Marketing of Surplus Milk

Eric Sonnich

Follow this and additional works at: https://digitalcommons.bu
MARKETING OF SURPLUS MILK

by

ERIC SONNICH

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science
Department of Economics and Business Administration
Butler University

Indianapolis
1934
PREFACE

The purpose of this study is to examine the situation of milk supply as it occurred in the past as well as the present day market situation. The early efforts of milk organizations to deal with surplus milk and their methods have been compared with methods which are in use and which are proposed for use to regulate the present market. Recent legislation dealing with milk and milk products together with the efforts of governmental dairy economists under the Agricultural Adjustment Act are discussed in the light of possible effects upon surplus milk control. The author has had numerous conferences with dairy economists of the United States Department of Agriculture, milk distributors, producers, and manufacturers of milk products in order to get the divergent views of all interested parties.

The author is indebted to Professor C. B. Camp for his valuable assistance, time, and suggestions. Acknowledgment is also due Dr. Beckner, Dr. Bridenstine, Dr. Slifer, and Dr. Haworth for their helpful criticisms.
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Introduction</td>
<td>1</td>
</tr>
<tr>
<td>II. Development of Cooperative Milk Marketing Associations</td>
<td>6</td>
</tr>
<tr>
<td>III. Methods of Treating the Problem of Surplus Production</td>
<td>25</td>
</tr>
<tr>
<td>IV. Production Control as a Means of Regulating Milk Surplus</td>
<td>38</td>
</tr>
<tr>
<td>V. Increasing Consumption of Milk and Milk Products as a Means of Decreasing Surpluses</td>
<td>55</td>
</tr>
<tr>
<td>VI. Public Utility Theory of Milk</td>
<td>65</td>
</tr>
<tr>
<td>VII. Milk Production Control under the Agricultural Adjustment Administration</td>
<td>78</td>
</tr>
<tr>
<td>VIII. Conclusions</td>
<td>89</td>
</tr>
</tbody>
</table>
MARKETING OF SURPLUS MILK

I

INTRODUCTION

An important phase of the current agricultural problem is that of surplus milk. It is difficult to say whether this surplus is a result of overproduction, or of under-consumption of milk products by the American public. There is ample evidence that both of these economic forces have influenced the past and present milk markets. The government today, seeking to correct for the dairy farmer the milk surplus situation, has been active both in attempting measures of curtailing production and in seeking new ways of stimulating the public's consumption of milk and milk products.

Surplus milk, more properly termed market surplus, may be defined as that amount of milk which is sold as manufactured milk during each month. This should not be confused with reserve milk which is that milk the dealers must provide themselves with in order to meet the needs brought about by sudden variation in production and consumption, the amounts of which cannot be predicted. This necessitates dealers having a sufficient number of shippers so that the amount of milk coming in each day during the shortage period, which is usually from August to November inclusive, will be in excess of that which represents a margin of safety upon which dealers must operate. The part of this reserve milk which is not put to fluid use
and is manufactured, then becomes surplus milk.

Until recently the dairymen have not been enthusiastic about reducing production. This was due primarily to the fact that dairy prices had held up better than prices of other farm products, especially wheat and corn which have been victims of very large surpluses. However, this fact of favorable dairy prices brought a number of new producers into the market which resulted in a large surplus of dairy products. The farmer who saw prices slipping for his grains and other farm products decided that he could get more for these products in feed for his cattle, which in turn brought better revenues for his farm operation.

With greatly increased production and the piling up of huge milk surpluses, prices fell in all dairy lines. The milk by-products into which this surplus developed, such as cheese, butter, and powdered milk, did not return enough money to the farmer to make dairy farming a highly profitable venture. The item which gave the dairy farmer the greatest profit was fluid, or bottled milk; however, it is obviously impossible that all of this surplus be sold in fluid form.

Originally the farmer received one price for his milk based on the price of butter; but as the dairy companies in order to make sure of their supplies for large urban markets, found it necessary to obtain more milk, they had to pay higher prices for milk sold in fluid form. As a
result the present average price received by producers in a milk shed, or area from which milk is drawn to supply a given market, is the blended price of what he receives for his milk sold as fluid and what he receives for his milk used to make butter, ice cream, and other milk products.

There has been a great deal of misunderstanding as to the whole milk price situation, both with regard to the price paid to the farmer and the price received by the dairy company. If all of the farmer's milk were sold for fluid consumption in cities, all would be well, even on a low price scale. However, he must sell some for surplus products which bring much lower returns than the fluid milk for consumption. In many areas the farmers have through their cooperatives sought to equitably distribute what must be sold as surplus among their various members, each taking a certain allotment as base milk for which they receive full fluid price, the remainder being sold at prices according to the uses made of the milk. Naturally a number of cases have arisen where unequal distribution of this surplus milk exists. Some cooperatives have succeeded in cornering the fluid milk market for its members leaving other cooperatives in the districts together with independent producers to sell their milk at the best prices they can get, most of it usually being sold as surplus. It has not been an unusual matter to find two farmers living in the same neighborhood getting greatly different prices

* "Milk shed" is a technical term defining an area in which milk is produced for a given market.
for their milk. One farmer may be selling to a city milk distributor who puts it out to the public as fluid milk; the other may be selling to a condensory or cheese factory and only getting half as much for his milk.

In the past, dairy farmers relied upon their cooperative groups to cope with the ever rising surplus problem. The milk sheds united to fight overproduction, unfair trade practices and racketeers with a fair degree of success. However, numerous obstacles beset them. The nature of the different units of the dairy industry is such that there is considerable overlapping and complexity. These characteristics have been transmitted to the cooperatives themselves with the results that the producers have been unable to exert their full massed influence upon the market situation.

The problem of surplus milk has been of primary importance to the producer. The "bargained price" has usually been fairly satisfactory to the producer, but a combination of a high percentage of surplus milk and a low price for the surplus product has resulted in a low "average price." Consequently producers have felt that if they could remove or even reduce the amount of surplus, the average price received would be more favorable. There has been a variation of opinion among producers on this problem. Some believe that the surplus is brought about as a result of day to day variation in milk consumption for which the market must protect itself; others argue that the item of
day to day variation in production is primarily responsible; still others insist that the seasonal variation in production and an opposite seasonal variation in consumption is responsible.
II
DEVELOPMENT OF COOPERATIVE
MILK MARKETING ASSOCIATIONS

The part that cooperative organizations have played
in the milk industry has been of great importance. Bernard
Baruch has said, "The farmer selling in unlimited competi-
tion with himself, has been buying at more or less controlled
prices from industries which have organized their production
and marketing." Cooperative marketing has been the means to
adjust this need of the farmer. Through such organizations,
the farmer has been able to employ his own middleman to per-
form efficiently and economically for him the essential
marketing services. Cooperative marketing has not dispensed
with these services, but has attempted to perform them for
the farmer at cost. The farmers have been able to receive
increased prices in place of paying the middleman profits.

Unorganized cooperation is very old, but organized
business cooperation is comparatively new. The latter type
had its beginning in England in 1844, although previous to
1844, some attempts at cooperative enterprises had been
made. Robert Owen has often been called "the father of co-
operation"; however, many of his enterprises were strictly
communistic and failed. He was successful in operating a
cooperative plan store at New Lanark where his mills were
located. Between 1820 and 1840 other cooperative stores

2. Steen, Herman, Cooperative Marketing, p.ix.
were attempted by different groups in England, most of which failed. Owen, however, had fixed the idea that working men by united effort could greatly benefit themselves, and he succeeded in helping other men glimpse the vision. It was only a matter of time until a practical, workable plan would be evolved. This plan was inaugurated by the weavers of Rochdale who organized "The Rochdale Society of Equitable Pioneers." This organization based its plan in part upon the Brighton Plan, which was a cooperative venture started in Brighton in 1827. The Pioneers set forth the following purposes of organization:

1. "The establishment of a store for the sale of provisions, clothing, etc.
2. "The building, purchasing or erecting a number of houses, in which those members, desiring to assist each other in improving their domestic and social condition, may reside.
3. "The manufacture of such articles as the society may determine upon, to provide employment of such members who may be without employment or who may be suffering from repeated reductions in their wages.
4. "The purchase or renting of an estate or estates of land which shall be cultivated by members who may be out of employment, or whose labor may be badly remunerated.
5. "And further, that as soon as practicable this society shall proceed to arrange the powers of production, distribution, education, and government; or, in other words, to establish a self-supporting home colony of united interests, or assist other society in establishing such colonies."

The financial position of the weavers was very weak, and it took them over a year before they had enough funds

2. H. C. Filley, Cooperation in Agriculture, p. 43.
to make a feeble start of their ambitious plan. After rent-
ing a store and purchasing the fixtures, they had but fifteen
pounds (about $73.00) left to invest in a stock of groceries.
Because of this limited capital they handled but four commodi-
ties--flour, butter, sugar, and oatmeal. After much internal
dissention and difficulties due to general economic condi-
tions and political disfavor, the Pioneers gradually became
a large and prosperous organization. By 1894 the membership
was 12,000, the funds $2,000,000 with a yearly profit of
$300,000.

The system of cooperation started by the Roachdale
Pioneers soon spread to other cities. Many stores were
opened in both England and Scotland. On the continent the
cooperative movement had a similar rapid growth. In Denmark
especially did the cooperative movement find a firm foothold
and progressed to the extent that at the present time it is
not at all unusual to find Danish farmers who are members
of eight or ten cooperative organizations.

The cooperative manufacture and marketing of dairy
products in the United States dates back at least as far
as 1851 when the first cooperative cheese factory was es-
tablished in Oneida County, New York. This factory was
successful.

It was not long until cheese factories were started in
Ohio and Pennsylvania and the other surrounding states. By
the year 1869, the number in the whole country exceeded
1,000. The cooperative cheese factory was naturally followed by the cooperative creamery, the first being built in Orange County, New York, in 1861. In these early days butter and cheese were often made in the same factory.

In New York State the first definite action towards collective bargaining by milk producers occurred in March, 1883, among the farmers of Orange County who were shipping milk to New York City. There was a rapid growth of this type of organization until there existed a number of groups ranging from local groups of farmers held together by mutual grievances or ambitions of a more or less temporary character to associations including thousands of members. A number of these have ceased to exist due to the fact that the particular problems which caused them to organize has died out. Those temporary groups which did not entirely disband frequently kept the form of their organization with but a small number of men. They thus paved a way for wider organization, and in the middle and late nineties there appeared a number of producers associations of a more permanent and more ambitious character throughout the eastern and middle western dairy states. These, in turn, have led to the formation of the present day organizations.

The first milk producers group mentioned above organized for the reason that the farmers thought that the city

milk dealers were taking advantage of them by frequent cuts in price and not paying for the milk according to their contracts. Eight hundred of these farmers met late in February, 1883, to decide upon the price of milk after they had first formed an organization. At this time occurred the first milk strike, which was to be a weapon used by these organizations to back up their collective bargaining efforts. They held back voluntarily 104,000 quarts of milk, and organized groups of men emptied the milk from the cans of those who attempted to ship to New York. This first milk strike ended successfully for the farmers; consequently, the organization continued to exist. Plans were generally discussed for the building of cooperative milk plants and creameries which would take care of the surplus and thus in preventing the flooding of the market, keep up milk prices.

Another group which was supplying milk to greater New York organized in October, 1889, when 300 farmers met at Middletown, Orange County, to furthur plans for organizing branch unions on all railroads shipping milk to New York City. There were approximately 10,000 producers supplying New York at that time, and these it was claimed because of lack of organization were helpless in the hands of about 100 organized dealers. The ultimate object of the association was the formation of a cooperative stock company.

5. Rural New Yorker, Feb. 25, 1888.
capitalized at about $500,000 to furnish milk direct to the consumers, a plan said to have been successful in London at that time. The farmers were to take a $25.00 share for each can of milk of 40 quarts furnished daily. An agent at each shipping point was to receive and forward the milk and cream to a central depot just outside of New York City.  

This ambitious plan was not to be taken up, however, until extensive organization of local unions had been effected and this organization required time. By 1903 the Five States Milk Producers Association, through members, was controlling nearly 150 cooperative creameries.

The Boston Milk Producers Union was organized about 1886. For some years it was fairly successful in maintaining the price of milk in the face of a decline of prices for other farm products; consequently, milk production increased, causing in turn an increased surplus. About 1897, the surplus question which had long been a source of contention began to loom very large. In the fall of 1903 the Milk Producers Union was said to control five-sixths of the entire milk supply within 100 miles of Boston. The producers in this territory were faced with a considerable surplus milk and numerous and bitter arguments ensued. The dealers were willing enough to compromise on milk prices but refused to yield in the manner of handling this surplus. The usual procedure was for the dealers to get the producers to sign

contracts whereby the dealer took unlimited quantities of the farmers' milk, using the surplus for butter. The farmer then received butter prices for this surplus. Thus the farmer never knew for what part of his product he was to receive milk prices and for what part he was to receive butter prices. A further clause in the contract between the producers and the dealers read, "If any producer produces in any one month less than one half the quantity that he delivers in the largest preceding month, that difference between one half and the amount delivered shall be figured per can at the difference between the card price and butter value of milk, and the amount shall be deducted from the monthly bill in settlement."

The above clause then meant that the producers were penalized and a burdensome fine was levied whenever a milk shipment fell below one half the amount shipped in the largest preceding month. This plan brought about in many instances an extremely inequitable payment for milk. To quote an extreme example, one shipper shipped only 71 cans of milk in August whereas he had shipped as many as 444 cans in April. As a consequence under this system of penalization he received a check at the end of August for 24 cents.7

After a great amount of controversy, the producers in this territory were victorious, at least in part, and before the end of 1903 the penalizing clause was eliminated and the

7. N. Y. Produce Review and American Creamery, Nov. 18, 1903.
farmers were able to know what prices they would receive for their milk before they shipped it to the dealers. The cooperative group in February, 1913, changed its name to New England Milk Producers Association.

The surplus problem and the exactions of milk dealers were not long limited to the New England territory. About 1883 the milk producers along some of the principal railroad lines running into Philadelphia organized to combat the dealer control of milk prices. It was not long until producers along other roads organized; however, they were not in a position to handle the surplus milk, consequently none of these organizations was able to withstand the pressure of the dealers. For a period of four years no further attempt was made by the producers at organizing. In the winter of 1887, the dealers put the price of milk down below the cost of production, and new organizations were soon formed, and this time upon a basis of cooperation which made them sufficiently strong to compel the dealers to pay the price or go without the milk. The primary reasons of this cooperative group were, of course, the maintenance of prices and the handling of the surplus. Local organizations were formed in each of the neighborhoods from which milk was shipped. These groups along each railroad were formed into general associations which sold milk to dealers and hotels.

In order to adequately handle surplus milk, they established

a creamery in Philadelphia which was utilized to manufacture butter out of all unsold fluid milk. To provide equitable distribution of the loss due to lowered prices received for this surplus in the form of butter, the organization prorated the loss equally among all of their members. The dealers then attempted retaliation by reaching out into foreign markets for their milk supply, and they were fairly successful in mitigating the force of the cooperative's efforts.

The above organization was strongest from 1890-1895. In 1896 another cooperative group supplying the Philadelphia market was organized. The members were principally residents of New Jersey and by 1904 were well organized, consisting of all leading shippers to the Philadelphia market. A number of producers in Delaware were also supplying Philadelphia, and in 1917 the Inter-State Milk Producers Association was incorporated. In 1919 this organization numbered about 8,500 members grouped into 156 local organizations, and controlled about 70 per cent of the milk supply of the Philadelphia district. 9

In the west similar cooperative groups were being formed at about the same time as the eastern groups were coming into existence. The Milk Producers' Union composed of producers supplying Cleveland was organized in 1887. About 1897 the Northern Ohio Milk Producers Association was organized to fight for better prices. In April, 1919, it

was reorganized and incorporated under the name of the Ohio Farmers' Cooperative Milk Company.

The Pittsburg area was organized in the spring of 1889 when 320 farmers organized for "protection and mutual aid." The Northeastern Ohio Milk Producers Association organized in 1916 led to the formation of The Dairymen's Cooperative Sales Company with headquarters in Youngstown, Ohio, which became a leading producers' group in the Pittsburg district.

The most conspicuous example of early organizations in the middle west was the Milk Shippers Union of the Northwest, organized about 1887. It was their idea to organize a great company to control the milk supply of Chicago; however, they were not successful in this venture. No more efforts at organization occurred until 1896 when the Milk Shippers' Union was formed. This group was active for about ten years and was followed by the Milk Producers Association in 1909.

In the Milwaukee district a Producers Association was formed in 1908; however, only a small percentage of the producers belonged to it. This group was reorganized in 1916. In order to handle their surplus milk they established a surplus plant; however, they lost money on this project and in 1921, the Producers Association agreed with the dealers to let the latter handle the surplus. The

Producers Association accordingly disposed of its plant.11

The first large group to be organized in the Los Angeles district was the California Milk Producers Association which was organized in 1915. They were primarily interested in regulating prices, and in disposing of their surplus, they sold this milk to one large creamery which manufactured it into butter, the loss being prorated among the members. In 1920, the Association organized its own distributing facilities but sold this in 1929 at a profit of one million dollars, which consequently has left the group in a sound financial position. In 1930, they established their own surplus plant which they have maintained to date.12

The object which the producers had in mind in forming most of the earlier cooperative marketing associations was the retail distribution of milk. They felt that the distributor was getting more than his share of the consumer dollar. By retailing the milk used for fluid consumption and processing the remainder, they reasoned that they would not only receive the same wholesale price that they received under the private distributor system but would obtain the distributor's share of the profits also. Naturally the cooperatives were formed first in the large city dis-

tracts where a large market was available. Today practically all of the larger cities of the United States are supplied by milk from producers' cooperative organizations. In 1929, there were 161 milk cooperatives in this country, 114 of which were marketing associations.13

Economic forces assert themselves quickly in the fluid milk market. The fluid milk cooperative that neglects economic forces finds itself in difficulties. This fact has been important in placing these associations among the most efficient cooperative organizations. In delimiting their fields of operation these associations have had to observe economic boundaries rather than those of political subdivisions. In furthering their desires by collective bargaining many of the producer organizations have used the "strike," more properly called the boycott, as a weapon to enforce demand, usually in connection with attempts to secure higher prices for milk. No doubt numerous arguments may be advanced to discourage such a practice; nevertheless, it has been practically the only effective weapon of which these cooperative organizations could avail themselves.

At least as early as 1883, dairymen in Orange County, New York, made use of the boycott. During the period of rapidly rising prices following the outbreak of the World war, producers frequently used this method of enforcing their demands. An outstanding example is the Chicago strike in

the spring of 1916 as a result of which the producers asked and secured an average of $1.55 per hundredweight for the six summer months after having been offered $1.33, or an increase of 22 cents per hundredweight. In this instance, the strike lasted twelve days. Another strike of importance was that in the New York milk zone in August, 1916. Producers were offered $1.90 per hundredweight but demanded $2.15. Of course, all of these milk "strikes" have by no means been successful. An example of the latter was the St. Louis "strike" in 1916. This "strike" failed because the producers were unable to restrict the supply enough to enforce their demands. Many producers failed to withhold milk after a few days and supplies came from outside milksheds.

During this same year milk boycotts occurred in Boston and in Cincinnati, both of which were successful. In 1919, the producers in the New York district again went on a "strike" and were successful after withholding milk for eighteen days.

The Pure Milk Association of Chicago district on January 1, 1929, demanded that milk testing 3.5 per cent butterfat be raised in price from $2.50 per hundredweight to $2.65. On January 22, there was an agreement to arbitrate. C. L. King of Philadelphia was selected as arbitrator and he fixed the price at $2.65 with the further stipulations that one per cent was to go to the Pure Milk
Association and that the Association was to refuse to receive milk from any new producers. Only recently has this same organization completed a similar boycott, ending January 10, 1934. Within five days after it was called, this latter "strike" ended. The settlement was in the nature of a truce whereby a minimum price to be paid to producers was to be set up by a board of three arbitrators, one of which was to be selected by the producers, another by the distributors, and the third to be selected by the above named two. This strike was successful in stopping practically all milk deliveries in Chicago. There was a great deal of violence perpetrated and public opinion was generally aroused. This "strike" developed as a result of the Agricultural Adjustment Act's proposal to set retail milk prices in their marketing agreements. The Independent dealers declared there was collusion between the large distributors and producer associations to drive them out of business by improper use of the AAA in development of the Milk Code and the fixing of retail prices.

The producer associations charged the AAA with laxity in enforcement of the Milk Code and that "Chiselers" were stealing the market. The AAA has now revised its marketing agreements and the new contracts do not contain any regulation of retail prices. Some states, however, by statute have decided to continue setting retail milk prices.

No doubt "strikes" will continue to be a means which
the cooperatives will use to further their desires in the matters of distribution and prices; however, the government has made serious efforts to regulate production, to eliminate wide price spreads with extra profits to dealers, and by its marketing agreements has sought to remedy many of the conditions which has in the past led to these "strikes."

The present day cooperative associations fall into two general classes: 1. bargaining associations, and 2. marketing or operating associations. The typical bargaining association is one which operates no facilities for the physical handling of milk. Originally its function was to act as a broker in arranging for the sale of the members' milk to the distributor. Of course, such an organization also served for a number of other valuable functions such as the supervision of inspection of milk, testing and making health examinations of the members' herds and milk. In handling surplus, it may guarantee a market for unplaced milk, the usual distributors of which have refused to concede a price in line with the rest of the market. If producers are paid on the basis of the individual distributor's purchases and utilization, the association can adjust the supplies of the distributor more nearly to equalize the amount of the surplus that each distributor must carry, by shifting producers from one distributor to another. It can regulate seasonal production through some plan of
production control by means of which a producer who has a rather even supply of milk throughout the year will receive a premium above the average price, and the one whose production varies widely will be penalized. This type of organization has the advantage that it can be started with a relatively small amount of capital and can be conducted for a small cost per unit of product sold. Examples of this type are found in Boston, Hartford, Philadelphia, Pittsburg, Baltimore, and Washington districts.14

The term "operating or marketing associations" is applied to all associations that actually handle all or a part of the milk and operate physical handling facilities. They may perform all of the functions of a bargaining association as well as handling milk and the manufacturing and selling of milk products.

These associations might be further subdivided into:
1. those that own all country receiving facilities and sell at wholesale, only manufacturing the surplus, if they are so equipped, into whatever products will give them the greatest return; 2. those that own city and country facilities and sell at retail as well as wholesale; 3. those that own only a part of the facilities for handling the product and sell principally at wholesale. New York, Cleveland, Cincinnati, St. Paul, Minneapolis, and Los Angeles are good

examples of the above type.

Such an association by operating its plants may be able to remove from the market at times excess supplies of fluid milk or a sufficient quantity of milk so that distributors will not have an instrument in the form of surplus by which they are able to depress prices below what the supply and demand situation justifies.

The greatest disadvantage of the marketing association has been that it takes the producer into business management in the sale and manufacture of dairy products. This requires good business ability and those who are deficient suffer. It also requires the investment of a large amount of capital which must be raised before operation may begin. Naturally a large number of producer groups are not in a position to raise this capital and are not fortunate to find themselves in the position of the California Milk Producers Association which sold its distributing plant for one million dollars.

The dairy industry has developed rapidly during the past fifty years. The factory system of manufacturing butter and cheese has stimulated production. The rapid growth of cities has increased the commercial demand for milk and its products by increasing the number of families dependent upon someone else for their daily supply of these foods. The early cooperatives, while in many instances inefficient and lacking in balance, have contributed their part in the
development of this industry. The form of these early co­
operatives was simple. There was no cooperative law and
the advantages of the corporation were not as well known
then as now. The spirit of cooperation was present even
though the form of an organization might be the same as
that of companies formed for profit. The associations were
all democratic in spirit. They were organized to manufac­
ture and market the farmer's product more efficiently than
was being done by other means. They did their best to dis­
tribute equally the risks and awards of their enterprises.
The growth of cooperatives has been rapid. The modern
organization has had a number of economic adjustments to
meet. Milk is a complex product and can be placed upon the
market in a variety of forms. These varied uses of milk
are often in competition with each other. The price which
can be paid for milk for any use is influenced by a number
of factors.

Any cooperative company entering the dairy field must
consider the various uses of milk in adjusting prices to
be paid to the producers in their respective milk sheds.
They face the questions: Should all producers in a coopera­
tive company be paid the same price without regard to the
use made of their milk? How can a company selling only a
part of its product to city distributors determine which
milk is "surplus"? How should a cooperative association
deal with old members who are increasing their production
or with farmers who wish to become members, when the com-
pany has surplus milk of which some disposition must be
made? The AAA and its plans for production control must
necessarily affect the cooperatives. Many of the coopera-
tives themselves have already been using similar plans of
control, but may serve as a medium for fostering the govern-
ment's plan and may be instrumental in bringing the inde-
pendent producers into line.
METHODS OF TREATING THE PROBLEM OF SURPLUS PRODUCTION

Cooperatives have relied upon several methods of control. One of the popular methods used is the basic surplus or basic rating type which assigns to each producer a definite volume of production, and for all milk produced in excess of this basic volume, he receives a surplus or lower price. The base price is usually determined by the quantity which the dairyman produces during the period when production and sales most nearly balance. Usually this figure is based on the October, November, and December production figures, or perhaps three years average of the above. Different milk sheds use different periods for the base production period since naturally the productivity in different parts of the country must have seasonal variation.

Another plan in use has been the contract plan, which is a modification of the above basic surplus plan and is designed to equalize the supply of milk throughout the year. Under this plan the producer contracts to supply a definite amount for a definite period, frequently one year, and is penalized for any deviation above or below the amount for which he contracts. Various modifications of the basic surplus and contract plans of control have been used and are being used in different parts of the United States.

Both the basic surplus and contract plans have proved...
effective in adjusting production, but because a plan accomplishes certain results in a given milk shed it does not necessarily follow that the same results may be expected in another milk shed where conditions are somewhat different. It is probable, however, that the principles of either plan may be applied successfully in any area. Each plan must be fitted by those administering it to the particular conditions of the milk sheds in which it operates. The greater the production in excess of fluid consumption in the market in the milk shed and surrounding territory, the more difficulty will be experienced in operating the plan. The most important facts in its success under any circumstances is probably the whole hearted cooperation of the distributors who handle the greater part of the milk. Of course, in those few instances where the cooperatives are themselves the distributors the plan is more easily operated.

The contract plan has a degree of flexibility not so easily attained in the basic surplus plan. The former places upon the member the responsibility for the quantity which he should attempt to produce each month. If he overestimates or underestimates this quantity the blame falls upon himself. The basic surplus plan leaves more to chance, the establishment of a quantity which forms the producers basis of payment. Either plan may have features which penalize the producer for underproduction although the usual basic surplus plan as now employed does not. Either plan may be
operated with a classification or sale plan so that the distributor purchases his milk on the basis of the use which is made of it, whereas the farmer is paid in relation to some established base.\textsuperscript{15}

The object of a basic surplus price plan is to penalize producers individually for changing their production from a given quantity designated as the base. In this way a condition of excessive production sometimes can be ameliorated without reducing the price to those who adjust their production as desired. It is an effective method of bringing about changes in seasonal production and is used for this purpose in Philadelphia, Pittsburg, Chicago, and other cities. In general where there is little seasonal variation as in Los Angeles the basic surplus plan is not so effective if it is considered as being used for more than temporary purposes.\textsuperscript{16}

The New England producers have probably had more experience with surplus plans than have the producers of any other section of the United States. For many years milk had been sold in that market at a summer and winter price. For example, in 1886 and 1887, the summer price was 30 cents per \(\frac{3}{4}\) quart can and the winter price was 36 cents. These prices, however, applied only to milk which the dealers sold as fluid milk plus a margin of about 5 per cent. All

\textsuperscript{16} Univ. of Calif., College of Agri. \textit{Bulletin} 513, May, 1931.
surplus beyond this was made into butter by the contractors at their creameries on the farmers' accounts, allowing each month as the value of butter, the average of the jobbing price of butter quoted by the Chamber of Commerce during the month and charging 4 cents per pound for the making. Thus the farmer was sure of getting at least butter value for all the milk he could produce. The farmers raised so many objections to this system, however, that in 1889 the matter was taken up with the state board of arbitration, which decided that the surplus principle was a sound one. 17

The surplus continued to be a matter of controversy until the spring of 1910 when the surplus system was discontinued as a result of a dairymen's strike and a graduated price was substituted. This practice continued until May, 1918, when the surplus plan was again resumed. At that time the Regional Milk Commission for the New England states secured an agreement between producers and distributors which authorized the commission to inaugurate a surplus plan which the commission did shortly afterward. Each dealer was to pay for fluid milk an established price and for that portion worked up into by-products, a price established by the milk commission and later by the milk administrator. Since each dealer could choose his own channels for utilization of surplus, the result was a widely varying price for different dealers which to some extent caused

dissatisfaction among producers.18

A similar plan was tried in Akron, Ohio, in the summer of 1918 without any public supervision. The plan was abandoned at the end of the first six months partly because of the fact that it led to different prices paid by different dealers.

The Mayor's Committee (New York, 1917) proposed a plan somewhat like that since put into operation in New England except that the dealers were to pool their purchases and sales, so that the producers would all be paid the same price no matter to which dealer they sold.

Philadelphia has since January, 1920, been handling its surplus problem by paying a basic price determined by conferences of the various producers. For the surplus milk over their base allotment the producers were paid a price determined by taking a certain percentage of the average price of New York 92 score butter * as published by the United States Bureau of Markets for the month. The price of milk would be determined by multiplying the percentage of butter-fat in milk by this price. This method of payment for surplus is popular today, and in some cases several grades of surplus milk are listed with prices paid on basis of butter-fat content times a percentage of butter prices quoted in leading markets, and also on composite figures of other


* First grade butter classification.
by-products such as cheese, milk powder, and ice cream.

A basic surplus plan was first used by Maryland State Dairymen's Association of Baltimore about 1918. They have since that time used a variation of the plan which included a first and second surplus price. The second surplus price was usually based on a butterfat price. To illustrate the above plan, assume that a patron produced an average of 3,000 pounds a month during October, November, and December, which were the months designated as the base period of a given year. For his entire production during these three months in any year he receives basic prices. The three thousand pound average was his basic quantity for the following nine months. If in May following his basic period he produced 7,000 pounds of milk he would have received basic prices for 3,000 pounds. For an amount equal to this 3,000 pounds he would receive first surplus prices. For the additional 1,000 pounds the producer received second surplus prices.

The Connecticut Milk Producers' Association of Hartford, Connecticut, have operated a contract plan of surplus control for a long period of years. Their plan is this: Upon signing the contract with the association previous to March 31 of any year, the producer states the quantity of milk which he proposes to deliver daily for the next twelve months beginning April 1. He may state any quantity in excess of his previous year's contract, the same quantity,
or a smaller quantity. Penalties are provided for any excess production above the contracted quantity or for any shortage if production is below the contract. Penalties are not exacted on the basis of each day's deliveries, but on the average of each payment period which is usually thirty to thirty-one days; that is, if a producer contracts to deliver forty quarts per day and his deliveries for the thirty day period from September 1 to September 30 are 1,500 quarts, he is penalized for over-delivery of 300 quarts. The plan provides that the producer shall be penalized 2 cents a quart for any production in excess of his contract or for any quantity by which he fails to meet his contract during any payment period.

The milk is sold to the distributors on a classification basis, according to the use made of the milk. The penalties which have been paid by the producers as a result of variation in deliveries from the contract, do not go to the distributors to lessen their cost, but are pooled by each distributor and prorated back to the producers so that those whose production most nearly meets their contracts receive the greatest share in these penalties; however, all producers share in the penalty pool. Since it is unlikely that any producer can exactly meet his contract, all producers probably pay penalties. However, if a member's production varies little from this contracted quantity, he pays only a small penalty and receives a much
larger share, the net effect of which is a bonus for even production. 19

The Los Angeles district has regulated its surplus on a somewhat different basis. They have used a basic surplus plan, but have since 1930 also operated a surplus plant to handle the milk that is left over. Since this plant has been instituted, the price paid for surplus milk has been the base price minus the deduction on surplus made for the support of the surplus plant. Since July, 1930, the basic surplus plan of prices has applied to all dairymen who cooperated with the surplus plant. Previous to the organization of this unit, the plan applied only to members of the California Milk Producers Association and some independent producers delivering to creameries where this system applied generally. Several creameries which did not cooperate in the basic surplus price plan before the surplus plant was organized had contracts or agreements with their producers whereby the latter were to supply a given quantity of milk. Increased production was discouraged by paying a lower price for the additional quantity or by refusing to accept it.

Milk may be sold to the surplus plant at the prevailing base price to cooperating distributors; that is, to distributors whose shippers support the plant. The buyers are required to pay five cents more per pound of milk fat.

Milk not sold as market milk is separated. Sweet cream is sold only to certain firms that have an established trade in supplying cream to the distributors. Skim milk is dried by roller process and is sold through the usual channels.

Detail records of the supply and disposal of milk were obtained from seventeen distributors who handled about 80 per cent of the pasteurized milk sold in Los Angeles County. Dealers' purchases of bottled raw milk are adjusted closely to their requirements. If a surplus is produced over what is required to meet the trade demands, this is sold as bulk milk or utilized in some other way. Most of the surplus milk was separated. Some was used for standardizing cream for "churned buttermilk," ice cream, and acidopholous milk. The greater variation occurred in the percentage of surplus milk used for making ice cream. In July and August, when the weather was hot and ice cream sales were larger than usual, about 11 per cent of all surplus milk was used in making ice cream. From 4.5 per cent to over 9 per cent of the milk fat in surplus milk was used for buttermilk. From 10 per cent to 18 per cent of the surplus whole milk was used in standardizing cream. Cream received from the county plants usually contains from 35 per cent to 40 per cent of milk fat. Likewise, cream derived from separating locally produced milk usually tests 35 to 40 per cent of milk fat. Since most of the cream sold to the trade carries a lower percentage of milk fat, a large quantity of skim milk is
required for standardizing. Approximately 9 gallons of 3.7 per cent milk added to 10 gallons of 38 per cent cream will produce 19 gallons of 21.5 per cent cream. In this case about 8.3 per cent of the milk fat in the cream sold would come from whole milk used in standardizing.20

This use of a surplus plant is of course convenient for the distributors and the producers; however, there are also disadvantages. Under the conditions that exist in the Los Angeles milk shed it is doubtful whether milk can be produced for a cost as low as the net price received for surplus milk, since the overhead required to operate this plant must necessarily be greater than that of an ordinary milk products plant which can seek a greater diversification both in the purchasing of raw material and in the marketing of finished goods.

There is one other feature of the surplus plan of the Los Angeles milk shed which may be mentioned—that of "shipping rights" which are transferable and have a commercial value. A dairyman who has established a basic quantity that he may deliver, or a shipping right, may transfer it when he sells all or part of his herd. In general in this district, the shipping right is considered equal in value to 1.25 pounds of milk fat per cow per day. Shipping rights usually go with the cows. A cow sold with shipping rights

brings about $20.00 more than one of equal quality without a shipping right for the reason that the holder of the former cow is assured of best prices for the milk from this animal. A further part of the basic surplus plan put into effect in July, 1930, requires that a new producer without shipping rights shall receive the base price for two-thirds of his production and surplus price for the remaining one-third.

An examination of these various plans which have been utilized in the past and are today being used to handle surplus stocks of milk will reveal the complexity and diversity of the ideas used. The costs of handling these surpluses have been variously estimated. In 1919, the Rochester New York milk cooperative estimated the loss on surplus at .4337 cents per quart.21 The Alderney Dairies of Philadelphia had kept records for twenty years prior to 1913 and from these calculated that at that time it had cost them .5 cents per quart on their entire sales to keep supply and demand adjusted.22 In Boston where the matter of surplus had been troublesome for many years, the dealers made a deduction of 1.1 cents per quart from the farmers checks for the month of May, 1918, because of an overproduction of 34.37 per cent for the month.23 Since the surplus problem

has by no means diminished in more recent years, it may safely be assumed that cost of adjustment of production has not changed greatly.

In making these adjustments of production, both long time and seasonal variation must be taken into consideration. The sales of fluid milk are influenced by such factors as changes in temperature, the day of the week, holidays, and vacations. Various grades of milk are affected in different ways. Sales, however, are relatively stable from month to month; the total variation from the peak to the low point of the year usually does not exceed 10 per cent. Production varies much more widely. In some milk sheds, the variation may reach 75 per cent or more; in others, it may not exceed 25 per cent. The type of distributor and the market outlet are other factors that affect seasonal production of milk. Smaller distributors who have practically no outlet for surplus milk cannot profitably take milk from producers who have highly seasonal production. Producers who retail their own milk usually manage to have a fairly even supply. The large distributor who has facilities for manufacturing may wish to receive a large surplus and do little to discourage variation. The peak of production is usually reached in May or June. The occurrence of the low point varies more widely. It is found in August, September, October, and November, the latter being the most common.
As soon as the shortage season is over, the problem for the dealer immediately shifts. During the shortage period the dealer's problem is to provide himself with enough milk from regular shippers to take care of the market needs. Immediately after the shortage period, his problem becomes one of converting a large amount of surplus milk resulting from the seasonal increase in production into such channels as will bring the greatest return to himself and the producer. From the producer's standpoint, the problem is to produce that amount of milk during the various months of the year which will result in maximum net income for the year.

In the long time variation we find such factors entering in as size of herds, new producers in the field, changes in per capita consumption, and new uses. All of these items have been dealt with more or less by the producer organizations in their effort to regulate production. A number have been mostly interested in phases of the seasonal variation adjustment. Recently the government has particularly stressed adjustment of long time variation in the AAA program, which will be discussed in a later chapter.
PRODUCTION CONTROL AS A MEANS OF REGULATING MILK SURPLUS

There are two obvious means by which the dairy farmers may correct the distress in the milk business. One is the control of production so that it will more nearly meet the current demand and not place a huge surplus upon the market. The other remedy is to increase the per capita consumption of milk and milk products. There are, of course, a great number of angles from which each of these may be attacked. The various cooperatives of the milk producers and the government have in the past months put a great amount of effort into solving the milk production problem. A number of definite policies have evolved the success of which can only be determined in the future.

It has been variously estimated that a reduction of between 5 and 15 per cent would greatly improve the present dairy situation. It has also been recommended by the Bureau of Dairy Industry that such reduction in production could be made on a number of farms and show even a greater profit than that made at present through more efficient herd management, feeding, and breeding.24

The problems of both the dairying and the beef cattle industries differ considerably from those of the great

export agricultural industries such as wheat and cotton. The exports of dairy products and beef cattle products are not an appreciable factor. Producers of dairy and beef cattle products rely principally on the domestic market. Their income bears the closest relationship to domestic consumer purchasing power.

While a protective barrier of tariff walls has aided the dairy and cattle producers, nevertheless, this protection has proved to be a boomerang which reacted by encouraging the entrance into the dairying and beef cattle fields of a great number of farmers who were not enjoying a satisfactory income from export crops such as wheat and hogs. Under this stimulus dairy production has increased year after year. This is shown by the following figures giving the amount of milk produced in the United States:

<table>
<thead>
<tr>
<th>Year</th>
<th>Milk Production (in millions of pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1924</td>
<td>87,069</td>
</tr>
<tr>
<td>1925</td>
<td>88,375</td>
</tr>
<tr>
<td>1926</td>
<td>91,135</td>
</tr>
<tr>
<td>1927</td>
<td>93,047</td>
</tr>
<tr>
<td>1928</td>
<td>93,961</td>
</tr>
<tr>
<td>1929</td>
<td>99,736</td>
</tr>
<tr>
<td>1930</td>
<td>99,705</td>
</tr>
<tr>
<td>1931</td>
<td>101,970</td>
</tr>
<tr>
<td>1932</td>
<td>101,863</td>
</tr>
</tbody>
</table>

This favorable situation enjoyed by the milk producers ended abruptly in 1932; however, prices were falling in

25. Tariff on butter is 14 cents per lb.; milk, 6½ cents per gallon; cheese, 35 per cent—Exporters Encyclopedia, 1934.
1930 and 1931. The prices received in 1932 were in general below the cost of production. After other costs were paid the producers had practically nothing left for their labor. In New York the prices received for milk in January, 1933, amounted to little more than half the cost of production.\(^{26}\)

Despite these low prices of milk the per capita consumption of milk was also falling due to the reduced buying power of the consumer. It is difficult to raise prices in the face of a depressed consumer purchasing power unless production is checked by some means; otherwise the same situation arises as in the past, namely that of new producers coming into the market to benefit by these prices. The government found out through its eleven million stabilization fund for buying surplus butter in 1933 that its attempts to raise butter prices in advance of improvement in consumer purchasing power and without any check on production was non-availing for the reason that immediately there was a quick upturn in butter production with consequent collapse of butterfat prices.

The fundamental place of supply and demand in the determination of market value must be recognized in any discussion of the matter of prices. In general there have been four economic viewpoints which have affected production and consumption of farm products.

\(^{26}\) Report of New York Legislative Committee, April 10, 1933.
These viewpoints are as follow:

1. High prices tend to increase production and to decrease consumption.

2. Low prices tend to increase consumption and to decrease production.

3. The most effective remedy for high prices is high prices.

4. The most effective remedy for low prices is low prices.

The foregoing ideas are tempered, of course, by the general consumer purchasing power mentioned above. No matter what more or less artificial measures may be employed to restrict the normal operation of these economic tendencies and thereby to stimulate higher prices of the commodity in question, the results must be temporary if the farmer persists in a large volume of production. For in this connection another economic principle applies, namely the law of diminishing utility, which means that our desire for additional units of a commodity diminishes as more and more numbers of units become available for consumption.

There are a number of factors which enter into consumer demand. A study was made in Philadelphia by several joint agencies in the year 1924, and the following factors were found to enter into the demand: financial ability of the family, race and nationality, effect of seasons, effect of advertising, and number and age of children in the family. The effect of race and nationality is well shown in the case of Los Angeles where the per capita consumption is
only .53 pints per day due to the fact that there is a large number of Mexicans and Negroes who do not use very much milk in their daily ration.

All dairymen produce milk, but it is often difficult to determine on what basis it must be sold. Is it more profitable to sell whole milk, sweet cream, sour cream, butter or cheese? Should the milk be sold to a distributor or should the dairymen retail it himself? To answer these questions is a matter of difficulty for the reasons that the market demand for fluid milk is irregular depending upon a number of factors mentioned above and also upon actual production factors such as effect of weather and the profits in other types of farming.

The fluid milk industry is affected by factors of instability peculiar to itself which call for special methods of control. Under the best practicable adjustment of supply to demand the industry must carry a surplus of about 20 per cent because milk, an essential food, must be available as demanded by consumers every day, and demand and supply vary from day to day and according to the season; but milk is perishable and cannot be stored. Close adjustment of supply to demand is hindered by several factors difficult to control. Thus surplus milk presents a serious problem as the prices which can be realized for it are much less than those obtainable for milk used for fluid consumption or as cream. A satisfactory stabilization of prices for fluid milk
requires that the burden of surplus milk be equally shared by all producers and all distributors in the milk shed. So long as the surplus burden is unequally shared the pressure of the market surplus in fluid form will be a serious disturbing factor.

The fact that the larger distributors find it frequently necessary to carry large quantities of surplus milk, while the smaller distributors do not, leads to price cutting and other forms of destructive competition. Smaller distributors who take no responsibility for the surplus by purchasing their milk at the blended prices or average price of fluid and surplus milk thus frequently force the larger distributor to meet his competition which is, of course, detrimental to the producer who is seeking higher prices for his milk. This difference in price between milk for fluid consumption and different surplus uses is illustrated by the following table which shows the prices of each hundred weight of 3.5 per cent milk fixed by the New York State Milk Control Board for the month of December, 1933, in 201-210 miles zone.

<table>
<thead>
<tr>
<th>Class</th>
<th>Price</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$2.305</td>
<td>Retail and Wholesale fluid milk</td>
</tr>
<tr>
<td>2A</td>
<td>1.55</td>
<td>Retail and Wholesale fluid cream</td>
</tr>
<tr>
<td>2B</td>
<td>1.75</td>
<td>Milk for condensing</td>
</tr>
<tr>
<td>2C</td>
<td>1.45</td>
<td>Milk for ice cream, New York City</td>
</tr>
<tr>
<td>2D</td>
<td>.70</td>
<td>Milk for ice cream outside New York City</td>
</tr>
<tr>
<td>2E</td>
<td>.70</td>
<td>Milk for cream cheese</td>
</tr>
<tr>
<td>3</td>
<td>1.14</td>
<td>Milk for evaporated use</td>
</tr>
<tr>
<td>4A</td>
<td>.65</td>
<td>Milk for butter</td>
</tr>
<tr>
<td>4B</td>
<td>.705</td>
<td>Milk for American cheese</td>
</tr>
</tbody>
</table>
The prices of classes 2A and 2B are set by the Milk Control Board. Class 3 is based on Western Condensery price. Class 4A is based on butter in the New York market while 4B is on cheese price. Classes 2D and 2E are set at five cents above class 4A. Usually the cooperative producer association supplying the district allots the amount which each member may have as a base amount to get fluid milk prices, the balance going in at the surplus prices. Sometimes this causes a discrimination. For example, two farmers living in the same neighborhood may be producing milk for sale. One is selling to a city distributor and is getting a good portion of his milk in as fluid milk; the other may be selling to a condensery or a cheese factory. The one may then be getting twice as much for his milk as the other. Such situations arise and result in disturbance in the milk producing sections.

It is quite possible to follow the plans of the economists who are studying the farm land situation and who have advocated the abandonment of the marginal and sub-marginal lands. The heedless development of land resources of the country in the past has caused a great deal of the agricultural depression. Likewise the practice of dairy farmers in building up their herds has caused much of the present milk surplus. A policy of culling out the low producing cows in each herd has been advocated by a number of the leading dairy economists in the country. The Hoards
Dairyman Plan which is being advocated by the 'Hoards Dairyman', one of the leading dairy magazines, is based upon two assumptions: first, that controlled production will influence market price; second, that the Federal Government will appropriate funds to help agriculture. Accordingly, they advocate the curbing of dairy production by eliminating low producing cows. "Cows that produce milk at a loss not only drag their owners to ruin, but in addition they dump their profitless milk and butterfat on the national market causing great surplusage." It is recommended that 25 per cent of these low producers be eliminated by state and federal indemnity, and the administration of this program be handled by present cow-testing staffs of agricultural colleges.  

The number of cows in this country has increased considerably in the last few years, as shown by the following table:

<table>
<thead>
<tr>
<th></th>
<th>Cows</th>
<th>Heifers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1931</td>
<td>23,576</td>
<td>4,775</td>
</tr>
<tr>
<td>1932</td>
<td>24,469</td>
<td>4,685</td>
</tr>
<tr>
<td>1933</td>
<td>25,136</td>
<td>4,641</td>
</tr>
</tbody>
</table>

The increase in this period has been large but there is one encouraging factor. The number of heifers which had been advancing up to 1931 has shown a tendency to decrease since then, indicating a probable gradual decline in 1934 and 1935. It is a natural human tendency to raise too many

heifers when prices of cows are high and too few when the prices of cows are low. A period of favorable prices for milk leads to the raising of more than the usual number of heifers, but it is not until seven or eight years later that the trend is reversed as a result of the falling prices of milk and cows.

Studies year after year of the records of production, feed cost, and the income in individual herds in dairy herd improvement associations have indicated the wisdom of keeping accurate records and of constantly culling on the basis of such records to improve the efficiency of the herd. These records furnish numerous examples of herds in which culling has resulted in greater net returns from the herd, even though the size of the herd and the total quantity of milk is reduced as a result. Eliminating the lowest producing 10 per cent of all milk cows in the country would reduce total production by about 5 per cent and eliminating the lowest producing 20 per cent would reduce production about twelve per cent.29

There is no doubt that this recommendation if carried out would be of great benefit in cutting the milk surplus at its source. However, the program has some defects in that it would probably be somewhat difficult to administer. Where farmers have been members of herd improvement associa-

tions and have records of their cows it would not be so difficult to select the submarginal animals. However, a great number of dairy farmers do not keep records and no doubt there would be some difficulty in selecting the low producers.

It would be possible also on many individual dairy farms to produce a smaller quantity of milk and at a greater profit by changing the farming and feeding system to one in which most of the land would be kept in permanent pastures and legumes, and very little, if any, grain would be fed. The pastures and the roughage would be the basal ration, and the grain would be fed only when the resulting increase in production could be obtained at a profit. When prices for milk and butterfat were low, more dependence would be put on the roughage ration with a lower but more profitable production. Usually the cost of producing the necessary feed nutrients in the form of roughage is so much less than in the form of grain that the dairy farmer who grows all the feed for his cows will make more money if he grows and feeds it in the form of roughage. The lower cost of producing and feeding a roughage ration will more than offset the lower milk yield, especially when prices for dairy products are low.30

Another plan which has found favor is that of eliminating the diseased cattle, the government to take them in

on a somewhat similar plan as the above-mentioned plan of culling low producers. There are a large number of cows which are effected with tuberculosis and Bangs disease. The elimination of these animals would be very beneficial as a health measure as well in its effect upon production. This plan would have to be ancillary to other production control measures since the application of this program alone would not be sufficient. The government has estimated that there are some 600,000 cows which react to the tuberculosis test. If all of these were eliminated immediately it would have little effect upon total milk production since this is only a small per cent of all the cows in the country. However, if other cow diseases are included, such as Bangs disease, this percentage might be sufficient to effect total milk production. Early last year the Bureau of Dairy Industry requested all states to furnish information on why cows were culled. Twenty states reported on more than 30,000 culls and gave the reasons for discarding them. There were five principal reasons: low production, udder trouble, sterility, abortion, and tuberculosis. There is also the same objection to a program of culling diseased cows as in the case of culling low producers in that the plan will be somewhat difficult to carry out.

The dairy specialists in the AAA have been somewhat uncertain in the past as to the best way in which a reduction program would be carried out. They have favored
the making of voluntary contracts with individual producers to sell less milk, less butterfat, than they have been selling during the base period, leaving it to the discretion of the individual producer to decide how he will bring about the reduction. The producers may then proceed to cull out low producers or eliminate diseased cattle; if they do not wish to make quite such drastic cuts, they may change their feeding methods, feeding less intensively. Some may not milk their cows through the longer lactation periods. Of course, the dairy production specialists have in mind to assist the farmers by intensive educational campaign to decide individually what will be the best and most economical way for them to bring about this reduction. The AAA is also favorable to speeding up tuberculosis eradication and the study of other diseases which may affect cows.

According to A. H. Lauterbach, Washington, Chairman of the Dairy Section of AAA, the Federal Government had planned to pay approximately $165,000,000 under the AAA program in benefits in one year to producers of dairy products who agree to reduce milk sales from 10 per cent to 20 per cent below their sales averages of 1932 and 1933. Payments would be made on the basis of forty cents for each pound of butterfat by which sales are reduced, averaging about $1.50 for each hundred pounds of surplus milk held off the market.31

31. Speech before meeting of milk producers--Hotel Severin, Indianapolis, April 3, 1934.
Under such a program, which would be in effect one year, part of the federal benefits would be paid at the signing of the contracts; a second installment would be paid six months later and the rest at the end of the year. The plan would be open to all farmers. If placed in operation it is expected to benefit the farmers by raising the price of butterfat through diminished production and also by the saving in feed costs.

In order to finance this farm allotment proposal the AAA proposed a processing tax on all butterfat and milk and its products and a compensatory tax on oleomargarine. The rate on the processing tax would eventually reach five cents or more per pound of butterfat in all milk and its products with a compensatory tax on oleomargarine equivalent to a tax rate on butter. A three year base period, with individual production of butterfat for 1931, 1932, and 1933, established for each farmer was contemplated.

This plan has much merit. However, there are some objections which have been advanced by some of the farm groups. A number of cooperative groups argue that they have already reduced production and since they have been operating under reduced quotas for some time they would be penalized by a selection of a base allotment equivalent to their 1932-1933 deliveries. They say that those outside their association have not decreased but have in some cases actually increased...
their production. These people accordingly would have a greater allotment base and would benefit more from the plan. Other opponents of the plan agree that this program deals with the surplus but it might mean the policing of many millions of farmers who are producing milk to see that they comply with regulations.

According to O. M. Reed, Agricultural Economist, Department of Agriculture, Washington, D. C., the plan advanced by Mr. Glover of the Hoards Dairyman and previously mentioned has been considered by the AAA but is not workable under the present act since the Hoards Dairyman plan requires an appropriation and the AAA does not provide for any such measure other than the loan which it will advance to farmers cutting their production and will be returned to the AAA in the form of a processing tax. Mr. Reed also stated that the matter of culling cows would be difficult and since it is not advisable to cull cows under the age of seven years, it is a difficult matter to check the age of these animals. If cows under seven should be extensively culled out it may mean that in the future if consumption should increase and there should be a need for milk producing cows, a serious shortage of this kind of cow might develop.

Secretary of Agricultural Wallace has also suggested that a plan may be evolved to move dairy cows from the dairying sections in the North to the million or more farmers in the South and other sections that have no dairy cows
at all. A plan of that sort would involve three-way coop-
eration of the Agricultural Adjustment Administration, the
Federal Emergency Relief Administration, and the Extension
Service, and certain agencies that would look after these
cows when they were moved to these other parts.

Another plan has been advanced by the University of
Missouri which calls for the increasing of butterfat in
milk and cream, ice cream, cheese, and butter. The pro-
posal is to raise the butterfat content of milk .2 of one
per cent and cream 2 per cent above prevailing standards.
Ice cream, cheese, and butter would also have their butte-
fat content raised 2 per cent. This move would result in
the additional use, it is contended, of 72,000,000 pounds
of butterfat in fluid milk, and 200,000,000 pounds in all
dairy products.32

Of the total milk produced in this country about 44
per cent goes into butter. Consequently, a great deal of
the butterfat surplus is in this form. During the last
year the government has purchased large amounts of this
commodity which was distributed as poor relief. It was
their hope that by doing this they could appreciably cut
the storage holdings of butter. However, manufacturing
has continued at such a rate as to offset any effect upon
the surplus holdings.

32. Milk Dealer, Jan., 1934.
Until February 1, 1934, of the 76,051,000 pounds of creamery butter held in storage, a total of 25,126,948 pounds belonged to the United States government awaiting distribution by the Federal Surplus Relief Corporation. The government's total purchases to this date totaled 48,445,340 pounds with contracts outstanding for 600,000 pounds for immediate delivery. Proposed bids also amounted to 12,186,400 which would bring the total purchases up to 61,231,740 pounds. 33

In examining storage records we find that on January 1, 1934, there was 40.4 per cent more total storage than at the same time in 1933. Butter storage of the first five months in 1933 gave no indication of overproduction and the production of butter for the first six months was practically the same as the previous year. It was during the last half when the government was buying huge stocks of surplus butter that butter production jumped 50 million pounds over the previous year and consumption dropped sufficiently to provide an excess of 89 million pounds of butter in storage on January 1, 1934, as compared with the same date last year. 34 Perhaps other economic influences entered into this period; however, the great changes occurring simultaneously with government purchases of butter indicate that purchases of surplus stocks are not satisfactory unless

some means of curbing production is united with the purchasing policy.

The government has also purchased considerable cheese for relief purposes. While this has not greatly affected production, it has served to stimulate interest in this business. The government has through the Bureau of Dairy Industry developed and introduced a method of canning cheese, spring vents being in each can to allow gases to escape from the ripening cheese without permitting air to enter. With such a stimulation, no doubt increased general consumption of this commodity can be brought about which will, of course, reduce the milk surplus.
INCREASING CONSUMPTION OF MILK AND MILK PRODUCTS AS A MEANS OF DECREASING SURPLUSES

Due to all of this activity by economists and the government toward production control some meritorious plans will probably evolve; however, there remains another important item to be dealt with and that is the increasing of consumer demand. A number of cooperatives and dairy groups have made some progress in this field; however, the producer individually has in general been lax. There are, of course, some exceptions in those groups which have consented to have definite amounts set aside out of their milk checks each time to go into a fund for advertising and publicity.

H. C. Sherman of Columbia University has stated that the optimum milk consumption of children from ages three to thirteen years should be one quart per day in order that the maximum benefit be derived from the chemical and vitamin content of the milk.35 The average daily consumption of fluid milk per capita in the whole of the United States is approximately one pint per day. This varies in different parts of the country. In Los Angeles in 1930, it was but .53 pints per day. A survey by sections in 1928

revealed the following consumption:

<table>
<thead>
<tr>
<th>Region</th>
<th>Per Capita Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic States</td>
<td>0.9889 pints</td>
</tr>
<tr>
<td>Central States</td>
<td>1.0389 &quot;</td>
</tr>
<tr>
<td>Southern States</td>
<td>0.6113 &quot;</td>
</tr>
<tr>
<td>Western States</td>
<td>0.9767 &quot;</td>
</tr>
<tr>
<td>United States</td>
<td>0.9670 &quot;</td>
</tr>
</tbody>
</table>

The per capita annual consumption of all dairy products in the United States in total milk equivalent fell from 1,003 pounds in 1929 to 894 pounds in 1933, according to Loomis Purtle Dairy Service, which was a decline of 109 pounds. Milk and cream used, measured in milk equivalent, dropped from 87.1 gallons in 1929 to 53.1 gallons in 1933; cheese, from 4.62 pounds to 4.15 pounds; condensed milk, from 2.75 pounds to 1.57 pounds; evaporated milk, from 13.83 pounds to 12.51 pounds; and ice cream, from 3.0 pounds to 1.96 pounds. There was an increase in butter consumption from 17.28 pounds in 1929 to 17.40 pounds in 1933. All kinds of cheese except cottage and both farm and factory butter are included.

This decline of from 10 to 15 per cent in the per capita consumption of milk and cream in important fluid milk markets of the country during the past few years may be due in a large part to the decline of consumer purchasing power and a lesser decline in the retail prices of milk and milk products. This is evidenced by data presented by Dr. R. W. Bartlett of the Department of Agricultural Economics of the University of Illinois in a talk before the

Dr. Bartlett presented data to show the important relation between wage levels or the consumer's buying power and the sales of market milk. A recent survey of the principal cities in Illinois shows the average payrolls for the State for the last six months of 1933 to be 42 per cent of the 1928 level. Of the cities studied, Moline had the lowest at 21 per cent and Peoria had the highest at 77 per cent. The Chicago average was 40 per cent.

Dr. Bartlett presented data showing the average per capita consumption of milk in Boston in 1932 to be 0.84 pints; New York, 0.76 pint; and Philadelphia, 0.57 pint. This marked difference in consumption was explained as a result of lower retail prices for milk in Boston and New York. It is Dr. Bartlett's belief that the chain stores handling milk in Boston and New York at lower prices than that charged on the retail wagons has had a tendency to keep down retail prices of milk and more in line with consumer's purchasing power which in turn has resulted in a higher per capita milk consumption at both New York and Boston than at Philadelphia.

The fact that the consumption of milk and its products in many of the other leading countries of the world exceeds that of the United States by a large percentage reveals the possibilities of increasing the normal consumption of milk and milk products in this country.

37. Allerton Hotel, Chicago, Ill., Dec. 12, 1933.
## Consumption of Milk

<table>
<thead>
<tr>
<th>Country</th>
<th>Year estimated</th>
<th>Amount consumed per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>1928</td>
<td>83.9 gallons</td>
</tr>
<tr>
<td>Switzerland</td>
<td>1927</td>
<td>70.4</td>
</tr>
<tr>
<td>Sweden</td>
<td>1927</td>
<td>68.7</td>
</tr>
<tr>
<td>Norway</td>
<td>1926</td>
<td>56.0</td>
</tr>
<tr>
<td>United States</td>
<td>1926</td>
<td>55.3</td>
</tr>
<tr>
<td>Canada</td>
<td>1927</td>
<td>51.0</td>
</tr>
<tr>
<td>Czechoslovakia</td>
<td>1926</td>
<td>45.8</td>
</tr>
<tr>
<td>Austria</td>
<td>1925</td>
<td>45.0</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1927</td>
<td>42.7</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1927</td>
<td>37.4</td>
</tr>
</tbody>
</table>

## Consumption of Butter

<table>
<thead>
<tr>
<th>Country</th>
<th>Year estimated</th>
<th>Amount consumed per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Zealand</td>
<td>1928</td>
<td>34.1 pounds</td>
</tr>
<tr>
<td>Australia</td>
<td>1928</td>
<td>29.8</td>
</tr>
<tr>
<td>Canada</td>
<td>1928</td>
<td>29.3</td>
</tr>
<tr>
<td>Finland</td>
<td>1927</td>
<td>20.7</td>
</tr>
<tr>
<td>Germany</td>
<td>1926</td>
<td>19.7</td>
</tr>
<tr>
<td>Sweden</td>
<td>1926</td>
<td>18.6</td>
</tr>
<tr>
<td>United States</td>
<td>1926</td>
<td>17.5</td>
</tr>
<tr>
<td>Great Britain</td>
<td>1927</td>
<td>16.0</td>
</tr>
<tr>
<td>Switzerland</td>
<td>1925</td>
<td>15.0</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1927</td>
<td>12.6</td>
</tr>
</tbody>
</table>

## Consumption of Cheese

<table>
<thead>
<tr>
<th>Country</th>
<th>Year estimated</th>
<th>Amount consumed per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>1928</td>
<td>24.0 pounds</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1923</td>
<td>15.5</td>
</tr>
<tr>
<td>Italy</td>
<td>1928</td>
<td>12.1</td>
</tr>
<tr>
<td>Norway</td>
<td>1925</td>
<td>10.7</td>
</tr>
<tr>
<td>Germany</td>
<td>1926</td>
<td>10.6</td>
</tr>
<tr>
<td>France</td>
<td>1927</td>
<td>10.5</td>
</tr>
<tr>
<td>Great Britain</td>
<td>1927</td>
<td>10.0</td>
</tr>
<tr>
<td>Denmark</td>
<td>1927</td>
<td>10.0</td>
</tr>
<tr>
<td>Sweden</td>
<td>1926</td>
<td>8.3</td>
</tr>
<tr>
<td>Austria</td>
<td>1926</td>
<td>6.1</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1926</td>
<td>5.7</td>
</tr>
<tr>
<td>United States</td>
<td>1926</td>
<td>4.1</td>
</tr>
</tbody>
</table>

From T. R. Pirtle  
Supplement to Handbook of Dairy Statistics  
United States Bureau of Agricultural Economics  
April, 1930.
If each person under nineteen years of age should receive a quart of milk per day and those over nineteen years should receive a pint per day, assuming there is roughly 125,000,000 population and 40 per cent are over nineteen, this would amount to an increase in consumption of over 15 per cent and would require a total of approximately 2 billion gallons of fluid milk yearly. Not only would this help solve the surplus problem, but it would give the farmers a great increase in revenue since prices for fluid milk are considerably higher than surplus prices.

An increased consumer demand must necessarily be brought about by proper advertising and publicity. Milk producers may well emulate the efforts of the California Orange Growers Associations who have greatly stimulated the consumption of oranges through this medium. Practically every important magazine in this country proclaims the benefits to be derived from drinking orange juice. The nutritive and vitamin benefits are constantly before the public eye and have resulted in a profitable business for these growers. Milk is also a nutritive food and drink and no unnecessary 'puffing' would have to be put into its publicity.

The farmers, however, have neglected advertising. The psychology of the farmer has been in the past that he has assumed as a matter of course that he should receive cash for his product as soon as it is delivered to the
station and the other fellow should assume the burden of going out into the market to find the customers.

Milk distributors and manufacturers of butter, cheese, ice cream, and other dairy products, together with a few of the cooperative producers groups and some retailers who sell their goods over the counter, have been largely responsible for bringing to the attention of the public the remarkable food qualities of dairy products and for building up a large consumer trade. Much has been done by the unified support of the National Dairy Council and other such organizations which have carried educational programs into schools, women's clubs, and public expositions.

In only a few cases has the farmer had any concerted effort to create consumer demand for his product or make a voluntary contribution to a common fund to help acquaint the public with the nutritive values of dairy products.

Farmers are naturally skeptical when it comes to investing money in something which does not bring immediate and tangible results; however, no one can dispute the merits of advertising when such is properly and thoroughly done. The food habits of the country have been changed by the Orange Growers who made the orange an article of accepted diet instead of a luxury.

Participation of producers in advertising campaigns has proved successful in several instances. Farmer members of the Milwaukee Dairy Council contribute one-half cent for
each 100 pounds of milk sold, and the distributor members of the council make a similar contribution to a common fund. This money is spent in newspaper advertising, and a worker is kept in the Milwaukee schools to advance the merits of milk. Fourteen hundred New Hampshire and Vermont dairymen members of the Bellows Falls Coop Creamery have cooperated with the chain store which markets their milk in an extensive advertising campaign.\(^3^8\)

The American Dairy Foundation, which was recently organized for the dairy industry, has been very active in helping to solve some of the problems of the industry. The basic personnel consists of approximately one hundred founders, who are key men in the several branches of the dairy industry. Others throughout the industry are becoming members and are securing the services of the Foundation. The general program consists of these activities: research through their laboratory and kitchen and field work among consumers; statistics, such as will assist and help guide dairy executives in their decisions; and good will publicity.

The specific and immediate program of the Foundation consists of:

1. Collecting and disseminating statistical information in graphic form once each month.
2. Collecting and disseminating market information once each month.

\(^3^8\) Hoard's Dairyman, Feb. 10, 1934.
3. Issuing special reports on such subjects as Vitamin D Milk and other timely material requiring research.

4. Conducting experiments along distribution lines. Among these will be an experiment to prove that milk is normalizing and not a fat producing food; and another, to disprove the prevalent idea that it is very undesirable to use milk in combination with certain other foods such as fish.

5. New recipes will be created and others tested in the research kitchen.

6. The laboratory will be used to test and approve new products that will be developed for the dairy industry.39

At present the Dairy Foundation is preparing a full report on vitamin "D" milk which is one of the important questions in the minds of the industry. This milk is derived as a result of a process of irradiation enlarging its vitamin "D" value. The irradiation of milk is essentially the application of certain rays of light to flowing milk films, and thereby is brought a change which makes certain of the constituents of the milk more usable for body nutrition. The curative effects of the administration of vitamin "D" are intimately associated with the essential bone elements calcium and phosphorus which are ingredients of milk. It is thought that with milk thus treated, new demands and new consumers may be reached.

Another agency which has done a great amount of promotion in the milk industry is the Milk Research Council of the New York and New Jersey metropolitan area. This organization has distributed since 1931, 46,196,940 pieces 39. Milk Plant Monthly, March, 1934, p. 50.
of literature, of which 26,954,500 were distributed through schools, 7,093,000 to general consumers through the New York and New Jersey Departments of Agriculture, and 12,149,440 leaflets and booklets through special economy and health projects.

In addition, the Milk Research Council made 607 radio broadcasts over 25 radio stations all of which were secured without cost to the industry and 448 signed newspaper articles published in 1,864 newspapers having 18,879,486 readers. All of this promotion work carried on in a territory having a population of approximately 11,000,000, or about nine percent of the total population of the United States, was done at a cost for the three years of $325,000 or slightly less than three cents per person. Since the adoption of the Marketing Agreement the council is financially supported by the entire industry, the producers as well as the distributors. Other producer and distributor groups in various parts of the country might well copy the methods used by this group.

In order that the public be educated to consume more milk daily, new forms of fluid milk may be experimented with. There are some people who do not like the natural flavor of milk. The demand of these individuals may be reached through chocolate flavored milk or similar products which are variations of fluid milk.

40. Milk Dealer, Feb., 1934, p.76.
Experiments may reveal other by-products of milk which will act as an outlet for surplus milk. Recently the Bureau of Dairy Industry tested packages of dry skim milk which were to be marketed in grocery stores. The tests revealed that the new packages protected dry skim milk for periods as long as three weeks. This should increase its market demand for use by housewives, since previously it was difficult to prevent spoilage due to improper packages.
An interesting phase of the milk business is the growing tendency to consider this business as a public utility. Oregon has been the first state in the United States to definitely enact milk laws calling this business a public utility. However, there are several states which have enacted price fixing laws which are perhaps not strictly public utility laws according to the Supreme Court's interpretation; nevertheless, they are very similar to Oregon's law and to those of the Province of Manitoba, Canada, which has classified milk as a public utility for some time and has had a great deal of success in so treating this business.

The Oregon law states that the milk business is a public utility and subject to strict regulation in the public interest. The governor has appointed a milk commission of three men. This commission has been granted the widest sort of regulatory powers under the act. The chief of these regulatory powers are to license all dealers and distributors in milk and to fix minimum prices for its sale in fluid form, to arbitrate any milk disputes, and to examine the records of any and all milk dealers. Also, under this law the state milk commission has power to regulate supplies and distribution of milk as a means of promoting the best interests of producers, consumers, and distributors.
At the present time New York, Connecticut, Florida, Ohio, New Jersey, Vermont, Wisconsin, and Pennsylvania have state control boards with virtually 'public utility powers.' It is significant that the nationally famous case of Leo Nebbia Appt. vs People of the State of New York, decided by the Supreme Court of the United States, involves just this question in point: "Does the milk business involve such a public interest and concern that a state may control it to the extent of fixing retail prices and regulating it along the lines of a public utility?" This case is perhaps best known for the reason that in it the Supreme Court recognizes the changing economic order and that while normally the use of property and the making of contracts are matters of private concern with which the government does not interfere, nevertheless, property rights are not absolute. Citizens may not conduct their business so as to inflict injury upon the public or any substantial group. While the case decides such general facts, yet looking at it from only the point of view of the milk business, it reveals much as to the possibilities of this type of regulation.

One of the most recent states to adopt a state milk control board is Pennsylvania. In this state the board is composed of three members who regulate the production and marketing of milk and dairy products. The board has the power to fix milk prices and the additional powers:

* Leo Nebbia was convicted of violating the New York Milk Control Act fixing the retail price at 9 cents per quart. Nebbia sold two quarts of milk and a loaf of bread for 18 cents. U. S. Supreme Court Decisions, Vol. 78, No.9.
1. Supervise and regulate all phases of the milk industry including production, transportation, manufacture, processing, storage, distribution, delivery, and sale of milk and milk products in Pennsylvania.

2. Establish reasonable trade practices and systems of production control.

3. License milk dealers with fees ranging from $1.00 to $2,500.00 a year, depending upon the daily poundage of milk sold.

4. Revoke the license of dealers who violate the act.

5. Forbid the sale of milk purchased outside the state of Pennsylvania at prices lower than the dealer would be required to pay if purchased in Pennsylvania.

6. Compel production of books and the filing of reports by the dealers.

Wide powers are conferred upon the board including the power of subpoena and imposition of penalties for contempt upon persons refusing to testify or produce records.

While dealers and stores come under jurisdiction of the board, the only milk upon which the board cannot fix the retail price is that sold by stores for consumption on the premises. This exception prevents the board from dictating the price which restaurants and soda fountains must charge for the fluid when consumed as a beverage.

Dealers whose transactions involve less than 3,000 pounds of milk a month may be exempted from the license. So may dealers whose sales are restricted to local consumption or in markets of less than 1,000 population. Stores also may be exempted; but, like the foregoing classes of dealers, they are bound by other provisions of the law.

41. Milk Dealer, Feb., 1934, p. 53.
even if a license is not required.

There has hardly been time to observe the success of these regulations which have been put into effect in this country; however, in Winnipeg, Province of Manitoba, Canada, such a policy of control has existed sufficiently long to indicate the success of the venture. In this province they have declared "any plant, premises, equipment, service, or organization for the production, handling, bottling, furnishing, delivery, keeping for sale or the sale of milk including products thereof in a liquid form" to be a public utility.—Statutes of Manitoba, Chapter 30, 'An Act to Amend the Municipal and Public Utility Board.'

To correctly analyze the success of such control in this province, it might be well to examine the conditions which existed prior to and led up to this enactment. Until 1931, the Winnipeg milk situation had not had any serious difficulties. Distributors and producers had been working together in a fairly harmonious manner, and the simplest form of basic surplus price plans had been mutually acceptable. Apart from summer and winter changes, the prices were unusually stable over this period of time. However, new milk producers and distributors entered the market at about this time. There were no city milk ordinances which would exclude anyone from shipping milk to a pasteurizing plant. Chain stores selected three new distributors and started a pasteurizing plant. They thus
avoided the surplus problem, and they could say that they paid the highest prices to the farmers and sold at the lowest prices to the consumers. Milk prices fell from $1.75 per hundred weight to less than $1.00 to producers and the retail prices fell from 10 to 5 cents per quart. Shortly after this disruption the Producers Association asked the Cooperative Marketing Board of the Province to study the milk problem; accordingly, the legislature in May, 1932, declared the milk distribution to be a public utility.

The Municipal and Public Utility Board has power to define areas, give authority and fix conditions and terms for milk sold, stored, or handled in these areas; also, to classify milk producers and distributors. They may establish rate schedules and they may refuse to license if public health or convenience requires it. The Board may take jurisdiction upon its own initiative or upon complaint in writing.

The Board attempted conciliation shortly after the enactment of this law, but they were compelled to act. While this public control of milk in Winnipeg has been largely in the experimental stages, it has been successful in dealing with the milk situation. The distributors, producers, and the public have cooperated with and supported the Board in its rulings.

The question arose in this district, "What will become of the producers cooperative associations?"
general consensus of opinion is that they should not lose their function. The Utility Board should have two sides to every question before it; hence, such a producers organization might serve the purposes: first, to maintain contact among the individual members; and second, to appear as litigants representing one side. In the Winnipeg situation the geographical and artificial boundaries of the milk shed have helped. Another fact which helped insure the success of this public control policy was that the men appointed as inspectors and to assist in carrying out the powers of the act were capable and familiar with the needs of the milk industry. The Board accepted the principle that their price fixing powers should be exercised only when producers and distributors fail to agree and when the failure to agree endangers the milk supply.42

Whether a law of this type would be constitutional in the United States is conjectural. The United States Supreme Court has defined a public utility as a business in which the public is affected with an interest in which interest some regulation on the public's behalf is justified due to the fact that the control performed by competition is lacking.

Recently the Supreme Court denied the attempt of the

State of Oklahoma to make the ice making business a public utility in the following words, "It is our conclusion that while ice is an essential commodity, there is both potential and actual competition in such business sufficient to afford adequate protection to the public from arbitrary treatment and excessive prices." Justice Brandeis dissented and pointed out the difference in the present economic crisis and those of the past.43 If then we were compelled to use the above case as our authority it is doubtful if the milk business in the United States could be declared a public utility; however, the opinion in the case of Leo Nebbia Appt. vs. The People of the State of New York has indicated that the Supreme Court has a somewhat different attitude towards milk.

The State Milk Control Boards in the above mentioned states certainly have as much or more control over the milk industry as the Utilities Board in the Province of Manitoba; however, they do not in general restrict production or create monopolies which seems to be the distinction in this country in order to place the business in the same category as a public utility.

In the State of New York the prices received by the farmers for their milk during the year 1932 were considerably below the cost of production. The decline in milk

prices during 1931 to 1932 was in general greater than the decline in other commodities. The situation of the dairy producer was desperate and called for some sort of state aid.

On March 10, 1932, the senate and assembly created a joint committee to investigate the causes of decline in milk prices and the resultant effect of the low prices upon the dairy industry and the future supply of milk to the cities of the State. After an exhaustive investigation, the legislature passed the Milk Control Act. The reasons for the enactment are set forth in the first section, the most important reasons being: "that unhealthful, unfair, unjust, destructive, demoralizing, and uneconomic trade practices exist in the production, distribution, and sale of milk and milk products whereby the dairy industry in the state and the constant supply of pure milk to the inhabitants of the state are imperiled: These conditions are a menace to the public health, welfare, and reasonable comfort; the production and the distribution of milk is a paramount industry upon which the welfare of the state depends in a great measure: existing economic conditions have largely destroyed the purchasing power of milk producers for industrial products, have broken down the orderly production and marketing of milk and have seriously impaired the agricultural assets supporting the credit structure of the state and its local government subdivisions. The danger
to public health and welfare consequent upon these condi-
tions is declared to be immediate and to require public
supervision and control of the industry to enforce proper
standards of production, sanitation, and marketing."

The case of Nebbia vs. New York brought up for deci-
sion the question, "Does a state have the power to fix the
selling price of milk?" The Supreme Court decided that it
did.

Milk has long been subject to regulation; however,
most of the earlier restrictions aimed at health control.
Except in the case of railroads no business has been so
thoroughly regulated in New York. Public health regulation
was first enacted in 1862.44 Examining the laws subsequent
to this we find the industry subject to a large measure of
control. The farmer must submit to herd examination for
various diseases; he must observe certain rules in feeding
his cattle; the sanitary conditions of his premises must
be inspected as well as the milking utensils used. Records
must be kept, and numerous other regulations must be ob-
served. All of these measures, of course, have been in the
interest of the public so that it may readily be seen that
the milk business is one which must be considered as being
so affected.

The United States Supreme Court, in ruling that the
fixing of retail prices of milk did not violate the due

44. Laws of State of New York, Chapter 467.
process clause of the constitution, has said, "The argument runs that the public control of rates or prices is per se unreasonable and unconstitutional save as applied to business affected with a public interest; that a business so affected is one in which property is devoted to an enterprise of a sort which the public itself might undertake, or one whose owner relies on a public grant or franchise for the right to conduct the business, or in which he is bound to serve all who apply; in short, such as is commonly called a public utility. --- We may as well say at once that the dairy industry is not in the accepted sense of the phrase a public utility. We think the appellant is also right in asserting that there is in this case no suggestion of a monopoly or monopolistic practice. It goes without saying that those engaged in the business are in no way dependent upon public grants or franchises for the privilege of conducting their activities." The Supreme Court goes on to argue that a monopoly or franchise is not necessary for the regulation of certain businesses which are clothed with a public interest, citing the case of Munn vs Illinois\textsuperscript{45} in which the storage prices of grain elevators were set at a certain price in the public interest being upheld as a correct use of the police power of a state.

While the majority opinion in Nebbia vs. New York states

\textsuperscript{45} Munn vs. Illinois 94 U. S. 113.
that the milk regulations of the State of New York do not strictly regulate the milk business on the basis of it being a public utility for the reason that the element of monopoly is missing, nevertheless, there are some grounds that such price fixing amounts to a virtually public utility regulation in that it amounts to management and control.

Four of the Supreme Court Judges have voiced their opinion to this effect. Justice McReynolds in a dissenting opinion states, "Regulation to prevent recognized evils in business has long been upheld as permissible legislative action. But fixation of the price at which 'A' engaged in ordinary business may sell in order to enable 'B', a producer, to improve his condition has not been regarded as within legislative power. This is not regulation but management, control, dictation—it amounts to the deprivation of the fundamental right which one has to conduct his own affairs honestly and along customary lines. The argument advanced here would support general prescription of prices for farm products, groceries, shoes, clothing, all the necessities of modern civilization as well as labor, when some legislature finds and declares such action advisable and for the public good. This Court has declared that a state may not by legislative fiat convert a private business into a public utility."

In this country we now have one state which expressly calls their milk business a public utility and proposes to
regulate it as such. The question arises, "Will the Supreme Court permit such action if such should come before it in litigation?" In the Nebbia vs. New York case five of the Supreme Court Judges voted to uphold price fixing measures; however, they were not ready to admit that such measures were control that amounted to public utility regulation. The four dissenting judges treat the measure in the light of making the milk business a public utility. It is, of course, conjectural what the assenting judges in the above case would say if the matter of regulating the milk business as a public utility were placed squarely before them. Assuming no change from their attitude in Leo Nebbia Appt. vs. The People of the State of New York, one might be led to believe that they would go a bit further and permit such action.46

If sensible regulation were enacted, and experienced men were selected to administer milk public utility laws, no doubt much of the present distress in the business could be alleviated. The Province of Manitoba was rather successful in its venture along this line. Perhaps states in this country would have an equal success. There is, however, also the complexity of the milk business to be considered. The multitude of producers operating as cooperative societies

46. Four of the Supreme Court Judges were willing to call the ice industry a public utility... New State Ice Co. vs. Liebmann 285 U. S. 262, (1933).
and as independent producers would make such legislation difficult, especially if these producers would not cooperate with the government. No doubt, some decision will be made by a high court on this point.
Milk Production Control Under the Agricultural Adjustment Administration

The Agricultural Adjustment Administration was set up by Congress for the relief of the entire field of agriculture. A large part of its activities have been outside the dairy industry; however, the AAA has recognized the importance of this industry by certain projects completed and others which are proposed and now being discussed with the members of the dairy group.

The total investment in the dairy industry is estimated to be $1,800,000,000 and the cow owning farmers in this country total 4,000,000. The milk cow, in fact, has constituted the largest single unit of American agriculture and in 1932 returned to the farmer about one-fourth of his total income and even in the four depression years, 1929 to 1932, has yielded an average income of approximately $1,000,000,000 a year. The regulation of a business of this size in order to correct the evils of overproduction certainly becomes a difficult matter. Many farmers have entered the dairy field that formerly devoted their activities to other units. Dairymen helped this process by advertising the profits to be made from cows.

The number of cows in 1933 was about 26,000,000, an all time high 18 per cent greater than in 1928. Since 1931 there has been an increase of 1,500,000 cows in the
This shift to dairying was only logical to the farmer who saw his profits falling off in his other activities; and when corn sold as low as 10 cents per bushel, the farmer realized that he could get the equivalent of 60 cents per bushel by feeding it to milk cows. Milk production climbed from 87,000,000 pounds in 1924 to nearly 102,000,000 pounds in 1932. Manufactured milk products decreased 5 per cent in 1933. Cash income of the industry fell off to $985,000,000 in 1932.

Accordingly, as the first phase of regulation, the AAA set up a milk marketing agreement in Chicago on August 1, 1933. By December 1, 1933, thirteen others had been put into effect. These milk agreements which sought also to regulate retail price were in general ineffective and the AAA authorities cancelled all of them and set up new ones which regulated the price to the producer only.

The milk marketing agreements plus some buying of dairy products have been practically the only acts which have actually been carried out as relief measures by the AAA. However, a number of plans are being advanced and at the present time hearings are being held in the various parts of the country to get the reaction of producers to these plans.

The new plans call for a processing tax on butterfat to be gradually increased to 5 cents. No reduction of

output below present low winter month levels is planned, but cooperating farmers are to be asked to cut their sales from 10 to 20 per cent below their 1932-1933 averages. For each pound of butterfat reduced, the farmer would get a benefit payment of 40 cents; for each 100 pounds of surplus fluid milk reduced, the payment would be about $1.50. The AAA is planning to set up a bureau to inform the farmers as to the best methods of cutting their production.

The AAA also contemplates the appropriation of $5,000,000 to be used in buying healthy good producing cows in surplus regions to be distributed on easy credit terms to the areas where there are few or no milk cows. The 1930 census showed that about 1,500,000 of the nation's 6,000,000 farms had no cows.* About 68 per cent of the cowless farms are in the South where milk consumption has been below the United States average.

Another $5,000,000 is to be used to speed up eradication of bovine tuberculosis. It is estimated that there are about 600,000 tubercular cows in the country, and it would cost about $40,000,000 to eliminate all of them. States have already set aside about $9,000,000 for this purpose.

In eliminating the old marketing agreements and setting up the new ones, Secretary of Agriculture Wallace said, "Maintenance of high fixed retail prices to consumers even with the enforcement powers of the Administration has

* Each farm is in the estimate, regardless of common ownership in some cases.
proved impossible under such circumstances. The Administration, of course, has no interest in interfering with the fair retail price or reasonable profit of any distributor anywhere, but it will no longer use the powers under the Adjustment Act to relieve distributors of the forces of competition as they tend to correct unjustifiable profit-taking in milk. It will be the policy of the Administration when necessary to protect the producers' position in the market to provide low minimum prices below which milk may not be resold, and thereby cooperate with producers and distributors in preventing unfair trade practices. By maintaining fluid milk prices to farmers on a sound economic basis and in proper relationship with butterfat prices, it is anticipated that the primary cause of market demoralization will be removed. It should no longer be possible to use milk producers as a buffer in competitive price wars."

Among the important improvements under new licenses wither pending or in force, Secretary Wallace emphasized the following:

"First, perfection of a pool plan designed to assure farmers that they will be paid for milk sold to distributors according to the use for which consumers are charged. This is intended, he says, 'to abolish the practice followed by some distributors who pay for milk at low Class 2 or Class 3 prices while selling it in bottles at high Class 1 prices, pocketing the difference.'"

"Second, elimination of the practice of collecting farmers' freight charges on milk based on high schedules of L. C. L. (less than carload lot) railroad rates when the milk was actually
shipped in carload lots at much lower freight rates, or transported at less cost in tank cars and even still more cheaply in tank trucks.

"Third, reduction of country station charges for weighing, testing and cooling milk wherever such charges are not found to be commensurate with reasonable costs. These charges on some markets, he contends, have been unjustifiably high. This charge is being reduced from 22 cents to 16 cents per hundred pounds in the proposed new Philadelphia license.

"Fourth, elimination of terminal charges, where such charges still prevail, assessed against farmers by distributors on milk shipped to plants f.o.b., city. The administrators of the Agricultural Adjustment Act consider that such charges for handling milk are properly part of the distribution cost and should not be deducted from the farm price. In the proposed new milk license for Philadelphia this alone, if the license is accepted, will mean a saving to farmers of 6 cents per 100 pounds.

"Fifth, requirement that distributors prove by posting bonds or otherwise, their financial responsibility. This requirement is designed to eliminate a device, he points out, 'which in the past has been used by scattered, irresponsible distributors to cheat farmers by buying milk on extended credit and later failing to settle such accounts with farmers.' Each license also limits the extent of such credit by setting a date on which farmers must be paid for each month's milk."48

Among the new license provisions, Secretary Wallace described as most important the development of a complete market pool. This plan, in effect, pools all milk shipped into a city market. Distributing companies are required to pay for the milk according to the use made of it and according to the price schedule called for in the license.

The license further requires all distributors to pay the pool price to all regular producers in the market. Adjustments are made among the distributors so that all funds are accounted for. Each farmer is paid his proportionate share of the cash receipts from the sale of milk for fluid purposes and from the sale of milk for cream and manufacturing.

The Indianapolis license which went into effect on April 1, 1934, contains such a milk pool clause. The Indianapolis license established uniform prices payable to producers by distributors and a market plan that is a complete pool with blended prices to producers without any base and surplus system.

The consuming population of the Indianapolis area is about 422,000 and the volume of total milk purchases made by 31 distributors in January, 1934, totaled 11,311,000 pounds. Of this amount about 60 per cent was used for direct consumption and 40 per cent represented surplus above sales. About 5,600 milk producers supply the Indianapolis area. The number of producer-distributors is small and this problem is of little concern in comparison to its significance on some other markets.

The producer prices established in the license are in every case subject to a market standard of 4 per cent butterfat with differentials of 3 cents a point in the fat test a 100 pounds above or below the standard. These prices are: Class 1. Milk for consumption as whole milk, $1.85 a
100 pounds f.o.b. the distributor's plant in the city;
Class 2. Milk for direct consumption as cream, four times
the average 92 score butter quotation for the month, plus
30 per cent plus 20 cents a 100 pounds; Class 3. Milk used
for other than direct consumption, four times the 92 score
butter Chicago price for the month, plus 10 per cent.

The license requires distributors to make a complete
report to the market administrator on or before the fifth
day of every delivery period. These reports are to in­
clude actual deliveries and purchase prices from producers
or other distributors, and the amounts of milk used in the
various sale classes.

Producers may deliver milk to plants and platforms of
distributors by any method of transportation which they may
select, without discrimination by the distributor. Dis­
tributors are also required to submit verified reports on
actual transportation charges so the market administrator
may determine the reasonableness of them.

New producers are defined in the license as those whose
milk has been on the market for less than ninety days prior
to the effective date of the license. To such producers
whose milk is distributed in the sales area, the Class 3
price will be in effect for ninety days after the license
becomes effective on all the milk they deliver to the market.

A check off of 4 cents per 100 pounds will be deducted
from the milk supplied to the market by all producers. One cent of this fund will go to the office of the market administrator for cost of operation. The active cooperative producers associations doing business in the area will retain 3 cents per 100 pounds on milk supplied by their own members for rendering market services and obtaining market information.

The market administrator will deduct 3 cents from payments to non-members of any active producers' association with which to perform similar market services for them, or he may employ any agency he sees fit, providing its books and records are kept open for his examination when desired. Producer-distributors are also required to contribute one cent per 100 pounds on their sales to the market administrator's office. This Indianapolis agreement is along the general lines of a number of other licenses in the principal cities. In other parts, of course, prices vary for the different classifications. Also, some milk sheds have more complete classifications and use variations of the pooling method.

Many farmers in the past have complained that part of the milk for which they have been paid Class 2 and Class 3 rates was being sold as Class 1 milk by some milk companies. The new milk license provides for full access to the milk distributing companies' books so that a continuous check can be made to determine that the farmers are being fairly
dealt with in accordance with the pool plan.

The changes in the milk license from the former marketing agreement policy and the abandonment by the administration of attempts to fix retail prices and to freeze the distributor's spreads are a part of the broader proposal of the administration designed to benefit producers everywhere. By eliminating the retail price in the licenses, Secretary Wallace believes that distributors who are out of line in profits will be forced to more equitable payments to producers. These distributor profits have been quite high in the past in some districts as shown by government audits. St. Louis distributors averaged 14.6 per cent net profit; Boston, 22.5 per cent; Chicago, 25.8 per cent; and Philadelphia, 30.8 per cent for the five year period ending December 31, 1933. These distributors handled from two-thirds to ninety per cent of the milk in these cities. Secretary Wallace in discussing the above figures said, "Those figures speak for themselves. They explain one reason for our new policy on milk marketing agreements. I believe they support our determination to make future agreements between producers and the Agricultural Adjustment Administration and to license the distributors to live up to our agreement. There is more of a chance this way, it seems to us, that both the producer and the consumer will really get a new deal."49

49. Milk Plant Monthly, March, 1934, p. 52.
Summarizing the important points of the new policy, we find: an emphasis upon efforts to secure better returns to producers on a more lasting basis; maintenance of a sound balance between fluid milk prices and the prices of butter, cheese, and other dairy products; recognition that production control is essential to sustain higher dairy prices generally; emphasis upon local responsibility in the administration of marketing agreements by the establishing of local control boards providing representation for all classes of distributors, groups of producers, and the general public to assist in bringing about a sound milk situation for consuming centers without attempting to enforce retail prices.

While the plans of the AAA in general have merit, it appears that the government has been slow in getting any tangible results. The first milk agreements did not serve their purpose and the new agreements have hardly been in effect long enough to judge successfully their effectiveness. The buying of surplus dairy products has had little effect upon prices or production. Actually more butter went into storage during the periods when the government was buying butter stocks. The production control program has not yet been put into effect. There have been some arguments advanced by the opponents of this policy to the effect that the voluntary reduction of milk sales will not bring the desired results and that a more drastic policy
should be advanced, perhaps along the lines of the Bankhead Bill which cuts the amount of cotton that shall be produced to 10,000,000 bales. Other economic theories which have been discussed in this paper are also advanced. The plan of culling of submarginal cows is favored by a great number of producers. In a meeting held in Indianapolis, April 2 and 3, 1934, representatives of producer groups in Indiana and the surrounding states favored the government plan of voluntary reduction by a three to one vote. There is, however, a great amount of opposition to this production control plan, and if the dairy economists are not successful in winning more producers to a favorable attitude, it is likely that the above plan will be dropped in favor of some other plan. Recently the AAA economists have indicated a desire to study milk consumption in different parts of the United States. It is likely that methods of increasing per capita consumption of milk and milk products will be studied, having in mind the reduction of surplus by this means.
The surplus problem has been a perplexing one. No easy solution appears to be available. Cooperative and governmental agencies have been active in attempts to regulate production of milk and milk products and in increasing consumer demand. There is a wide divergence of opinion as to the best means of handling the surplus problem. For some plants there is no real surplus. They can use all of the milk they can buy, but only if they can buy it at lower prices, since a part of it must go into uses which are largely supplied by cheaper milk produced in the summer months on cheaper land and with somewhat less labor and equipment than is usually required for city milk production. To set these price differences equitably, various producer groups have used different methods, depending somewhat upon the district in which these groups operated. One of the popular methods of payment and one which appears to be feasible is that of determining the amount of the surplus and then basing payment for it upon the market prices of certain manufactured products, usually the market prices of butter or cheese, with an allowance for skim milk. The various producer groups may then allot to their respective members the amounts which they may sell in each of the milk classifications, using either basic surplus or contract plans both of which have merit and have found favor in the various milk marketing
districts. The government under its milk marketing agreements through the AAA has sought to develop milk pools in these districts in order that all producers may get their share of base milk prices. The success of this program remains to be determined in the near future.

Of course, these basic market quotation arrangements all appear to be useful only as starting points in arriving at prices at a given time. Conditions of supply and demand must certainly be considered in price determination. If consumer demand can be increased and excessive production be curtailed, the surplus problem should rapidly dwindle in importance.

Collective bargaining has played an important role in the production and distribution of milk. The early milk cooperatives were among the first of the producer cooperatives formed in this country. Many of these were formed primarily to secure better prices for their products. Others recognized the surplus problem and sought to regulate their milk supply and allot quotas in the base and surplus grades to their members. Many of these groups ceased to exist after they had secured the relief they sought; a number of others continued and today the urban milk districts are highly organized.

The milk business is one in which the public has a particularly vital interest at stake. Public regulation of all phases of the business is justified. In the past most of the regulation has been from a health standpoint.
and only recently have states attempted economic measures. These measures have been opposed by many individuals who would limit the state's powers in such matters; however, the Supreme Court has upheld such legislation, and if sensible administration is carried out in this field, the industry should be greatly benefited.

The United States government has enacted the Agricultural Adjustment Act which seeks to benefit farmers in general. Under the dairy section of the above act, the government has considered numerous plans of controlling milk production as well as increasing consumer demand. To find an ideal production control plan which would be acceptable to all is impossible. The government has been slow in adopting measures in order that all protests may be heard; consequently, not a great deal has been accomplished.

The production control plan which the United States Department of Agriculture dairy economists favored most was one of voluntary reduction in milk sales by cooperating farmers who were to receive benefit payments. Many problems arose to make this difficult to carry out. Under the program it was necessary to make dairying relatively more profitable to established dairymen who cooperated in the program and to discourage rather than encourage farmers engaged in other types of farming from becoming dairymen. It was also planned to raise funds for payment of the above benefits by levying a tax on a butterfat basis on all milk.
and milk products sold from the farm. This proposed tax was opposed by a number of groups who believed that such a tax would be finally settled on the producer and not the consumer.

Considering all of the plans in general, it appears that the voluntary reduction program as advocated by the AAA is the most practical and workable if the surplus problem is to be attacked from a production control angle. The plans of eliminating sub-marginal producing cows and infected cows are good but difficult to put into operation. Under the AAA program these latter plans could be adopted by farmers as a means of cutting their production if they so desired. There is no doubt that the elimination of diseased cows is desirable from both a health and economic standpoint.

The government may also find it advisable to institute a program of an educational nature whereby the American public would be taught to consume more milk and milk products. In conjunction with such a program, it would be advisable to conduct researches for finding new and more extensive uses of dairy products.

Whether the program of the AAA leads to production control or towards increasing per capita consumption, the cooperation of all producers and distributors is required. No doubt, sacrifices must be made by some. The delays in the past have been caused by failure of the producers and
cooperatives to operate on a united front and failure to cooperate in full with the government's agencies seeking to give them relief. Various groups have advocated different plans and have failed to regard each others ideas. It is difficult to see how any of the groups can object to a plan of increasing consumption of milk and milk products. Hence, it might be a good plan for the government through its AAA powers to begin such a program, at the same time endeavoring to secure cooperation in introducing some sort of production control plan.

The author would accordingly recommend that the governmental agencies institute a program directed toward: first, the control of milk production; and second, the building up of a greater consumption of milk and other dairy products by the American public. From an examination of all plans advocated the plan of the AAA economists appears to be the most workable and the most easily adjusted to the wide variety of situations which will arise when such a production control plan is put into operation.

The author further recommends that the production control plan be made compulsory, which of course would require additional legislation. It is apparent from the comment and criticism of various producers that many would object to the AAA plan. No doubt these opponents would fail to cooperate in a voluntary plan of control, and by their refusal to cooperate would cause others to become lax in their
reduction agreements. These objectors are frequently motivated by selfish interests. Milk producers and distributors and, indeed, the American public in general, have in the past been opposed to compulsory measures; but nothing short of compulsion will reduce to order this chaos which has been so harmful to the public interest.
Bibliography

I. Books


II. Technical Bulletins

An Economic Study of the Milwaukee Milk Market, Research Bulletin No. 13, Jan., 1932. Agricultural Experiment Station of the University of Wisconsin, Madison, Wisc.


Milk Production and Control, Committee on Milk Production and Control, White House Conference on Child Health and Protection, 1930.


III. News Papers and Publications


Indianapolis News, for April 1, 2, 3, 1934.

Journal of Farm Economics, July, 1933.


News Week, Jan. 13, 1934.


IV. Trade Publications which have been examined for Editorials and Articles

American Creamery and Poultry Produce Review

Hoard's Dairyman

Milk Dealer

Milk Plant Monthly

National Butter and Cheese Journal

Prairie Farmer