERVICES BY THE 20 BUYERS, NOVEMBER 1957

Nonprice service	Number of plants	Percent of total
Farm supplies at discount	20	100
Hauler delivered dairy products	20	100
Assignments	20	100
Advance payments	18	90
Group medical insurance	18	90
Fieldman (excluded field service by others)	18	90
Free milk cans	17	85
Help with financing or securing financing	14	70
Milk can tinning service	10	50
Whey or skim milk returned to patron	3	15
Gasoline, oil, or tires at discount	0	0

TABLE XXXIX

PERCENTAGE OF SELLERS REPORTING EACH SERVICE AVAILABLE FROM CURRENT BUYERS, NORTH AND SOUTH AREAS, NOVEMBER 1957

Nonprice service	North		South		Total	
	Number	Percent	Number	Percent	Number	Percent
Hauler delivered dairy products	248	96.50	284	99.30	532	97.97
Fieldman	218	84.82	277	96.85	495	91.16
Dairy supplies	233	90.66	250	87.41	483	88.95
Group insurance	229	89.11	247	86.36	476	87.66
Can tinning	228	88.72	216	75.52	444	81.77
Free milk cans	228	88.72	203	70.98	431	79.39
Advance payments	189	73.54	219	76.57	408	75.14
Help in financing	149	57.98	232	81.12	381	70.17
Assignments	185	71.98	146	51.05	331	60.69
Whey, skim	20	7.78	37	12.94	57	10.50
Gasoline, oil, or tires	10	3.89	5	1.75	15	2.76

However, discrepancies were noted between the replies by sellers and buyers to questions concerning two of the non-price services. No manager said his firm provided "gasoline, oil, or tires at discount," yet nearly 3 percent of the sellers said such a service was available. Two explanations seem plausible. The service may have been provided by some haulers to a few patrons. This might have been possible because some firms had arranged for their haulers to secure gasoline, oil, or tires at a discount. On the other hand, a few patrons may have confused assignments made to pay for gasoline, oil, or tires with the idea that the items were purchased from the dairy processing firm at a discount.

The other discrepancy concerned the returning of whey and skim milk to patrons. Three firms returned whey or skim milk to patrons, but sellers who said the service was available mentioned 14 plants. The most logical explanation appeared to be that some patrons misinterpreted whey or skim milk to mean either dried whey or nonfat dry milk solids which were sold to patrons by several processing firms.

Seller Preference for Services. The three most highly preferred services were "hauler delivered dairy products," "free milk cans," and "group medical insurance," in that order. Sellers were asked to rank the three most highly preferred services provided by current buyers. The percentages ranking each service first are shown in Table XL.

TABLE XL

SELLERS' PREFERENCES FOR NONPRICE SERVICES PROVIDED BY BUYERS, NORTH AND SOUTH AREAS, NOVEMBER 1957

No.	Nonprice service	North		South		Total	
		Number	Percent	Number	Percent	Number	Percent
1.	Hauler delivered dairy products.	57	22.18	94	32.86	151	27.81[a]
2.	Free milk cans.	59	22.96	31	10.84	90	16.57[a]
3.	Group insurance	28	10.89	37	12.94	65	11.97[a]
4.	Help in financing	16	6.23	32	11.19	48	8.84
5.	Dairy supplies.	21	8.17	18	6.29	39	7.18
6.	Fieldman.	14	5.45	19	6.64	33	6.08
7.	Advance payments.	13	5.06	7	2.45	20	3.68
8.	Assignments	9	3.50	9	3.15	18	3.32
9.	Can tinning	4	1.55	2	0.70	6	1.11
10.	Whey, skim	2	0.78	1	0.35	3	0.55
11.	Gasoline, oil, tires. . .	1	0.39	0	0.00	1	0.18
12.	Other services.	2	0.78	4	1.40	6	1.11
13.	Undecided	31	12.06	32	11.19	63	11.60
	Total	257	100.00	286	100.00	543	100.00

[a]Significance of difference between items:
Nos. 1,2: t=4.46, df=542, P less than 0.01;
Nos. 2,3: t=2.16, df=542, P less than 0.05.

Certain services rated low in seller preference despite their wide availability and the knowledge by substantial percentages of patrons that the services were available. As shown in Table XLI, a can tinning service, assignments, advance payments, and field service rated lowest in seller preference although provided by half or more of the buying firms. This point is discussed in detail in the next section of this chapter.

TABLE XLI

SELLERS' PREFERENCE FOR AND KNOWLEDGE OF NONPRICE SERVICES PROVIDED BY THE 20 BUYERS, NOVEMBER 1957

Nonprice service	Number of firms providing service	Percentage of sellers who said service was available	Percentage of sellers who said service was most highly preferred[a]
Hauler delivered dairy products	20	97.97	27.61
Supplies at discount	20	88.95	7.18
Assignments	20	60.96	3.32
Group insurance	18	87.66	11.97
Fieldman	18	91.16	6.08
Advance payments	18	75.14	3.68
Free milk cans	17	79.39	16.57
Help in financing	14	70.17	8.84
Can tinning service	10	81.77	1.11
Whey, skim returned	3	10.50	0.55
Gasoline, oil, or tires at discount	none	2.76	0.18

[a]Twelve percent were undecided as to how to rank the services and 1 percent preferred other services.

"Price-Value" of Services. About one-third of the sellers could place a "price tag" on nonprice services in the form of a higher price they believed buyers could pay if services were discontinued. Of these sellers, 42 percent believed buyers could pay from 1 cent to 3 cents per hundredweight more for milk if the nonprice services were discontinued; 26 percent said 4 cents to 6 cents more; 13 percent said 7 cents to 10 cents more; and 19 percent said more than 10 cents.

Thirty-six percent of all sellers were of the opinion that buyers could pay no more for milk if services were discontinued, and 31 percent were undecided as to whether buyers could pay more by discontinuing the services.

Just 20 percent of the sellers said that they would prefer the higher price that buyers might pay if nonprice services were discontinued. This, along with the data discussed above, indicated that a majority of sellers believed the discontinuation of nonprice services would lead to little or no increase in the price paid for their milk. A similar view was held by managers, according to Clodius and coworkers. With the exception of "free milk cans," managers stated that services cost their firms a negligible amount and that some services such as "dairy supplies at discount" may actually lower operating costs.[5]

Five percent of the sellers desired other services from

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[5] Ibid., pp. 52-53.

their buyers in addition to those provided. Most frequently mentioned were farm supplies and equipment at wholesale prices, servicing of equipment such as bulk tanks and milking machines, and having the hauler deliver items other than dairy supplies or dairy products.

An Evaluation of Nonprice Services

Most of the nonprice services studied were at a static level of use and appeared to have little value to buyers as practices that would gain new patrons. Their potential for maintaining patrons varied. The probable response of sellers to a change in the use of each service is now considered.

Hauler Delivered Dairy Products. The service preferred by the largest percentage of sellers was "hauler delivered dairy products." It ranked first in the south and second in the north. The higher percentage preferring the service in the southern area can best be explained by the sparse settlement and the distance between many of the sellers and their plants or a shopping center where dairy products could be purchased.

Besides providing a market for one or more products processed by most of the firms, the service apparently helped maintain patron goodwill toward the hauler and buyer. A patron may feel more closely tied to the plant when he can buy back some of the milk from his own farm in the form of a processed product. Such a bond may be stronger where brand names are firmly established, where plants produce a

product of high quality, or in the case of cooperatives.

Few patrons could be gained on the basis of this service unless it was exceptional in some respect because all buyers provided it. However, the high value placed upon the service by sellers indicated that many would change plants if it were discontinued and competing firms maintained the service.

Free Milk Cans. The service that ranked second in preference was "free milk cans." It ranked first in the north and second in the south. This difference in preference can be largely attributed to the higher percentage of bulk milk tanks in the southern area. All buyers in the south provided free milk cans, while three firms in the north did not.

Of all services provided, free milk cans added the greatest amount to plant costs. One estimate places the cost to the processing firm at about 4 cents per hundred pounds of milk received, or from 5 percent to 10 percent of the total cost of processing.[6] Miller estimated the average annual cost of using one milk can to be $2.83 and the cost per hundredweight of usable can capacity to be $4.04.[7]

Managers interviewed in the original plant survey

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[6]Ibid., Part 2, p. 26.

[7]Arthur H. Miller, Bulk Handling of Wisconsin Milk, Farm to Plant, (Wisconsin Agricultural Experiment Station Research Bulletin 192, February, 1956), p. 7.

considered free milk cans a "necessary evil" that had to be provided as long as competitors furnished cans. They estimated that a firm would lose from 2 percent to 20 percent of its patrons if free milk cans were discontinued and competing buyers continued the service.[8] Seventeen percent of the sellers selected "free milk cans" as the most preferred service. This gives some indication of the percentage of patrons a firm might lose by discontinuing the service. To minimize the loss of patrons, a firm desiring to discontinue free milk cans might give patrons the cans in use. Another solution might be to prorate the cost of cans for the farmer over a year or longer.

Bulk milk procurement may soon solve the free milk can problem for some dairy firms, but the same type of problem, on a more expensive scale, may arise over who should pay for the bulk cooler used to collect and store milk on the farm.[9] Sellers, long accustomed to free milk cans, may expect the buyer to provide bulk milk coolers as a substitute for cans. Unless buyers can lower costs sufficiently by bulk handling to pay a premium large enough to encourage patrons to invest in a bulk cooler, sellers are not likely

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[8]Clodius, Fienup, and Kristjenson, Part 2, p. 25.

[9]Miller, p. 68, suggests four plans which firms might follow in converting to bulk procurement. They are: cooperative purchase of bulk coolers; plant ownership of bulk coolers; purchase of coolers by the firm with eventual ownership by the patrons; and producer purchase of coolers.

to convert to bulk unless processing firms purchase the necessary equipment.[10]

Milk Can Retinning Service. Some firms provided a portion of the milk cans free. Sellers had to buy the remainder and keep them in a serviceable condition. Milk cans cost from about $8.15 to $9.50, depending upon the quality and weight; retinning, including covers, costs about $3.80 to $4.10, depending upon the quantity retinned.[11] The useful life for a milk can ranges from about 3 years with no retinning to around 10 years for a heavy can retinned twice. Unless a retinning service is provided, a patron must replace his share of the milk cans every 3 or 4 years or have them retinned in small numbers at a high cost. When a retinning service is not provided, sellers may be negligent about having cans retinned. This could lead to a quality problem for buyers. Poor cans might mean rejected milk and a dissatisfied patron. A retinning service is therefore of value to buyers and sellers.

Although more than 80 percent of the sellers said that a retinning service was available through their buyers, less than 2 percent named it as the most important service. It was mentioned as a first, second or third choice by less than 5 percent. The low appeal of this service indicated that it would not be particularly effective in gaining

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[10] Ibid., p. 70.

[11] Ibid., p. 7.

patrons for a buyer. However, as long as milk cans remain prominent in milk collection, a can retinning service should be provided because it benefits both seller and buyer.

Group Medical Insurance. More information was obtained about group medical insurance than any other nonprice service. The service was relatively new in the area, but it was provided by 18 of the 20 firms. It ranked third in order of preference.

Half of the sellers who said their buyers offered a group medical insurance plan subscribed to the plan. Of the 239 sellers who subscribed, 212 said the plan covered their entire family. Costs of the insurance varied from less than $5 to more than $15 per month, but the most common costs were between $5 and $10 per month.

About 90 percent of those covered by group insurance believed they could get a similar policy at about the same price from an alternative buyer, and 40 percent said group insurance would not be involved in any decision to change to another plant. Most of the sellers covered by group insurance believed dairy firms could pay little or no more for milk by discontinuing the service. Half of those covered would prefer the service to the higher price they believed firms might pay for milk by discontinuing the service.

One hundred said that they would require a higher price for their milk before they would change to a firm that did not offer group medical insurance. Fifty-seven said the

price increase could be 5 cents or less per hundredweight of milk; 16 would require an increase of 6 cents to 10 cents; 10 an increase of 11 cents to 15 cents; 6 an increase of 16 cents to 20 cents; and 11 an increase of 20 cents or more. These figures indicated that about 18 percent of the sellers would expect an increase in the price of milk apparently large enough to offset the cost of group insurance before they would change to a firm not offering such a policy.

Seller preference for and evaluation of group medical insurance indicated that it will remain important in milk procurement until all buyers offer plans of near equal costs and benefits. Rates varied widely, indicating that coverage and possible benefits to patrons varied a great deal.

Although group insurance benefited sellers and costs to buyers were small, the service was in no way related to the efficiency of milk procurement or dairy plant operation. For this reason the service should not be a bargaining point in milk procurement. A very inefficiently operated firm with high production costs and low prices for milk could arrange for a cheap hospitalization plan and apparently maintain some of its patrons on that basis. In the absence of knowledge about coverage and benefits, the seller's only basis for comparing one group plan against another is cost.[12] Unless sellers become better informed about this service, their demand for it will likely lead to further diseconomies in milk

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[12]Clodius, Fienup, and Kristjanson, Part 2, p. 29.

procurement and processing.

Financing Improvements. Although less than 9 percent of the sellers ranked "help in financing or securing financing for improvements" as the most important service, it may attain greater importance as larger quantities of milk are procured by the bulk method. The higher demand in the south for the service was due in part to the emphasis on bulk procurement. The service ranked third in the south and ninth in the north. Lower farm incomes in the south also indicated that the need for assistance in financing was more widespread than in the north.

Because the number of patrons using the service was small, the cost of providing it was considered minor by plant managers. Danger of monetary loss was small because payments were deducted from milk checks. Cost to the buyer was in the increased bookkeeping and foregone interest, if any.[13] Buyers profited two ways by providing this service. First, it helped maintain the goodwill of patrons. Second, improvements in milk houses and equipment generally resulted in milk of higher quality for the processor. Sellers benefited by obtaining loans free of interest, in most cases, for improvements on their farms.

About half of the patrons sold 300 pounds of milk or less per day. At such levels of production many patrons will not be able to purchase bulk milk handling equipment

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[13] Ibid., p. 27.

without financial assistance.[14] The trend toward bulk milk procurement can hardly fail to stimulate the demand for financial assistance unless buyers provide bulk equipment for their patrons. By paying a premium on bulk milk, processing firms were endeavoring to encourage patrons to purchase the necessary equipment.

The future demand by sellers for help in financing or securing financing for improvements will probably depend upon these factors: the emphasis placed upon bulk procurement; the provision of bulk milk equipment by processing firms; and the introduction of other technological changes and quality regulations which would require producers to make significant investments. Buyers not offering the service will find it difficult to maintain patrons desiring financial assistance. Buyers will undoubtedly find that providing bulk milk equipment will be a stronger inducement to patrons than financing such purchases for them unless bulk premiums increase above the rates that existed in 1957.

Dairy Supplies at Discount. The facts obtained in this study support the views of managers that they would lose but few patrons if the service of "dairy supplies at discount"

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[14] Miller, p. 7, reports that when milk is picked up daily the average total investment required for bulk equipment on the farm is $1,307 for production up to 600 pounds; $1,630 for 700 pounds to 900 pounds; and $1,944 for 1,000 pounds. When milk is picked up at the farm every other day an investment of about $1,307 will handle a daily production of only 300 pounds and equipment and installation costs for the 1,000 pound producer rise to $2,560.

were discontinued. The service ranked fifth in preference, was provided by all buyers, and was known to 89 percent of the patrons. "Dairy supplies at discount" was a convenience that also enabled patrons to lower their costs of milk production. However, these benefits apparently were not great enough to cause sellers to value the service as highly as some others.

The service was a quality measure for the buyer and some of the statements made about a milk can retinning service apply. Because all firms offered the service, it would not be effective in procuring new patrons. However, a firm discontinuing the service would lose some patrons because of quality problems. Others would change plants because they could maintain lower production costs by selling to a buyer offering the service.

Field Service. The fact that sellers regarded the fieldman as a "policeman for the plant" gave field service a unique role as a nonprice service. Field service through fieldmen, provided by 18 buyers, was available to 91 percent of the patrons, but it ranked sixth in order of preference.

Fieldmen made periodic inspections of farms and visited about half of the sellers once or twice a year. Twenty-three percent of the sellers had five or more visits from their fieldman within the previous year, but 6 percent had not been visited by their fieldmen within a year. Sellers classified about one-sixth of the visits by fieldmen as of the "policing" type, one-sixth as maintaining patron

relations, and two-thirds as routine inspections.

Field service, disregarding patron procurement activities of fieldmen, was a nonprice service with little appeal to many sellers. The service was not provided primarily to satisfy demands of patrons, but to protect the milk supply of the plant. Few sellers said that they would change plants with their fieldmen.

A firm discontinuing field service would likely gain patrons, particularly those who created quality problems for other plants, and experience a decline in the quality of milk procured. Great emphasis on field service would tend to drive patrons to other plants.

Advance Payments. Less than 4 percent of the patrons named "advance payments" as the service preferred above all others although 18 of the 20 buyers provided it. The same small number of patrons utilized the service month after month.[15] Little or no decrease in expenditures could be made by a firm discontinuing the service, considering the small number of patrons who asked for advance payments.

Most firms in the area paid patrons on the 4th and 19th of each month. A seller asking for an advance on his check for the 19th would be seeking payment for milk delivered to his plant prior to the 4th of the month. The time interval between receipt of and payment for milk benefited the dairy firms because they could process the milk and dispose of the

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[15]Clodius, Fionup, and Kristjanson, Part 2, p. 24.

products before paying patrons. Unless advance payments are extended, patrons might demand earlier or more frequent payment for milk than is now customary.

A buyer who extended the service and then discontinued it would probably lose some or all of the patrons who consistently asked for advance payment. If the service were discontinued patrons might believe, at least temporarily, that a firm was in financial difficulty. This might result in a high loss of patrons.

Assignments. Of the nonprice services studied, assignments would be one of the least effective for gaining patrons. All buyers made assignments for patrons, but only 61 percent of the patrons knew of the service and only 3 percent ranked it as the most highly desired service.

The chief beneficiary of assignments appeared to be the store or company making the sale to the patron. A firm that discontinued assignments would probably lose a few patrons who depended upon the service for a "credit rating." Extensive promotion of the service could lead to dairy firms becoming check-writing agencies for patrons with charge accounts. Furthermore, the remaining sum due the patron after all assignments were made might be so small as to create an unfavorable reaction toward the dairy firm.

The Return of Whey or Skim Milk. Three firms returned whey or skim milk to their patrons and only 3 of the 543 patrons ranked the service as the most important. None of the patrons to one of the plants providing the service

mentioned that it was available. Not all of the patrons of the other two firms mentioned the service. This indicated that the service might have been provided to a portion of the patrons only. It may not have been mentioned to some patrons because there was not enough whey or skim milk for all.

Most sellers were probably aware of the limited availability of whey and skim milk and did not expect the service. Firms unable to provide the service could compete effectively with such statements as "we pay a higher price because we use all of the milk." The return of whey or skim milk rated high as a differentiating service because few firms did provide it. A firm discontinuing the service would lose patrons to those continuing it, but the number of patrons influenced would be small. The decline in numbers of cheese factories and the emphasis given to using all of the solids in milk indicate that the return of whey and skim milk will decrease in importance as a factor in milk procurement.

The Role of Fieldmen and Haulers

Sellers obtained information about most of the nonprice services through fieldmen and haulers and these representatives of the buyer were frequently involved in providing five or more of the services. Their role of representative of the buyer and "benefactor of the seller" was somewhat unique and deserves further study. However, the data gathered provided some insight into the complex relationships and the reasons behind the appeal of some nonprice services.

The views management held about fieldmen and haulers, as determined in the original plant study, were supported by the facts obtained in this study of sellers. Clodius, Fienup, and Kristjanson found that management viewed fieldmen as the most important means of gaining new patrons and the hauler as the most important in retaining them.[16]

Eighteen percent of the sellers believed they would change plants with their current hauler if he started hauling for another firm and most of the other patrons on his route changed with him. However, only 5 percent of the patrons believed they would change plants with their current fieldmen.

Haulers were not as active as fieldmen in soliciting patrons. Twenty-four percent of the sellers had been solicited by a hauler from another plant during the previous year. Haulers had made a minimum of 212 solicitation visits. Of the 130 patrons who had been solicited by haulers to change plants, 72 had been solicited once, 34 had been visited twice, and 24 had received 3 or more visits.

Forty-three percent of the patrons had been visited during the previous year from 1 to more than 5 times by fieldmen of other plants. Fieldmen had made about 465 solicitation calls on 232 patrons. In addition, the 543 sellers had received approximately 1,430 visits from fieldmen of their own plants during the previous year. About 80 percent

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[16]Ibid., p. 50.

of these visits were classified by patrons as routine inspections and visits to help solve quality problems. The remainder were said to be for maintaining patron relations.

Inducements Used by Fieldmen and Haulers. During the interview sellers were shown a list of 11 promises and statements which plant managers, fieldmen, and haulers said were often mentioned when soliciting for new patrons or maintaining patron relations. Sellers were asked to indicate those which had been mentioned to them during visits by their own haulers or fieldmen or those from other plants.

One or more of the 11 inducements had been mentioned to 33¼ sellers. "Promise of a higher price or test" was the inducement most frequently mentioned. "Promise to convert the patron from grade B to grade A, or to bulk, or to pay a premium for bulk milk" ranked second. A complete tabulation is given in Table XLII.

Sellers were then asked to select the inducement that would be the most effective in persuading them to remain with their current buyer or to change to another plant. "Promise of a higher price or a higher test" was selected as the most effective by 188 sellers, more than 5 times the number ranking any other inducement first. Second most commonly mentioned was the "promise to convert the seller from grade B to grade A, or to bulk, or to pay a premium for bulk milk." Third was the "promise of an extra payment, bonus or dividend at the end of the year."

TABLE XLII

FREQUENCY OF USE OF 11 INDUCEMENTS MENTIONED BY FIELDMEN AND HAULERS DURING VISITS WITH 334 SELLERS

No.	Inducement	Total Number	Total Percent
1.	Promise of higher price or higher test. .	177	20.05[a]
2.	Promise to convert patron from grade B to grade A, or to bulk, or pay a premium for bulk milk	131	14.84[a]
3.	Statements about better market outlet for a plant's products.	110	12.46[a]
4.	Promise of extra payment or dividend at end of year.	106	12.00
5.	Statements about superiority of cooperative over other forms of plant ownership . .	69	7.81
6.	Statements that a plant might not buy patron's milk if he did not convert to bulk, or that even in the future a plant will buy milk in cans	61	6.91
7.	Statements about additional services or superiority of plant services	52	5.89
8.	Statements about financial conditions of plants	51	5.78
9.	Statements about personal qualifications of manager, plant personnel, how plant is managed, or plant honesty.	47	5.32
10.	Statements about size of plant.	44	4.98
11.	Statements that neighbors and leading farmers all sell to a particular plant.	35	3.96
	Total	883[b]	100.00

[a]Significance of difference between items:
Nos. 1,2: t=2.88, df=882, P less than 0.01;
Nos. 2,3: t=1.46, df=882, P greater than 0.10.

Sellers were next asked if the promises were kept and if the statements were accurately represented. Thirty-seven percent said promises were kept and statements accurately

represented "all of the time;" 23 percent said "most of the time;" 6 percent said "some of the time;" 3 percent said "rarely;" 2 percent said "none of the time;" and 29 percent were undecided. Thirteen percent of the sellers said that a fieldman or hauler had given them inaccurate or misleading information in order to gain or keep them as patrons.

The Fieldmen's Job. The inducements sellers said were mentioned the greatest number of times were the same as those Clodius and co-workers reported as "most commonly used." The reasons sellers gave for visits by fieldmen appeared to be in line with the time fieldmen were reported to spend on quality improvement, solicitation, and public relations. Fieldmen in the area spent about 55 percent of their time on quality improvement, 24 percent on solicitation, and 21 percent on public relations.[17]

The public relations activities of fieldmen confused farmers and complicated their marketing decisions. A major public relations activity of fieldmen was that of pacifying patrons who complained about price being too low. In such instances fieldmen told patrons that "prices will average out," the "price disadvantage is temporary," the patron will "probably have a price advantage next time," or that the firm is "paying everything she's worth."[18] What is implied by the last remark is that a firm is paying all that it can

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[17]Ibid., p. 37.

[18]Ibid., p. 39.

afford on the basis of product prices, and that any firm paying a higher price must be guilty of manipulating milk tests or weights.

This study showed that fieldmen were perhaps more effective in maintaining patrons than plant managers considered them to be. Fieldmen stressed the services and advantages of their plants. They discouraged patrons from becoming too sensitive to price by implying that prices averaged out and that high paying firms must be suspect in some way. Whether intentional or not, they created suspicion about the accuracy of butterfat tests and milk weights given by alternative buyers and thus discouraged patrons from changing plants.

The Hauler's Job. In some ways the role of the hauler in milk procurement paralleled that of the fieldman. Most hauling in the area was done by contract haulers. They were paid on the basis of the pounds of milk hauled and therefore benefited from gaining and keeping patrons.

A much closer relationship existed between the hauler and patron than between the fieldman and patron. Haulers in the area were associated with an average of 33 patrons, compared with an average of 237 for fieldmen.[19] In the original plant study haulers estimated that 30 percent of their patrons would stay with them if they shifted to another plant. No more than 3 percent of the patrons in this study

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[19]Ibid., p. 45.

changed plants each year except for involuntary reasons, yet 18 percent said they would change plants with their current hauler. Proportionally more would change plants with the hauler as the time with the hauler increased. This loyalty first showed up with those who had been with the hauler from 3 to 4 years.

Haulers used about the same statements as fieldmen when soliciting patrons. Managers criticized haulers for spreading price rumors, telling gossip about other plants, and confusing farmers.[20]

Clodius and co-workers found that haulers handled complaints about butterfat tests by first trying to convince patrons that the tests were accurate. When this failed, the hauler offered to have the buyer run daily tests. If the patron was still not satisfied, the hauler would likely have the fieldman run tests on each cow in the patron's herd.

To handle price complaints, haulers told farmers there was really nothing they could "do about the price," there were "better days ahead," "we were ahead last time, prices average out," and that the "plant can't afford to pay more." When the firm paid low prices the hauler emphasized the services he gave patrons and the fact that they were getting fair test and weight.[21]

Although the hauler had a hand in creating the confusion

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[20] Ibid., p. 43.

[21] Ibid., pp. 48-49.

over prices, tests, and weights, it was through him that patrons received the services valued most highly. In his own interest he also provided many small services that built and maintained patron goodwill toward the buyer.

Nearly half of the sellers said that they would pay a hauling rate increase of 3 cents per hundredweight, knowing that cheaper rates were available, to ship via their current hauler. Both "hauler loyalty" and "plant loyalty" were involved here, but the strategic position of the hauler made him the goodwill agent of the buyer. The facts supported the hypothesis that personal relations with haulers discouraged farmers from changing to a new firm.

Summary

The greatest expansion in nonprice services from 1953 to November 1957 was in the number of firms providing assistance in financing of improvements and group medical insurance. Some expansion was noted in certain other services. By 1957 only 2 of the 20 buyers offered their patrons as few as 6 of the 11 nonprice services studied.

The service preferred by the largest number of sellers was a convenience, that of having the hauler deliver dairy products. The second most highly preferred service, "free milk cans," was apparently viewed by sellers as offering the greatest opportunity to reduce the costs of milk production. Services that rated lower in order of preference were used by a small percentage of sellers and apparently

offered relatively little in the way of convenience, time-saving, or cost for most patrons.

Thirty-two percent of the sellers believed that buyers could pay a slightly higher price for milk if nonprice services were discontinued. Nearly half of the sellers said they would prefer the services instead of the higher price buyers might pay if the services were discontinued. The top limit of substituting services for price would be about 10 cents per hundredweight of milk for a majority of sellers, considering their estimates of costs for providing the services and their evaluation of the services. About 20 percent of the sellers would prefer the higher price they believed buyers might pay by discontinuing the services.

Nonprice services helped bind the seller to his plant, but the strength of the tie could hardly be determined. Relatively small percentages said that they would change plants with their hauler or fieldman. This indicated that the bond between the seller and buyer was stronger than the seller's goodwill toward the hauler or fieldman.

Fieldmen were much more active in soliciting new patrons than haulers and probably created more confusion and suspicion about the accuracy of milk tests and weights. The creation of suspicion concerning the accuracy of milk tests and weights given by competing firms must be considered intentional tactics of haulers and fieldmen. Their remarks confused farmers and increased the difficulties farmers faced in making marketing decisions that would produce the highest

cash returns.

Sellers were comparatively well informed about the nonprice services provided. They knew alternative buyers existed and they had been solicited to change buyers. Important deterrents to changing plants were the lack of accurate price information and the mistrust of milk tests and weights.

Most of the services studied were so widely available that they appeared to have little value as practices that could be used by a firm to gain new patrons. However, all of the services were regarded as the most highly preferred by some percentage of the sellers. Thus, nonprice services were firmly established because a firm discontinuing any of its established services, with perhaps the exception of field service, would lose some patrons to firms continuing the service. A firm might gain patrons by discontinuing field service, but the patrons gained would likely be those who created quality problems for competitors.

Further indication that farmers would be more sensitive to price provided they possessed reliable information was obtained from the study of inducements mentioned by the fieldmen and haulers who made solicitation or public relations visits. The four inducements most frequently mentioned all implied a greater cash return for the patron. More sellers would be influenced by the promise of a higher price or a higher butterfat test than by any other type of statement.

CHAPTER VI

SUMMARY AND RECOMMENDATIONS

This was the third in a series of studies on milk procurement policies and practices in a northwestern Wisconsin marketing area. The two earlier studies showed that buyers anticipated certain reactions by sellers to price and nonprice policies followed in milk procurement. The earlier studies indicated the need for a rather intensive study of sellers. Information was needed on sellers' responses to price changes, the appeal of various nonprice services, and the extent of sellers' knowledge of prices. This study was concerned with collecting and analyzing these facts about sellers.

Summary of Findings

Facts gathered in this study supported the hypothesis that managements of dairy processing firms in the area were essentially correct in their appraisals of farmers' reactions to price and nonprice policies in milk procurement. Data for the study were obtained by interviewing 543 dairy farmers in two areas of the marketing region and 20 managers of dairy firms to which the farmers sold milk. The infor-

mation obtained from farmers was compared with that obtained from managers to determine farmers' knowledge of price and nonprice factors. Farmers were also asked several hypothetical questions to determine possible reactions to changes in prices and practices. A related study was made to obtain data on the role of mass media in the dissemination of local milk marketing information in the area.

Characteristics of Sellers. Most of the sellers operated farms of 140 acres or larger, had 20 or more dairy cows, and marketed 400 pounds or less of milk per day. About 71 percent of the sellers patronized cooperative dairy plants. Only a small percentage of the sellers had changed plants annually and about half of those who had changed within the previous 5 years had changed involuntarily because a plant had discontinued operations. A "higher price" was most frequently mentioned as the reason sellers started patronizing their current plants.

Characteristics of Buyers. The 20 buying firms consisted of 11 cooperatives and 9 non-cooperatives. All but 1 of the firms purchased grade B milk and 14 purchased grade A milk. Nine firms operated bulk procurement routes. Base prices paid varied 40 cents per hundredweight for grade A milk and 26 cents for grade B milk. Differentials ranged from 7 cents to 8 cents per point for grade A milk, compared with a range of 6.5 cents to 8 cents for grade B milk. Hauling rates varied from 16 cents to 26 cents per hundredweight of milk. Premiums on bulk milk varied from none to

25 cents per hundredweight.

All buyers provided price information to patrons, but the method and frequency with which the information was provided varied. One firm gave price information to patrons only when it changed price.

Sellers' Knowledge of Price Factors. Sellers obtained little, if any, detailed local milk price information from mass media in their areas. A neighbor or friend was the only important source of information about prices paid by alternative buyers. Sellers were not particularly well informed about prices paid by their respective buyers and were even less well informed about prices paid by alternative buyers. Few sellers were well enough informed about price factors to be certain that they obtained the greatest total cash return for their milk.

Just 54 percent of the sellers knew the base price they received for milk for the pay period prior to the interview. Sellers of grade B milk were slightly better informed about base prices than those selling grade A milk.

Sellers were not well informed about the highest or lowest prices paid by firms procuring milk in their areas. Only 10 percent believed the highest price was as great as the average price for grade A milk. More than one-fourth of the sellers, including patrons of 15 of the 20 buyers, believed that their particular buyer paid consistently higher prices than competing firms. Just 13 percent of the grade A patrons and 7 percent of the grade B patrons knew

the premium paid for grade A milk over grade B milk. More than three-fourths of the sellers knew the differentials paid per 0.1 pound of fat, but a much smaller number understood the method of payment used by their respective buyers.

Sixty-five percent of the sellers knew the hauling rates charged by their respective buyers. However, existing hauling rates had been in effect at most plants from 2 years to 10 years.

Seller Response to a Change in Price. Although sellers generally expressed an intense interest in a higher price for their product, few would quickly respond to a change in price. Few would hear of the price change in time to make a quick response because no organized milk price reporting system existed in the area. Besides the lack of accurate price information, other factors that would discourage a general response to a price change would be the goodwill toward the hauler and firm, and suspicion of the honesty of alternative buyers.

Sellers' Knowledge of Services. Sellers were comparatively well informed about the 11 nonprice services studied, with one exception, that of assignments. All firms made assignments, but only 61 percent of the sellers knew of this service. A few sellers said that they received gasoline, oil, or tires at a discount, but no dairy processing firm provided such a service. Some sellers apparently confused assignments made to pay for the products with the idea that the dairy firm provided them. A hauler may have provided

them to some sellers.

Response to Nonprice Services. An evaluation of the nonprice services on the basis of availability and seller preference indicated that they would not be generally effective in gaining new patrons for a dairy processing firm. Several of the services were provided by all or nearly all buyers and thus no longer differentiated a firm sufficiently to attract new patrons. Others not so widely available had such a low "seller preference" that they would not differentiate the plant to any appreciable number of prospective patrons.

The three most highly preferred services were "hauler delivers dairy products," "free milk cans," and "group medical insurance." Of all the services provided, "free milk cans" had the greatest potential for gaining new patrons for the firm. Because three firms did not provide the service and others did not furnish all milk cans without charge, the percentage of cans provided free could be used to gain patrons from some plants.

Discontinuance of a service, with the possible exception of field service, would likely result in a loss of patrons as long as competing firms provided the service. The percentage of patrons lost to other firms would likely be related to seller preference for the discontinued service. A firm discontinuing field service would probably gain patrons, particularly those who created quality problems for other firms. Thus, the nonprice services studied were firmly

established, but their importance was in their ability to maintain patrons or to protect the firm's milk supply.

More than half of the sellers believed that nonprice service costs to the dairy firm were small and that to have services stopped would lead to little or no increase in the prices received for milk. Nearly half said that they would prefer the services to the higher price a firm might pay by discontinuing services. The data indicated that some services were a substitute for a price increase of at least 3 cents per hundredweight of milk. The top limit of substituting services for price would be about 10 cents per hundredweight of milk for most sellers, considering their knowledge of hauling rates, prices and their evaluation of the services.

Relations with Haulers and Fieldmen. This study indicated that haulers and fieldmen were extremely effective in maintaining patrons for a dairy firm, but that they were much less effective in gaining new patrons. Fieldmen and haulers created confusion and aroused suspicion among patrons about the honesty and financial condition of alternative buyers, thus discouraging patrons from changing to another firm. Because such a small number of patrons voluntarily changed buyers each year, haulers and fieldmen must be considered relatively ineffective agents for gaining patrons for the firm. However, their solicitation activities apparently paid important dividends when a processing firm discontinued operations and its patrons were forced to seek

another market.

Fieldmen made solicitation calls on 43 percent of the sellers during the year prior to interviewing, compared with 24 percent for haulers. Statements mentioned most frequently during solicitation and public relations visits implied greater financial gains for sellers who followed the advice offered by haulers and fieldmen.

The bond between seller and hauler was stronger than that between the seller and fieldman. More than three times as many patrons said that they would change plants with their hauler than with the fieldman.

Influence of Plant Ownership. The cooperative form of plant ownership had an important influence on the marketing of milk in the area. Data indicated a decline in the appeal of the "cooperative idea," especially in the area where sellers had more alternative buyers, but sufficient earlier data were not available to thoroughly test this hypothesis. The belief appeared to be rather general among sellers that cooperatives paid lower prices than other firms, although the price data did not show this to be true. Sellers valued the special marketing advantages offered by a cooperative dairy plant at about 3 cents or less per hundredweight of milk sold.

Application of Theory. Data collected in this study fit the theoretical framework presented in Chapter I. This study is not only further validation of the theory, but it again proves the usefulness of economic theory as a guide

for research efforts.

This investigation showed that competition in milk procurement largely on a nonprice basis was possible because farmers lacked a means of obtaining accurate information about prices paid by alternative buyers. As prices direct resources into the most productive channels, sellers' lack of price information was one indication that economic inefficiencies existed in the market.

The oligopsonistic market structure and the opinions and attitudes of sellers both pose problems to improving marketing efficiency in the area. However, economic theory provides some useful guides. These will be considered in the remaining pages.

Recommendations for Improved Marketing

Inefficiencies of some magnitude existed in milk procurement and processing in the market studied. Excess plant capacity, overlapping of procurement areas and the attendant crosshauling, and subsidization of haulers indicated some of the economic inefficiency that existed. A majority of sellers did not possess sufficient price information to make marketing decisions largely on the basis of price. This prevented the more efficient firms from readily obtaining larger quantities of milk and permitted the more inefficient firms to remain in operation.

Quelling Rumors and Gossip. Much of the economic inefficiency existing in the market could be largely corrected

by putting an end to rumors and gossip. Uncertainty of a reliable butterfat test had contributed to the creation of a heavy network of overlapping procurement routes. Patrons, assured of a reliable butterfat test and the "going price," would be more inclined to sell to the nearest plant. Competition on a more ethical level could lead to a voluntary redistribution of routes by haulers and processing firms. Certainty of butterfat tests would relieve firms of much of the expenditure for solicitation and public relations. Reductions in costs to the firm, if passed along to sellers as higher prices, would likely elicit greater production which would help eliminate some of the excess plant capacity.

Buyers in the area could jointly sponsor an educational program that would help allay suspicion concerning the accuracy of milk tests. Sellers could be encouraged to join testing associations so that they would have greater knowledge of their herd tests. This would also lead to greater production efficiency on the farms. Sellers could also be instructed about how to take an accurate composite milk sample that might be tested independently from the buyer. Patrons might be instructed in how to make a butterfat test at the farm. The relatively new "Schain" testing materials appear to be suitable for such a program. A state sponsored testing program for milk sold to all plants might also be feasible.

Continual explanation of the method of payment would also help reduce suspicion surrounding the accuracy of milk

tests. Although the Froker method or an "adjusted Froker method" may appear too complicated when cloaked in an atmosphere of suspicion, it is probably not beyond the comprehension of the average dairy farmer. Furthermore, most patrons would probably regard payment for milk on the basis of fat and solids-not-fat as a just method. Continual explanation of the method of payment would encourage all firms to adopt the same method, which in turn would help reduce the suspicions of sellers.

Frequent publication of base prices, hauling rates, premiums, and differentials by mass media would help effect a voluntary shift of sellers to closer plants. Few sellers would continue to pay high hauling rates when they could increase their net return by selling to a closer firm.

The publication of prices could result in at least one, and perhaps two, collusive moves by dairy firms. Buyers, being relatively few in number, might agree to pay the same price. They might also agree to discontinue all nonprice services. However, neither of these actions appeared to be a serious deterrent to publishing local milk price information, considering the potential competitive ability of cooperatives in the area.

An Aggressive Role for Cooperatives. The number and size of cooperatives in the area indicated that farmers could adequately protect themselves against collusive pricing. If the prices paid were exceptionally low, then cooperatives would make excessive profits which would be returned to

patrons as dividends. Non-cooperatives would soon be forced to redistribute some of their excess profits as bonus payments or lose patrons to the cooperatives. Patrons of cooperatives could demand, through their directors, the highest price consistent with plant efficiency and a continuation of services, forcing non-cooperatives to provide the same.

A federated or central cooperative organization could be established as a step toward greater efficiency in milk procurement, processing, and marketing. Each established plant would then become a branch plant of the central organization. This would permit shifting of patrons to reduce milk collection expenses. Plants could become more specialized. Those in the southern area, where there were more producers of grade B milk, could specialize in manufactured products. Some plants in the northern area, where there was a greater supply of grade A milk, could concentrate on procurement for grade A fluid milk markets. Such a move by cooperatives would undoubtedly produce some mergers among non-cooperative firms. They could achieve advantages similar to cooperatives, which would then be another step toward greater efficiency.

Price leadership by a large, efficient firm would provide sellers greater total returns for their milk. Modern price theory on imperfectly competitive markets usually emphasized the possibility of such leadership. Price leadership at a high level would attract new patrons and permit greater economies as long as average costs of the plant were

declining. Price leadership of the type recommended did not exist in the area. Or, if it did, the price leadership produced no apparent results because sellers lacked sufficient price information.

Patrons of a large, efficient cooperative are in a position to demand price leadership at a comparatively high level. Patrons of cooperatives may be unaware of the extra benefits to be obtained from a higher average price, compared with collecting an equivalent amount in dividends at the end of the year.

A non-cooperative firm could assume the role of a price leader. But from the standpoint of giving sellers a more active role in the price bargain, price leadership by a cooperative appeared to be the easiest to achieve.

Patrons of dairy processing cooperatives in the area may not fully realize the competitive ability of their organization when it is backed up by the active participation of patron-members. In the interest of greater economic efficiency in this market, it appeared that a program to explain the competitive ability of cooperatives would help. To demonstrate competitive ability by paying higher prices would be most effective. This might not be possible for some of the smaller cooperatives with low financial reserves. Two or more small cooperatives might consolidate and thereby reduce average costs. The only serious obstacle to such mergers appeared to be patrons' loyalties to trade centers. Outside guidance or assistance, such as an economic

survey by an impartial agency, might help overcome this obstacle.

The fact that a high percentage of the farmers marketed their milk through cooperatives gave "protection" to those selling to non-cooperatives. There did not appear to be a need for those selling to non-cooperatives to be concerned about organizing producer associations merely for bargaining purposes unless a significant change occurred in the form of plant ownership in the area.

More Ethical Competition Among Buyers. The practices of soliciting patrons on the basis of converting them from grade B milk production to grade A milk production or to bulk handling of milk on the farm may lead to greater economic inefficiency unless caution is observed. Most plants in the area were manufacturing plants and grade B milk was adequate for manufacturing purposes. However, firms with grade A milk intakes did solicit patrons from those with grade B milk intakes by "converting" patrons to grade A milk producers. This frequently required that a patron invest a substantial sum in improving his barn and milk house.

Such a practice could lead to a greater production of grade A milk than could be profitably marketed as such. A common remark by plant managers in the area was that it was sometimes necessary "to rob B to pay A." Some firms with excess plant capacity apparently found it less costly to purchase grade A milk for manufacturing purposes than to operate at a lower volume. A firm with a convenient fluid market

outlet can pay a higher price for grade A milk than one that must divert most of it into manufacturing uses. Grade A milk prices in the area reflected this fact.

Sellers will be the losers in the long run if the trend continues. All sellers may eventually pass grade A inspection, the premium will be eliminated, and all grade A milk will then bring a price consistent with its utilization. Sellers will have a much greater total investment in production facilities, yet manufacturing firms will only be able to pay a price comparable with grade B milk prices in other areas. In many cases the investment in grade A milk production facilities would provide a higher return for the farmer if diverted to some other farm enterprise.

A somewhat similar situation may develop from the trend to bulk milk procurement. Bulk procurement offers some firms an opportunity to reduce costs by eliminating milk can intakes, employing less labor, and utilizing every-other-day pickup. However, several firms had installed bulk receiving equipment and retained their milk can intakes. Unless all patrons install bulk tanks, some firms may be forced to maintain the two types of milk receiving equipment in order to obtain a sufficient volume of milk. This necessarily means higher fixed costs.

Many small producers, particularly in the southern area, had been encouraged to change from cans to bulk milk tanks. Premiums on bulk milk varied from none to 25 cents per hundredweight, with premiums of 10 cents and 15 cents

per hundredweight the most common. About eight years would be required for the seller marketing 300 pounds of milk per day and receiving a 10-cent per hundredweight premium to recover the cost of bulk milk equipment for his farm, considering the current prices of bulk equipment. The sum a small producer must invest in bulk equipment would probably produce a larger return if invested in some other farm enterprise.

Competition for patrons on the basis of premiums paid for group medical insurance can lead to inefficiencies within the dairy industry. Because the service costs the plant little or nothing to provide and the seller benefits, the service should be continued. However, steps should be taken to provide a uniform insurance plan at uniform costs or to educate patrons about the coverage and possible benefits of the plans provided.

Competition on the basis of group medical insurance can continue as long as low, medium, and high priced plans are available. An inefficient firm, with high production costs and low prices to patrons, might maintain some of its patrons by providing a low-cost group insurance plan. To counteract the appeal of low-cost plans, a firm with several hundred patrons might provide plans in all three price ranges. Where this is not possible, 3 or 4 firms could supply enough patrons for 3 such groups. This would tend to force firms with low-cost plans to provide those at other levels, forcing group insurance into the category of a non-differentiating

service and placing competition on a more ethical level.

Eliminating Free Milk Cans. Of the 11 nonprice services studied, free milk cans had the greatest potential for gaining and maintaining patrons for the firm. However, the service leads to a great deal of waste because of misuse of free milk cans on the farm. This service should be discontinued and the savings to the firm passed along to sellers as higher prices. Area figures on milk can costs have been estimated to be about ½ cents per hundred pounds of milk handled.

Free milk cans could be discontinued with little or no change in patronage of plants provided sellers could be made more responsive to small changes in price. Firms that would like to discontinue free milk cans might force the issue by providing price information to local mass media. When inefficient firms discontinued free milk cans and passed the savings on to producers as higher prices, other firms would likely follow suit. Milk cans owned by firms could be given to patrons to make the process less "painful." Firms could continue to purchase cans for patrons, making deductions for payment from milk checks. This would give patrons any benefits from quantity purchases.

Areas for Further Study. Although this study has answered selected questions about a certain dairy market, it has raised many others. For example, how rapidly do nonprice services become non-differentiating? What is the limit in number of services that a dairy firm can offer patrons?

A more detailed study could be made of the "decline of the cooperative idea," a subject partially treated in this study. If there is a decline in the "cooperative idea," it may be related to changes in the market structure.

Another pertinent question is this: Will farmers become more responsive to small changes in price as the number of marketing alternatives declines?

One of the most serious implications of this study was the percentage of sellers who answered "don't know" to questions concerning price factors. Of the recommendations presented, publication of local base prices, premiums, differentials, and hauling charges would probably be the most significant.

However, patron inertia or goodwill toward the buyer might prove to be more influential than greater knowledge of prices paid in the area. An experiment could be conducted to determine the responses of both sellers and buyers to a change in the level of price information possessed by sellers. This would appear to be desirable before establishing an area-wide price reporting system.

The investigator has assumed that the most satisfactory method for reporting detailed, local milk price information would be one where the local mass media gathered and published the appropriate data. The time and cost to local media would appear to be small and the newsworthiness of the facts can no longer be questioned. Other avenues of collecting and disseminating the information need study, along with

ways in which the price information might be collected and presented in a usable form to the press.

This study covered an area that was largely a manufacturing milk market. Similar studies might be conducted in other manufacturing milk markets, in areas where production is largely for the grade A fluid market, and in markets under Federal Milk Marketing Orders. Area comparisons could then be made on the basis of sellers' knowledge of and response to prices and services.

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APPENDIX

Return to:

Department of Agricultural Economics
University of Wisconsin
Madison 6, Wisconsin

Interviewer_____
Plant No. _____
Sample Area_____
Date_____

FARMER OPINIONS OF DAIRY FIRMS
(Plant Interview)

1. Plant name_____

2. Plant location_____

3. Classification_____

4. Does your plant buy both grade A and B? (1) Yes (2) No

5. If yes, what was the premium paid on A over B in the last pay period? _____

6. Do you receive bulk milk? (1) Yes (2) No

7. If yes, how much of a premium do you pay on bulk?_____

8. Do you have marketing contracts with farmers to deliver milk to your plant? (1) Yes (2) No

9. If yes, how long do they run? _____(months)

10. Does your plant consistently pay higher prices than other plants in this area (over a period of a year or longer)? (1) Yes (2) No (X) DK

11. What was the highest price paid by a plant in your area last month?_____(X) DK

12. What was the lowest price paid by a plant in your area last month?_____(X) DK

13. What do you charge for hauling? (uniform on all routes)_____

14. How long has this rate been in effect?_____

15. Do you give your patrons daily weight records? (1) Yes (2) No

16. How often do you test patrons' milk?_____

17. Do you participate in the ADA program? (1) Yes (2) No

18. What pay plan does your plant use?

(1) per lb. of butterfat (2) per cwt. of 3.5% milk
(3) per cwt. of adjusted fats and solids (Froker method)
(4) others (list)_____

Record comments_____

_____

19. What price information do you give your patrons?

(1) per lb. of butterfat (2) per cwt. of 3.5% milk
(3) per cwt. of adjusted fats and solids (Froker method)
(4) none (5) others (list)_____

Record comments_____

_____

20. How do you give them price information? (in what form)

(1) newsletter (2) plant magazine or newspaper
(3) slip inserted with check (4) on check or stub
(5) hauler (6) others (list)_____
(7) does not apply

Record comments_____

_____

21. How often do you give them price information?

(1)____don't give any
(2)____each pay period, if paid twice a month
(3)____monthly
(4)____every 2-3 months
(5)____every 4-6 months
(6)____7-12 months
(7)____less than once each year

22. How often do you pay your patrons?

(1) every two weeks (2) monthly (3) others (list)_____

_____

23. Is your plant looking for more volume?_____

_____

24. Have any of the newspapers, radio or TV stations covering this area ever asked you for milk prices paid by your plant, hauling rates by route, or fat differentials?

(1) Yes (2) No

25. Have you ever given prices paid by your plant, hauling rates by routes, or fat differentials to local newspapers, radio or television for publication or broadcast?

(1) Yes (2) No (3) other_____

26. Would you give information on milk prices paid by your plant, hauling rates by routes, or fat differentials if you know they were for publication or broadcast?

(1) Yes (2) No (X) DK

Explain answers of No or Don't know_____

_____

27. Which of these services are available from your plant? (check those available)

_____whey or skim returned to patron
_____hauler delivers dairy products on route
_____fieldmen (does not include field services by others)
_____free milk cans (some or all)
_____milk can tinning service
_____soap, detergents, dairy supplies at about cost
_____gasoline, oil, tires at about cost
_____possibilities of patron getting milk check early
_____help patron finance or secure financing for improvements
_____plant makes assignments for patron
_____group health and/or medical insurance
_____others (list)

28. Would you sketch off your approximate procurement area on this map?

Always get prices for A, B, and any premiums not covered in previous questions.

Return to:

Department of Agricultural Economics
University of Wisconsin
Madison 6, Wisconsin

Interviewer_____
Survey Number_____
Sample Area_____
Date_____

FARMER OPINIONS OF DAIRY FIRMS

Qualifications for Interview: (After introducing yourself, ask these questions before proceeding with interview).

a. Does your farm sell milk or cream? Yes No

1. Are you: (1) full owner (2) part owner (3) renter (4) family tenant (5) hired manager 1.__

b. Do you help decide where the milk or cream is sold? Yes No

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FACTS ABOUT THE PERSON:

Name_____ 2. Sex: (1) M (2) F 2.__

3. Age group (circle one): (1) under 25 (2) 25-34 (3) 35-44 (4) 45-54 (5) 55-64 (6) 65-up 3.__

4. Marital status (circle one): (1) Single (2) Married (3) Widow or Widower (4) Divorced, Separated 4.__

5. Are there any children 12 to 19 years old living here? (1) Yes (2) No 5.__

6. Are there now or have there been children or other members of the family in 4-H or FFA (Future Farmers of America)? (1) Yes (2) No 6.__

7. Were you ever a member of 4-H or FFA or have you been a 4-H leader? (1) Yes (2) No 7.__

8. How many years of school have you completed?

Under 5	5-8	9-11	12	Col.	Col. Grad.	Don't Know	
(1)	(2)	(3)	(4)	(5)	(6)	(X)	8.__

9. Have you been to any meetings during the last 12 months where milk prices or milk marketing were discussed? (1) Yes (2) No (X) Don't know 9.__

10. How many days did you work off the farm in the last 12 months? (Does not include exchange work with other farmers). (1) None (2) 1-49 (3) 50-99 (4) 100-199 (5) 200 or more 10.__

11. Total acreage of farm, including rented and leased land? (1) under 30 (2) 30-49 (3) 50-69 (4) 70-99 (5) 100-139 (6) 140-179 (7) 180-219 (8) 220-259 (9) 260-499 (0) 500-up 11.__

12. How many milk cows do you keep? (Milking and dry, but not bred heifers) (1) 1-8 (2) 9-13 (3) 14-19 (4) 20-25 (5) 26-35 (6) 36-50 (7) 50-up 12.__

13. Which of these groups include your total annual gross income from milk? (show card 1) (1) $250-$1,200 (2) $1,201-2,500 (3) $2,501-$5,000 (4) $5,001-$10,000 (5) $10,001-$25,000 (6) more than $25,000 13.__

14. This is about what percentage of your (gross) farm income before expenses and taxes? (1) 1-20% (2) 21-40% (3) 41-60% (4) 61-80% (5) 81-100% 14.__

15. Do you keep any production records on your cows? (1) Yes (2) No 15.__

16. How many pounds of milk did you sell per day last month? (1) _____lbs. (X) Don't know 16.__

17. Do you use a milking machine? (1) Yes (2) No 17.__

18. Does the milk go from the milking machine to the milk house by pipeline? (1) Yes (2) No (3) Does not apply 18.__

19. Do you have a Bulk tank? (1) Yes (2) No 19.__

20. Do you sell (1) Grade A (2) Grade B (3) Cream 20.__

21. Does the plant you sell to purchase both Grade A and B? (1) Yes (2) No (X) Don't know 21.__

22. What is the present premium on Grade A over B?
(1)_____ (X) Don't know 22.__

23. How much of a premium per hundredweight would it take to get you to switch to grade A? (If he sells A, check 9)
(1) none (2) up to 25¢ (3) 25¢-50¢ (4) 51¢-75¢
(5) 76¢-$1.00 (6) $1.01-$1.25 (7) $1.26-$1.50
(8) cost is prohibitive (9) does not apply 23.__

DAIRY PLANT-FARMER RELATIONSHIPS:

24. What plant do you sell to now? _____
Can. No._____ 24.__

25. How long have you sold to this plant?
(1) less than one year (2) 1-2 yrs. (3) 3-4 yrs.
(4) 5-8 yrs. (5) 9-11 yrs. (6) 12-15 yrs.
(7) 16-20 yrs. (8) over 20 yrs. (X) Don't know 25.__

What other plants have you sold milk to in the last five years? (If more than three, list three and reasons for changing).

26. Name of plant	27. Reason for changing
(1) does not apply	(1) does not apply
(2)_____	(2)_____
(3)_____	(3)_____
(4)_____	(4)_____
(5) more than three	(5)_____

26.__ 27.__

---

28. Would you sign a contract to deliver milk to a plant for a year or more if others (farmers) in the area were signing contracts?
(1) Yes (2) No (X) Don't know 28.__

29. How many plants have solicited your milk in the last year? _____ 29.__

30. In the past five years have you ever tried to sell to another plant and been turned down?
(1) Yes (2) No 30.__

31. Why did you want to sell to this other plant?
(1) does not apply
_____
_____ 31.__

32. Why did you start selling to the plant you now sell to?
_____ 32.__
_____

33. Does the plant you now sell to consistently pay higher prices than the rest? (Over a period of a year or longer)
(1) Yes (2) No (X) Don't know 33.__

34. About how far is it from here to the plant (miles)?
(1) less than 1 (2) 1-5 (3) 6-10 (4) 11-20
(5) over 20 (X) Don't know 34.__

35. Is there a closer plant for your grade of milk (miles)?
(1) No (2) less than 1 (3) 1-5 (4) 6-10
(5) 11-20 (6) over 20 (X) Don't know 35.__

36. Besides the plant you now sell to, how many other plants would buy your grade of milk?_____
(X) Don't know 36.__

37. How many plants have truck routes, both A and B, that go by your farm? (include his present haulor) _____ (X) Don't know 37.__

38. What do you pay for hauling (cents per hundredweight)?
(1) hauls his own (2) less than 10 (3) 10-12
(4) 13-15 (5) 16-18 (6) 19-21 (7) 22-25
(8) 26-30 (9) over 30 (X) Don't know 38.__

39. How long have you paid this rate? (1) does not apply (2) less than 6 months (3) 6 mo.-1 yr.
(4) 1-2 yrs. (5) over 2 yrs. (X) Don't know 39.__

40. Would you continue to ship to the present plant if your hauling rates were raised three cents but the rates of other haulers remained the same?
(1) Yes (2) No (3) Does not apply (X) Don't know
40.__

41. Do you get a record of daily weights?
(1) Yes (2) No (X) Don't know 41.__

42. If not, would you like to get a record of daily weights? (1) Yes (2) No (3) Does not apply
(X) Don't know 42.__

43. Do you think you're getting fair weight on your milk? (1) Yes (2) No (X) Don't know 43.__

44. What was your butterfat test on your last check? (1) below 3% (2) 3-3.5% (3) 3.6-4% (4) 4.1-4.5% (5) 4.6-5% (6) over 5% (X) Don't know 44.__

45. How often is your milk tested at the plant? (1) daily (2) weekly (3) every pay period (4) less than once per pay period (X) Don't know 45.__

46. Do you think you're getting fair test on your milk? (1) Yes (2) No (X) Don't know 46.__

47. Do you think any of the plants around here that buy your grade of milk juggle tests and weights? (1) Yes (2) No (X) Don't know 47.__

48. If yes, what kind of plants? (1) does not apply (2) pvt. cheese (3) co-op cheese (4) pvt. mfg. (5) co-op mfg. (6) pvt. fluid (7) co-op fluid (8) receiving stations (9) others (list)_____ 48.__

49. Which of these is the most important in determining the amount of your milk check? (1) price (2) test (3) weight (4) others (list)_____ (X) Don't know 49.__

50. Do you take part in the A.D.A. (American Dairy Association)program? (1) Yes (2) No (X) Don't know 50.__

51. What do you think of the A.D.A. program? (1) favor (2) favor with qualifications (3) undecided (4) disfavor Record pertinent comments_____ _____ 51.__

52. Have you heard of any plants in your area that are now in poor financial shape? (1) Yes (2) No (X) Don't know 52.__

53. From what source did you learn about this? (1) own fieldman (2) fieldman of another plant (3) own hauler (4) hauler for another plant (5) neighbor, friend (6) other plant personnel (7) newspaper (8) radio (9) TV (0) does not apply (list any other sources)_____ 53.__

54. Would you switch plants if you <u>actually</u> <u>knew</u> your plant was in financial difficulty?
(1) Yes (2) No (X) Don't know 54.___

55. Has the plant you now sell to ever missed paying for your milk? (does not include rejected milk)
(1) Yes (2) No (X) Don't know 55.___

56. Are you related to anyone who works in the plant you sell to or to anyone connected with the plant?
(1) Yes (2) No (X) Don't know 56.___

57. If yes, did this influence your decision to sell to this plant? (1) Yes (2) No (3) does not apply
(X) Don't know 57.___

58. Do you think dairy plants should take part in community activities such as fairs, parades, celebrations, local observances, youth projects, sponsor an annual picnic, or other social functions?
(1) Yes (2) No (X) Don't know 58.___

59. How much more (cents per cwt) do you think plants could pay for milk if they did not take part in these activities and functions?
(1) no more (2) less than 2¢ (3) 2-5¢ (4) 6-10¢
(5) over 10¢ (6) does not apply (X) Don't know 59.___

60. How do you think your plant determines the price it pays for milk? (Show Card No. 2)
(1) ___Estimating in advance how much it can afford to pay
(2) ___Checking with other plants for their price
(3) ___Selling manufactured products, then figuring how much it can afford to pay
(4) ___Any combination of these three
(5) ___Basing price on Chicago or other large market less transportation costs
(6) ___Other method (list)______________________
(X) ___Don't know 60.___

61. Do you know your plant manager personally?
(1) Yes (2) No 61.___

- -

Which of these services are available from your plant? (Show Card No. 3; check appropriate column for each service)

	(1) Yes	(2) No	(X) DK		
62.	___	___	___	whey or skim returned to the farmer	62.___
63.	___	___	___	hauler delivers dairy products to farmer	63.___
64.	___	___	___	fieldman (does not include field service by others)	64.___
65.	___	___	___	free milk cans (some or all)	65.___
66.	___	___	___	milk can tinning service	66.___
67.	___	___	___	soap, detergents, dairy supplies at about cost	67.___
68.	___	___	___	gasoline, oil, tires at about cost	68.___
69.	___	___	___	possibilities of getting your milk check early	69.___
70.	___	___	___	help in financing or securing financing improvements such as milk house, bulk tank, etc.	70.___
71.	___	___	___	plant makes assignments for you (deducts from your milk check to pay local charge accounts)	71.___
72.	___	___	___	group health and/or medical insurance	72.___
73.	___	___	___	other services (list)_____	73.___

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74. Which one of the services you now get is the most important to you? (rank first three; if less than three, rank those available)
1st _____ 2nd _____ 3rd _____ 74.___

75. How much higher price per hundred do you think your plant could pay for milk if none of those services were offered? (1) none (2) 1-3¢ (3) 4-6¢ (4) 7-10¢ (5) over 10¢ (X) Don't know 75.___

76. Would you prefer--
(1) services now provided (2) or that higher price
(3) does not apply (X) Don't know 76.___

77. Are there any additional services you think your plant should offer? (list)
(1)_____
(2)_____
(3) none
(X) don't know 77.__

(NOTE: If the plant offers health and/or medical insurance, complete this section, 78 through 82)

78. Do you belong to the group insurance plan offered by your plant?
(1) Yes (2) No (X) Don't know 78.__

79. Does it cover your entire family?
(1) Yes (2) No (3) does not apply (X) Don't know 79.__

80. Which of these amounts is nearest the cost per month of the plan offered by your plant? (1) free (2) under $5 (3) $5-$10 (4) $11-$15 (5) over $15
(X) Don't know 80.__

81. Could you get a similar policy at about the same price if you switched to another plant?
(1) Yes (2) No (X) Don't know 81.__

82. If another plant did not offer hospitalization insurance, how much more would it have to pay for milk (cents per cwt) before you would switch to that plant?
(1) less than 5¢ (2) 6-10¢ (3) 11-15¢ (4) 16-20¢
(5) 21¢ and up (X) Don't know 82.__

FIELDMAN AND HAULER

83. How long have you had your present hauler?
(1) less than one year (2) 1-2 yrs. (3) 3-4 yrs.
(4) 5-8 yrs. (5) 9-11 yrs. (6) 12-15 yrs.
(7) 16-20 yrs. (8) over 20 yrs. (9) does not apply
(X) don't know 83.__

84. If he started hauling for another plant and most of the farmers on the route decided to switch with the hauler, would you go with him? (1) Yes
(2) No (3) does not apply (X) Don't know 84.__

85. In the past year how many visits from other haulers representing other plants have you had where the haulers talked to you about switching to their plants (number of visits, not number of haulers)?

(1) one (2) two (3) three (4) four
(5) five and up (6) none (X) don't know 85.__

86. How many times has the fieldman from your plant visited you in the last year?

(1) one (2) two (3) three (4) four
(5) five and up (6) none (7) does not apply
(X) don't know 86.__

87. What were the reasons for the visits?
(1) routine inspection (2) quality problems
(3) problems with hauler (4) low tests or weight
(5) maintaining patron relations (6) others
(list)_____ (7) does not apply (X) don't know
87.__

88. If your fieldman switched to another plant and most of the farmers in your area switched with him, would you go with him?

(1) Yes (2) No (3) Does not apply (X) don't know
88.__

89. In the past year how many visits from other fieldmen representing other plants have you had where the fieldmen talked to you about switching to their plants (number of visits, not number of different fieldmen)?

(1) one (2) two (3) three (4) four
(5) five or more (6) none (X) don't know 89.__

90. Have you ever felt that a fieldman or hauler was giving you inaccurate or misleading information in order to gain or keep you as a patron?

(1) Yes (2) No (X) Don't know 90.__

91. Have any of the following ever been used as inducements to get you to change plants or to stay with your present plant? (Show Card No. 4)

(1)____Promise of a higher price or a higher test
(2)____Statements about additional services or superiority of plant services
(3)____Promise to convert you from B to A, or to bulk, or pay a premium for bulk
(4)____Promise of an extra payment, bonus or dividend at end of year
(5)____Statements about better market outlet for a plant's products
(6)____Statements about financial condition of plants
(7)____Statements about size of plants
(8)____Statements about personal qualifications of manager, plant personnel, how plant is managed, or plant honesty
(9)____Statements about superiority of a cooperative over other forms of plant ownership
(0)____Statements that a plant might not buy your milk if you did not go bulk, or that even in the future a plant will buy milk in cans
(01)____Statements that neighbors and leading farmers all sell to a particular plant
(02)____others (list)_____ 91.__

92. Which one of these would be the most effective in persuading you to remain where you are or to switch plants? (Need not be the ones checked; rank three in order)
1st_____ 2nd_____ 3rd_____ 92.__

93. Has it been your experience that the promises made were kept and that the statements were accurately represented?
(1) all of the time (2) most of the time
(3) some of the time (4) rarely
(5) none of the time 93.__

COOPERATIVES

94. Have you ever been a member of a dairy bargaining or marketing cooperative and dropped out?
(1) Yes (2) No (X) Don't know 94.__

95. (If answer is yes) Why did you drop out?

(1) moved out of the area
(2) didn't like plant management
(3) total price too low
(4) didn't offer enough services
(5) didn't like fieldmen
(6) didn't like hauler
(7) plant went out of business
(8) plant not progressive enough
(9) others (list)_____
(X) don't know
(0) does not apply

95.__

96. Do you think a cooperative dairy plant offers special marketing advantages to the dairy farmer?
(1) Yes (2) No)X) Don't know 96.__

97. (If answer is yes) What do you think these advantages are?
(1) higher total price including dividends
(2) more services (3) share in ownership and profits (4) greater market security (5) better plant management (6) plant and management more friendly (7) co-ops more progressive (8) co-ops keep other plants in line (9) does not apply
(0) others (list)_____(X) don't know 97.

98. Would you sell to a cooperative dairy plant if the total price, including dividends, was consistently three cents lower than that of other plants in the area?
(1) Yes (2) No (X) Don't know 98.__

99. Would you sell to a cooperative dairy plant if the total price, including dividends, was the same as that of other plants in your area?
(1) Yes (2) No (X) Don't know 99.__

PRICE RESPONSIVENESS

100. What pay plan does your plant use?
(1) per lb. of butterfat (2) per cwt of 3.5 milk
(3) per cwt of adjusted fats and solids (Proker method) (4) others (list)_____
(X) don't know 100.__

101. What price did your plant pay for milk in the last pay period?
(1)_____
(X) don't know 101.__

102. How much was the fat differential?
(1)_____(2) does not apply
(X) don't know 102.__

103. How often do you get price information from your plant?
(1)____don't get any
(2)____each pay period if twice a month
(3)____monthly
(4)____every 2-3 months
(5)____every 4-6 months
(6)____every 7-12 months
(7)____less than once a year
(X)____don't know 103.__

104. How do you get price information from your plant? (In what form)
(1) newsletter (2) plant magazine or newspaper (3) slip inserted with your check (4) on check or stub (5) hauler (6) others (list)_____
(7) does not apply (X) don't know 104.__

105. Do any of the (1) newspapers, (2) newsletters, (3) magazines, (4) radio, or (5) TV programs you regularly follow present information on prices paid by milk plants in your area?
(1) Yes (2) No (X) Don't know 105.__

106. If yes, which one of these sources provide you with the best milk price information? (Not general market information such as prices for butter, cheese, condensed or powder; rank 3 in order)
1st____ 2nd____ 3rd____ (4) does not apply 106.__

107. What was the highest price paid by a plant in your area last month?
(1)_____ (X) don't know 107.__

108. What was the lowest price paid by a plant in your area last month?
(1)_____ (X) don't know 108.__

109. About how often do you find out what other plants pay?
(1)____each milk check (if paid twice a month)
(2)____once a month
(3)____once every two months
(4)____once every three months
(5)____once every four months
(6)____twice a year or less 109.__

110. How do you find out about these prices?
(1)____own fieldman
(2)____other fieldman
(3)____own hauler
(4)____other hauler
(5)____neighbor or friend
(6)____other plant personnel
(7)____newspaper
(8)____radio
(9)____TV
(0)____does not apply
(01)____list other sources________________ 110.__

111. Would the plant that pays the highest price also be the plant where you could expect the biggest milk check?
(1) Yes (2) No (3) Should be (X) Don't know 111.__

112. Do you think you get enough information on milk prices?
(1) Yes (2) No (X) Don't know 112.__

(If the answer to 112 is "No," ask 113, 114, and 115)

113. What kinds of price information would you like? (see 100)
(1) does not apply (2) (list)________________
________________________________ 113.__

114. From what sources would you like to get this price information? (see 104)
(1) Does not apply (2) (list)________________
________________________________ 114.__

115. About how often would you like to get this price information? (see 109)
(1) Does not apply (2) (list)________________
________________________________ 115.__

- -

116. Do you think all grade A plants should pay the same price for grade A and all grade B plants should pay the same price for grade B?
(1) Yes (2) No (X) Don't know 116.__

117. Do you think all plants should offer the same services?
(1) Yes (2) No (X) Don't know 117.__

118. Have you ever tried to get other farmers to switch to your plant?
(1) Yes (2) No (X) Don't know 118.__

119. Is the decision regarding what plant to sell to discussed with: (check appropriate ones)
(1)____wife (husband)
(2)____children
(3)____others in household
(4)____others outside household
(5)____no others 119.__

120. Has your wife (husband) or other member of the family ever encouraged you to change milk plants?
(1) Yes (2) No (X) Don't know 120.__

121. If yes, did you change?
(1) Yes (2) No (3) Does not apply 121.__

122. When making your decision as to where to sell milk, what are you looking for in a plant?
(Record comments) 122.__

CODING INSTRUCTIONS

Farmer Opinions of Dairy Plants

General Instructions:

All questions must be coded. Do all coding with a red pencil.

Some answers were not checked by interviewers. When the previous question was answered "No," "Don't Know," or "Does Not Apply" and it is obvious "Does Not Apply" is the appropriate answer, check it and code it.

Even when an interviewer made the notation that an interviewee looked up the answer on milk prices, hauling rates, fat differential, or daily milk production, code according to the answer checked.

When in doubt about how to code an answer, see Glaron Burnett or Frank Groves. When they are not around, code the remainder of the questionnaire, attach a note about the answer in question, and leave the questionnaire on Burnett's desk.

Code all "Don't Know" or "DK" answers as "X". Code all questions not answered, except the "Does Not Apply" as "Y".

Code all other questions according to the number of the answer checked unless special instructions apply. The exceptions and instructions are given below. Codes to use are given in parenthesis.

16. Code according to these brackets:

Code	
(1)	under 100 lbs.
(2)	100-200 lbs.
(3)	201-300 lbs.
(4)	301-400 lbs.
(5)	401-500 lbs.
(6)	501-600 lbs.
(7)	601-700 lbs.
(8)	701-800 lbs.
(9)	801-900 lbs.
(0)	901- and up
(X)	Don't know

22. Use these brackets:

Code
(1) under 10¢
(2) 11-15¢
(3) 16-20¢
(4) 21-25¢
(5) 26-30¢
(6) 31-35¢
(7) 36-40¢
(8) 41-45¢
(9) 46-50¢
(0) 51- and up
(X) Don't know

24. Code according to this list (1 through 17 are plants in the north area and 19-21 are plants in the south area.)

(01) Abbotts Dairies Inc., Cameron
(02) Armour & Co., Downing
(03) Barron Coop Cry., Barron
(04) Boyceville Farmers Coop Cry. Ass'n, Boyceville
(05) Chippewa Co. Coop, Bloomer
(06) Commorsville Coop Cry. Ass'n., Commorsville
(07) Dells Dairy Co., Sand Creek
(08) Farmers Coop Cry., Clear Lake
(09) Maple Island Inc., Stillwater, Minn.
(10) Pine Grove Cheese Factory, Prairie Farm
(11) Redwing Creamery, Redwing, Minn.
(12) Rice Lake Cry., Co., Rice Lake
(13) Sanna Dairies Inc., Menomonie
(14) St. Croix Valley Coop Dairies, Glenwood City
(15) Stella Cheese Co., Clayton
(16) Turtle Lake Coop Cry., Turtle Lake
(17) Wisconsin Coop Dairies, Menomonie
(18) Ellsworth Coop Cry., Ellsworth
(19) Lakeside Butter Co., Durand
(20) Nelson Coop Cry., Nelson
(21) Rochester Dairy Coop, Arkansaw

26. Code as follows:

(1) does not apply
(2) one plant
(3) two plants
(4) three plants
(5) more than three plants

27. Code as follows:

(1) does not apply
(2) plant went out of business, went broke, or was sold to another firm
(3) dissatisfied with test, weight, or price
(4) dissatisfied with fieldman, hauler, or plant management
(5) didn't want to go grade A or bulk, but plant did
(6) wanted to go grade A or bulk but plant did not
(7) wanted to sell to a cooperative
(8) more than one of the above reasons (can be more than one reason for one plant or a different reason for leaving each plant)
(9) other reasons

29. Code according to number of plants, as:

(0) none (1) 1 (2) 2 (3) 3 (4) 4 (5) 5
(6) 6 (7) 7 (8) 8 (9) 9

31. Code reasons according to these:

(1) does not apply
(2) price was higher
(3) for more satisfactory test or weight
(4) wanted to go grade A or bulk
(5) plant was closer, more convenient than others, hauling rates were lower, or could haul own milk
(6) plant offered more or better services
(7) wanted to change plants with hauler
(8) other reasons or more than one of the above

32. Use the following code and keep a list of "<u>others</u>"

(01) higher price
(02) more satisfactory test or weight
(03) changed plants with hauler or because of hauler
(04) old plant was sold, merged, or went out of business and present plant was convenient or had route by his farm
(05) offered better or more desirable services
(06) plant was closer, hauling rates lower, or could haul own milk
(07) wanted to change grade of milk or go bulk and plant had such route by farm
(08) neighbor or relative recommended plant
(09) plant was cooperative
(10) more satisfactory bacteria, sediment or other quality test or inspections

(11) more satisfactory method of payment
(12) plant has reputation for honesty, financial stability, or good market outlets
(13) others (list on seperate sheet)
(14) more than one of the above reasons

36. Code according to the number in the blank. When two figures are given, as 4 to 5, the smaller number is the code. Code (9) for 9 or more plants

37. Code according to the number in the blank. When two figures are given, the smaller number is the code. Use (0) for 10 or more routes.

48. If more than one kind of plant is checked, code as (9)

49. More than one answer may be checked. Code as:

(1) 1
(2) 2
(3) 3
(4) 1 and 2
(5) 1 and 3
(6) 2 and 3
(7) 1, 2, and 3
(8) others, list
(X) don't know

51. If comments appear to conflict with answer checked, see Burnett.

53. When only one answer is checked, code its number. When more than one answer is checked, code as (9).

60. Code the number of the answer when only one answer is checked. Note that (4) is any combination of 1, 2, and 3. Any combination of more than one answer including 5 or 6 should be coded as (7).

73. Code "X" when none of the blanks have been checked.

74. Code the first choice only, using the following code:

(01) undecided as to rank
(02) 62
(03) 63
(04) 64
(05) 65
(06) 66
(07) 67
(08) 68
(09) 69
(10) 70
(11) 71
(12) 72
(13) 73

77. Code as follows:

(1) for one additional service listed
(2) for 2 or more services listed
(3) for 3 or X

78.-82. Code all (0) if plant does not offer health insurance.

82. Code number checked unless comments are written in. When comments are given, code according to: (6) not involved in deciding where to sell.

87. When only one answer is checked, code its number. When two or more answers have been checked, use these:

(8) two reasons checked
(9) three or more reasons checked

91. Code according to the <u>total number</u> of answers checked and <u>keep a list of others</u>. If none are checked, code (X).

92. Code first choice only, as:

(01) 1	(06) 6	(11) 01
(02) 2	(07) 7	(12) 02
(03) 3	(08) 8	(13) undecided as to rank
(04) 4	(09) 9	
(05) 5	(10) 0	

95. Code as (9) when more than one answer has been checked.

97. Code as follows:

(01) 1	(08) 8	
(02) 2	(09) 9	
(03) 3	(10) 0	
(04) 4	(11) 11	More than one answer checked
(05) 5		
(06) 6	(XX) X	
(07) 7	(YY) Y	

101. According to these brackets. Do not include premium if listed.

<u>Code</u> <u>Answer written in blank</u>

(1) under 90¢ lb. of butterfat
(2) 90¢ or over per lb of butterfat
(3) under $3.00 per cwt. milk

(4) $3.00 - $3.10
(5) 3.11 - 3.20
(6) 3.21 - 3.30
(7) 3.31 - 3.40
(8) 3.41 - 3.50
(9) 3.51 - 3.60
(0) 3.61 and up
(X) don't know

102. According to these brackets:

(1) under 7¢
(2) 7 - 7.2¢
(3) 7.3 - 7.5¢
(4) 7.6 - 7.8¢
(5) 7.9 - 8.1¢
(6) 8.2 and up
(7) does not apply
(X) don't know

103. As checked, except add this category for answers written in:
(8) each time price changes

104. Add this category: (8) more than one answer checked

106. Note that 106 can be answered by numbers from question 105. Code according to first place only, as:

(1) 1 newspaper
(2) 2 newsletters
(3) 3 magazines
(4) 4 radio
(5) 5 TV
(6) does not apply

107. & 108. According to these brackets. Do not include premium if listed.

(1) under 90¢ per lb. of butterfat
(2) 90¢ or over per lb. of butterfat
(3) under $3.00 per cwt. of milk
(4) $3.00 - $3.10
(5) 3.11 - 3.20
(6) 3.21 - 3.30
(7) 3.31 - 3.40
(8) 3.41 - 3.50
(9) 3.51 - 3.60
(0) 3.61 and up
(X) don't know

110. More than one answer may be checked so two categories have been added.
Code according to these:

(01) 1 own fieldman
(02) 2 other fieldman
(03) 3 own hauler
(04) 4 other hauler
(05) 5 neighbor or friend
(06) 6 other plant personnel
(07) 7 newspaper
(08) 8 radio
(09) 9 TV
(10) 0 does not apply
(11) 01 other sources
(12) two answers checked
(13) three or more answers checked

112. If 112 is answered "yes", code 113-114 as (1).

113. Code answers written in according to these:

Code Written in

(1) does not apply
(2) per lb. of butterfat
(3) per cwt. of 3.5 milk, including differential
(4) per cwt. of adjusted fats and solids (Proker method)
(5) what other plants pay
(6) any price information not covered in the first five
(7) more than one kind of price information desired
(8) don't care, not interested

114. According to these:

(1) does not apply
(2) printed or written material from the plant such as newsletters, magazines, cards or slip inserted with check
(3) newspapers
(4) radio
(5) TV
(6) general farm magazines
(7) University of Wisconsin
(8) state or federal government source
(9) source other than the first eight
(0) more than one of the above sources

115. According to these:

(1) does not apply
(2) daily
(3) weekly
(4) each milk check (if paid twice a month)
(5) once a month
(6) once every two months
(7) once every three months
(8) once every four months
(9) twice a year or less

119. More than one answer may be checked, so these are added:

(6) two of the first four
(7) three of the first four
(8) all of the first four

122. Code according to these categories and keep a list of "others" by questionnaire number. Any answers from (01) through (10) plus (11) should be coded (12)

Code

(01) plant that pays highest price
(02) reputation for honesty, fair weights, fair tests
(03) plant with dependable haulers
(04) variety of services
(05) plant in sound financial condition
(06) plant that has good stable market for its products
(07) size of plant, large or small
(08) plant that is progressive, produces quality product
(09) want to sell to a cooperative
(10) plant with good field service
(11) others (keep list)
(12) more than one of the above reasons
(XX) don't know

INTERVIEWERS' HANDBOOK

Qualifications for interview: After introducing yourself ask the interviewee the three questions at the top of the questionnaire. Since we are interested in dairy farmers, and only those dairy farmers who help decide where the milk or cream is sold, a no answer to either question a or b will automatically disqualify the interviewee. If the interviewee does not fall into one of the five classes listed in question No. 1 he is also disqualified. (The only other possibility would be a hired man.)

If the interviewee is disqualified, thank him for his time and go on to the next farm, but keep a record of all farms, other than dairy farms in your sampling area.

If the interviewee is qualified to answer the questions, proceed with the interviews.

Questions needing special attention:

13. Show the interviewee the income card (No. 1) and let him pick the proper group.

49. If the interviewee answers all three, in the space marked "others (list)," write "all three."

51. Use your own judgment at which category to place the answer. If you have any doubts, record the comments and a decision will be made later.

60. Show the price card (No. 2) and let the interviewee pick the proper one.

62-73. Show the services card (No. 3) and check the answers in the proper space.

85 and 89. The answer desired is the number of visits and not the number of fieldmen and haulers. If one hauler has been to see the interviewee five times, it is five visits.

91. Show card No. 4 and read off the list to the interviewee. Check only "yes" answers.

92. This question should be answered even if there are no "yes" answers to question 91. Use the numbers from question 91.

106. Use same numbers as in No. 105.

113-115. When listing the answers use the same categories as in the questions indicated, but write them in.

If any questions are not clear to the interviewee, rephrase them in your own words, but be careful not to bias the answer.

In ALL questions with multiple answers let the interviewee give you the answer and you put it in the proper category. If you have any doubt on any question, write the answer down and a decision will be made later. If it is necessary to probe for an answer use the suggested answers only as a last resort. Their purpose is to speed up the interview and cut down on the writing.

Some farmers will not be at home. Since this is an area survey it is necessary that all farmers in the sample area be contacted. If the farm wife is at home try to make an appointment to see the farmer. If the farmer works off the farm and it would be inconvenient to see him, interview the wife.

Turndowns: No doubt some farmers will refuse to cooperate, but try to keep these at a minimum. Be sure to keep a list of all turndowns.

Plants: Keep a list of all the different plants that farmers sell to, and turn this in to the supervisor at the end of each day.

Keep records: Keep a record of all your expenses for meals and hotel. Obtain signed receipts for any and all expenses $1.50 and over. Keep expenses day-by day. Write down each meal--breakfast, dinner, and supper--for each day and the cost of each. (Daily limit $4.50) Do the same for hotel expenses, and get a signed receipt for your hotel bill. Also keep a daily record of hours worked.

Keep a record of mileage each day. Your only car expense remuneration is the seven cents per mile pay. Write down the date and mileage for each day. If driving a U.W. car, you have two credit cards to cover all car expenses.

CO-OPERATIVE EXTENSION WORK

IN

AGRICULTURE AND HOME ECONOMICS

State of Wisconsin

Madison 6, Wis.

October 28, 1957

Dear Folks,

Your farming area has been selected as a part of a sample for a research project by the University of Wisconsin College of Agriculture.

Some time next week you may be visited by an interviewer from the University who is seeking information from farm families about milk marketing and farmer opinions of dairy plants.

The University needs this information to better serve you, and we hope you'll be able to help them if you are contacted. If your family isn't visited, your neighbor probably will be, so at any rate you'll be hearing more about this program.

Sincerely,

Thomas A. Parker
County Agricultural Agent
Pepin County

Bernard Drewicke
County Agricultural Agent
Pierce County

VITA

Claron Burnett

Candidate for the Degree of

Doctor of Philosophy

Thesis: FARMER EVALUATION OF PROCUREMENT POLICIES AND PRACTICES OF A SELECTED GROUP OF DAIRY PROCESSING FIRMS

Major Field: Agricultural Economics

Biographical:

Personal data: Born near Atkins, Arkansas, October 24, 1918.

Education: Graduated from Sasakwa High School, Sasakwa, Oklahoma, in 1935; received the Bachelor of Science degree from Oklahoma Agricultural and Mechanical College, with a major in agricultural journalism, in May, 1942; received the Master of Science degree from the University of Wisconsin, with a major in agricultural journalism, in June, 1947; completed the requirements for the Doctor of Philosophy degree in August, 1959.

Professional experience: United States Army, 1942-1945; associate editor of The Milk Dealer, The Ice Cream Review, and The National Butter and Cheese Journal, 1947-1950; assistant professor in the Department of Technical Journalism, Oklahoma Agricultural and Mechanical College, 1950-1955; assistant professor in the Department of Agricultural Journalism, University of Wisconsin, 1955-1959. Member of Sigma Delta Chi, Pi Gamma Mu, American Association of Agricultural College Editors, and the Association for Education in Journalism.