

STATE OF IOWA
1918

REPORT OF THE
**DAIRY AND FOOD
COMMISSIONER**

FOR THE
YEAR ENDED OCTOBER 31, 1918

W. B. BARNEY
STATE DAIRY AND FOOD COMMISSIONER
DES MOINES, IOWA

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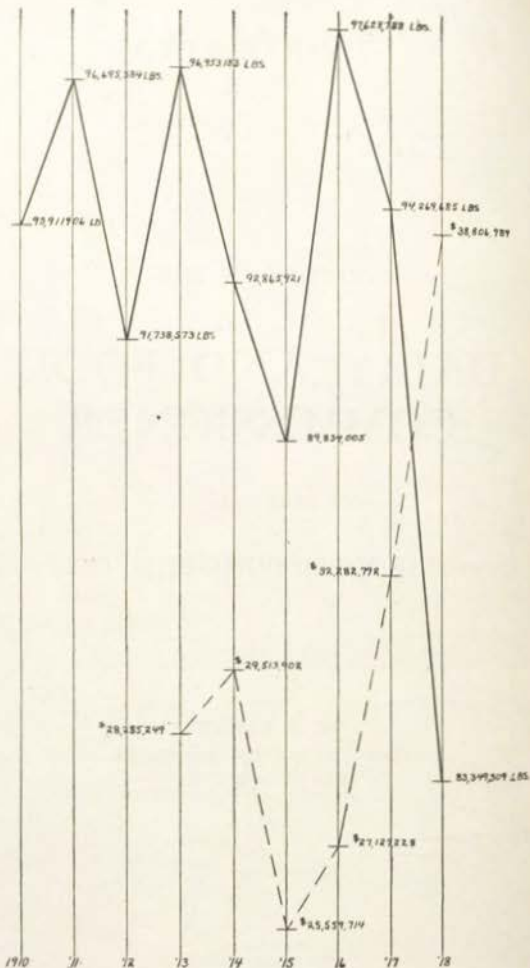


Chart showing production of Iowa creamery butter by years, 1910 to 1918. The solid line shows the total output. The broken line shows the value at creameries of the butter.

LETTER OF TRANSMITTAL

HON. W. L. HARDING, *Governor.*

SIR: In compliance with the law, I have the honor to submit herewith the Thirty-second Annual Report of the Dairy and Food Commissioner.

W. B. BARNEY,
Dairy and Food Commissioner.

Des Moines, November 15, 1918.

OFFICERS AND EMPLOYEES OF THE DAIRY AND
FOOD COMMISSION

Commissioner	W. B. Barney	Des Moines
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Inspector Weights and Measures	A. B. Briggs	Ottumwa
Inspector Weights and Measures	E. J. Nolan	Des Moines
Chief Clerk	A. W. Day	Des Moines
Chief Clerk	W. C. McCarney	Des Moines
License Clerk and Seed Analyst	R. V. Murphy	Des Moines
Stenographer	Elma Schnack	Des Moines
Stenographer	Mrs. C. S. Thompson	Des Moines
Stenographer	Rene Thorson	Des Moines

*On leave of absence with U. S. Army.

LAWS ENFORCED BY THE COMMISSIONER

Dairy Law.	Turpentine Law.
Pure Food Law.	Weight and Measure Law.
Agricultural Seed Law.	Sanitary Law.
Concentrated Feeding Stuffs Law.	Cold Storage Law.
Condimental Stock Food Law.	Commercial Fertilizer Law.
Paint and Linseed Oil Law.	Calcium Carbide Law.
Insecticide and Fungicide Law.	

REPORT OF COMMISSIONER

The past year has been the most eventful year in the history of the department. While our resources have frequently been taxed to meet the many emergencies which arose, we believe that we have met them in a creditable manner. The scope of the work covered during the year is too large to permit me to go into detail, and I shall, therefore, confine myself to a condensed report on the year's work of the department. Full details as to our activities are to be found in the records of this office.

Conditions brought about on account of the war have materially increased our work and the activities of this department. The high prices of all food products have been an incentive for the unscrupulous dealer to misrepresent or substitute in many instances the spurious for the pure products. The percentage of men who would like to get by with 15 ounces for a pound may have increased to some degree, but take it as a whole over the entire state conditions are and have been fairly satisfactory.

There has been a decrease in the production of dairy products, particularly butter. There appears to be good reasons for the decrease. The beef value of the dairy cow as compared with the milking value has increased about 50% within the last year. There had been a very considerable increase before this. This undoubtedly induced many farmer dairymen to part with a number of good cows that would have been kept under ordinary conditions.

A scarcity of help on the farm and in the creamery has had a great influence on the output of butter. The farmer's sons or his hired man going into the service in many instances obliged him to dispose of his cows so that he could give such time as he had to the care of his crops. Northern Iowa where most of our creameries are located has been especially favored by having an exemption beard that was most considerate of the needs of our people and the nation. Had this not been true, many more of our creameries would have been closed for want of help.

Another factor that has had a bearing on the decrease in dairy products is the high price at which all farm products have been selling. The tendency has naturally been to sell rather than to feed these crops.

The high prices paid for grains, live-stock and hogs has stimulated our farmers to greater production along these lines. Markets for these products, as well as the prices at which they will sell, has been practically guaranteed by the government. The dairy industry did not receive the encouragement, but a stabilization of the dairy industry with a fixed price for dairy products is anticipated. I believe that when this is done that we will be able to make greater headway in our dairy extension work.

The appeal to our farmers for larger crops of agricultural products has been nobly responded to. Under the conditions existing this year with our shortage of farm labor the demand could be met only by producing such farm products as required a minimum amount of labor. Our Iowa farmers practice diversified farming and it has not been possible under existing conditions to give the dairy herds the care and attention necessary for the largest yields of milk. This, we believe, is an other reason that the production of dairy products has not increased during the past year.

During the shortage of farm labor we have not gone into new territory to stimulate dairy production but have concentrated our efforts in the well defined dairy centers to promote greater production there.

The difficulty in securing competent herdsmen has had its effect on the displays of dairy cattle at our fairs and dairy shows. This year's record, however, for prize dairy cattle is one of which Iowa may well be proud.

Our cheese factories have had a splendid market for their output. The market price of cheese has not been so steady as we would like to see it but none of our cheese factories has experienced any difficulty in finding a satisfactory market. Under the leadership of D. J. Murphy of Waukon, the cheese industry of north-eastern Iowa is becoming a fixed asset of the state, Allamakee county is becoming agriculturally as well as topographically the Switzerland of Iowa.

The department has been more or less crippled on account of some of its members going into service, but the big advance in wages offered by commercial concerns has made it almost impossible to get or keep competent help of any kind at salaries the law permits the department to pay.

This is especially true with reference to men in the dairy department, several of whom have received increases ranging from \$300.00 to \$600.00 per annum. They felt that they were obliged to take advantage of these offers, as they found it impossible

to support their families on the pay received from the state, the cost of living having increased more than 50% in the last few years.

During the year ending July 1, 1918, the creameries of Iowa made 83,349,309 lbs. of butter. This is 10,920,376 lbs. less than the make of last year and 12,386,393 lbs. less than the average make for the preceding ten years.

Our ice cream factories at our creameries made 5,513,997 gallons of ice cream, an increase of 1,286,600 gallons and our condensed milk factories consumed 21,015,692 pounds of milk.

Iowa's cheese factories have made good progress. They made 755,921 lbs. of cheese as compared with 596,639 lbs. produced last year.

Early this summer an agency for securing butter for the navy was established in New York City. The function of this depot is to act as a collection point and clearing house for the butter packed by the numerous creameries supplying it.

Butter for the navy or Navy Butter, as it is popularly called, is a grade of butter different from that previously made by our creameries. It is made from sweet cream only, and under conditions which will insure its keeping qualities when stored. The regulations under which the navy butter must be made are rather exacting and under normal conditions creameries prefer to make their regular grade of butter rather than meet the conditions of the regulations.

Realizing the importance of supplying the boys of our navy with a proper diet this department in co-operation with representatives of the Dairy Division of the U. S. Department of Agriculture and the Dairy Department of the Iowa State College, held meetings, with such creamery boards as we could interest, with the result that over forty creameries are now making butter for the navy on contract. They have already delivered over 3,000,000 lbs. to the navy.

All of these creameries are located in the north one-third of the state and in the most highly developed dairy centers where daily inspection, one of the requisites of the navy regulations, is possible. We have many additional creameries equipped to make this grade of butter but most of them are isolated and the manufacture of navy butter in them is not practicable.

We have not endeavored to increase our output of Iowa Trade-Mark butter this year as we considered it our patriotic duty to

center our efforts on high quality butter for the navy. We are not marking time however, as the results of our work with the creameries making navy butter, and their patrons will be permanent and these creameries will be in a position to make Iowa Trade-Mark butter as soon as their contracts with the navy end.

MARKET MILK

There has been no material change in our system of inspection of market milk. The work has proceeded according to the methods in use by this department during the past few years. Our local milk inspectors have handled the work in their respective towns under the direction of Dr. O. P. Thompson, State Dairy Inspector. From time to time samples have been sent from the various cities to our laboratory for bacteriological analysis. A complete survey of the Des Moines milk supply and the supply of Camp Dodge was made early in the summer. The market milk situation shows gradual improvement.

FOOD AND SANITARY INSPECTION

The examination of staple articles of food has commanded more of the time of our food inspectors than in previous years. The conservation movement turned the attention of our people from luxuries to the more essential food-stuffs. The grading, salvaging and disposition of perishable foods reaching our market centers in poor condition was a very important work performed by our food men.

A comprehensive system of bakery inspection to determine the extent of stocks on hand and the proper use of substitutes in baking was instituted as a result of a conference held with representatives of the Federal Food Administration. This work our men did in connection with their regular sanitary inspections of bakeries.

Previous to the egg storing season plans were laid for the purpose of insuring the maximum quantity of Iowa's egg crop reaching the market in prime condition. "Don't lose an egg" was the watch word. Rules and regulations based on our previous experiences in handling the egg situation, were formulated and these were made obligatory by a ruling of the Federal Food Administration under which all buyers of eggs were licensed. The regulations together with the compulsory license system instituted by the food administration gave us almost perfect control over the egg situation.

The system worked out so satisfactorily that I would recommend the enactment of a state law licensing all buyers of eggs and mak-

ing the regulations, enforced by this department during the past year, compulsory at all times. Such a law would have the effect of securing a more uniform market for Iowa eggs and insure the farmer a fairer price for the eggs he takes to market.

The serious sugar shortage has handicapped many of our food manufacturing establishments and our inspectors have been busy in encouraging the proper use of wholesome sugar substitutes. The necessity of making a little sugar go a long ways has been responsible for the appearance of many syrups not complying with the law. There has been more sorghum molasses made in Iowa this year than ever before in our history. Most of it is of excellent quality but it has been necessary to do considerable work to see that it complied with the standard which requires that sorghum contain not more than 30% water.

We believe that we have been able to maintain the high reputation which this state holds as regards the sanitary condition of our food manufactories and retail establishments. Our established factories have made steady growth and there has been a marked increase in the number of establishments manufacturing and preparing food-stuffs and food-commodities for the market and consumer. New establishments always require considerable attention, until they understand the application of the laws, rules and regulations effecting them. The local slaughtering of beef and hogs has increased and this department has in every way encouraged the movement where we thought conditions would justify. We have realized for a long time that there are too many trains of Iowa live stock going to Chicago and other packing centers meeting trains coming back with dressed beef, pork, bacon and hams.

The entire poultry and egg industry of Iowa has been very active and high prices prevailed. Poultry dressing establishments have been frequently inspected to insure their sanitary condition. The preparation of liquid or frozen eggs for baker's and confectioner's use is an industry which has made slow but steady growth during the past few years. The high price which buyers paid our farmers for eggs was an incentive to conserve all edible eggs and a heavy pack of frozen eggs has resulted. To insure the wholesomeness of frozen eggs frequent inspection and supervision of the raw material and methods of preparation, as well as storage, is necessary.

The chief egg breaking and freezing industries of the country are located in the central west and Iowa is fast taking the lead in

the industry. With but few exceptions the character of the product of our egg breaking establishments has been satisfactory. In order to better control their egg breaking establishments, the state of Illinois licenses them. A license is obtainable only after an inspection shows that the factory is properly equipped to produce a wholesome product and licenses may be revoked at any time a chemical and bacteriological examination of the product shows it to have been improperly prepared. A similar provision of our Sanitary Law may be desirable.

WEIGHTS AND MEASURES

The special and routine work of the Weights and Measures Department continues to constitute a large portion of our work. I have found it necessary to assign the entire time of three men to the duties of heavy scale inspection and to use such time of our food inspectors, as they could spare, for the inspection of counter scales in retail establishments. During the present emergency with its prevailing high prices for all commodities the necessity of accurate scales and weights is apparent. The demands from grain and stock buyers, and farmers for emergency and periodical inspections of their scales has been exceedingly heavy. The elevator and stockyard patrons insist on frequent inspections to insure fair dealing, and have learned to have confidence in the accuracy of the scales approved by this department. The systematical way in which we can handle the routine inspection of farm and elevator scales renders it possible for us to do this work at a low cost per scale. Although the revenue received by the state in the form of scale inspection fees amounted to \$7,345.61 last year, the average charge for wagon scale was about \$3.00. Similar inspections made by representatives of the scale houses cost at the rate of \$10.00 per day plus the expenses of the representative from and to his headquarters. Our records show that 5,697 platform scales, 9,953 counter scales and 3,121 creamery test scales were inspected by this department last year. These items do not include the number of weights submitted by cities, firms, and individuals for verification as to their accuracy.

SEED CORN

The spring of 1918 found Iowa, as well as most of the other important corn states of the middle west, in a precarious position for seed corn. Usually about one-half of our force is employed during the major portion of the three months previous to the planting

season, in the inspection and examination of agricultural seeds. This year as a result of a conference which the Governor held with the State Council of Defense and this department it was decided to place our entire inspection force at work on the seed corn problem in an endeavor to see that all available supplies of seed corn were distributed where they were most needed and at a reasonable price. Each of our inspectors was given a territory to cover. This they did in co-operation with the county agents working under the direction of J. C. Coverdale of the Agricultural Extension Department of Ames. Thousands of bushels of crib corn were examined to determine its fitness for seed and measures taken to see that it reached the hands of the needy planter at a reasonable price. During the critical stages of the season complaints relative to profiteering and deliveries of corn not meeting the requirements of the Seed Law literally flowed into this office. Fifteen to twenty dollars a bushel was frequently asked for seed corn worth five dollars a bushel. Our existing laws did not meet this emergency but as soon as the condition was explained to Governor Harding he met the situation by issuing a proclamation which practically set the maximum price for seed corn at \$10.00 a bushel. This had the effect of releasing thousands of bushels of corn at a price which the farmer, so unfortunate as to be without seed, could afford to pay.

Prosecutions were often necessary to curb willful violations of the law and selling seed under false representations as to its viability and origin. Through the efforts of this office several thousand dollars in the form of rebates were returned to farmers resulting from overcharges and unfair contracts. Evidence that the work of this department, as well as that of the co-operating agencies was effective, is to be seen in the wonderful stand of uniform corn now being harvested. Starting with the poorest seed in the history of the state, Iowa this year has the finest crop of corn which I have seen since I have been commissioner.

FEEDING STUFFS

A general survey of the quality of Commercial Feeds and Medicinal Stock Foods was made during the winter season. The object of this inquiry was to determine the nature of the feeds being offered for sale on the Iowa market and to see whether or not the manufacturers and dealers were complying with the requirements of the Feeding-Stuffs Law relative to registration and proper labeling as to composition and quality. The results of this survey as

well as the detailed findings of our chemists are to be found in the bulletin on this subject now in the hands of the state printer. The fees paid to the State Treasurer under the Feeding Stuffs Law amounted to \$26,732.98, of which \$23,157.08 was obtained from the sale of tax tags and \$3,575.00 paid for licenses by manufacturers of medicinal stock foods.

Our stock and hog raisers continue to be exploited by the manufacturers of inferior and frequently worthless medicinal stock foods. This situation can not be effectively curbed under our existing law and this should be changed so as to render adequate protection to the purchaser possible.

HOW THE FOOD ADMINISTRATION REGARDS PURE BRED DAIRY CATTLE

By Everett W. Smith, Education Division U. S. Food Administration.

The Food Administration, as you know, is very much interested in the subject of pure bred dairy cattle and in leaflets sent out for general circulation has gone on record, emphasizing the great value of milk as a food, especially in the diet of children where it is indispensable and is using every possible effort to maintain dairy herds.

The Food Administration of course recognizes in this connection the outstanding value of pure bred cattle. In certain countries, there have been developed as a result of processes of selection of many centuries, certain great breeds of pure bred cattle. We may reasonably expect to find within these breeds the most efficient producers of dairy products. Cattle of these breeds have been imported to this country and from the standpoint of production, have been highly developed here. We believe that the work done by the Breed and Record Associations, in promoting the development of these breeds of cattle in this country, has resulted in great good to the industry and to our people as a whole.

FOOD VALUE OF MILK

"Why are dairy products so important foods?" "Why are they essential to health and growth?" "Why are they economical foods?" These are typical and logical questions asked by those who want to know the truth about food economy or those who would feed themselves or their family well and economically. To answer these questions intelligently we must understand of what a proper diet must consist, that is what must be contained in the food which we eat to supply the body with the various kinds of materials required to support growth, supply energy and keep the body vigorous.

Years of study and experimenting show that five different kinds of food materials or food constituents are essential in an adequate ration. These are energy producing materials, (the fats and carbohydrates) satisfactory proteins, suitable mineral matters, and two substances, the exact nature of which is unknown, called vitamins. All these food materials are necessary and one kind can not be substituted for another as each has a definite function to perform. An adequate quantity of each of these materials must be present in the ration in order that it be satisfactory.

All food stuffs contain more or less of one or more of the essential food constituents but milk is one of the very few foods which contain all of them in suitable proportions. In the case of many of our foods one or more of the essential food constituents are of so poor quality or are present in so small quantity that they are not found satisfactory for meeting the needs of the body of the growing child. Milk, however, does contain the proper kinds in suitable proportions and that is why milk promotes rapid growth and one of the reasons why it is a superior and important food.

Formerly nutrition experts considered that to formulate a satisfactory diet, it was necessary to consider only the amounts of digestible energy producing materials and digestible protein material which the foods entering the ration contain. Little thought was given to other constituents as in the ordinary mixed diet there is usually sufficient mineral matter, the only other diet essential then thought necessary. The error of formulating diet on this basis is now apparent. A satisfactory diet can not be composed of fats,

carbohydrates, proteins and mineral matters alone. Energy producing materials are important and foods containing them should constitute the major portion of the diet of adults. Our cheapest foods, such as wheat, corn, oats, rice, etc., are rich in the energy producing material needed by adults and can well constitute from 50 to 60% of the adult's diet. These foods do not contain all the elements essential to proper nutrition and are in fact usually very poor in the materials needed to promote growth. This important fact must be kept in mind by those who would feed their families at the lowest cost. The use of cereal foods without an adequate supply of the other essential food materials is one of the faults of the diets of many of our poorer people and invariably leads to one of the many faulty diet diseases. It is true that many of our cereal foods contain considerable protein but the protein furnished by cereals alone is a poor kind.

The proteins of the various food-stuffs are not all of the same value in supplying the body with this important material. Proteins of seeds alone are not satisfactory. On the other hand, protein from milk, cheese, cottage cheese and other dairy products, as well as that of eggs, meets the body requirements perfectly. When used with cereals milk seems to render the proteins of cereals satisfactory and more available to the growing body. The cereals can not supply the required vitamins.

Little was known until recently of the important role which vitamins play in promoting growth, keeping our bodies vigorous and disease resisting. It has been known for a long time that a diet composed of purified fats, carbohydrates, proteins and the necessary mineral matter would not support growth and that reproduction is impossible on such a diet. Dr. McCollum of John Hopkins University and others have shown during the past few years that the reason these purified materials cannot support growth is that such a mixture does not contain the essential food materials, vitamins. The exact nature of vitamins is not known but those required by the growing animal appear to be of two kinds, one kind of which is soluble in water and the other fat soluble. Both the water soluble and fat soluble vitamins are found abundantly in milk. The water soluble vitamins are found abundantly in milk. The water soluble vitamins are present in adequate quantities in seeds such as the grains used for food and in many other common foods. The fat soluble vitamins are by no means so plentiful but they are found in abundance in milk, butter, cheese, eggs and the leafy portions of vegetables. They are not found in

the vegetable fats and oils or in the animal fats with the exception of the fats of the glandular organs (liver fat and fat of kidneys). The specific action of vitamins in the diet of growing animals is apparent in the following conclusions reached as a result of some of the investigations of McCollum, Hart and others, at the University of Wisconsin:

"If we take such a mixture of food stuffs which do not allow an animal to grow and stir into it a small quantity of egg yolk, say for a pound of the ration an ounce of egg yolk, growth can be induced. The same result would be obtained if we had put in an ounce of evaporated milk instead of the egg yolk. Suppose next that we take all the fat out of this satisfactory ration by extracting it with something that dissolves fats. It will be found that though the ration will be able to maintain young rats without any increase in weight for about a month, it will no longer be able to induce growth. Only on restoring the extracted fats to the ration will growth be made. A similar result could have been obtained by adding butterfat or fats obtained from certain animal organs; but other fats such as lard, almond oil and cottonseed oil would not have brought about the same result.

"These facts might well cause us to stop and think. Because of the fact that some fats naturally contain substances necessary for growth while other fats do not contain such substances, there has arisen the necessity of speaking of the presence or absence of a fat soluble vitamin. This vitamin is closely, though not exclusively, associated with fats. It is also found in seeds to a certain extent, and the leafy portion of plants to a considerable extent also contains this substance. Milk, eggs, and alfalfa leaves are a very good source of this unknown constituent, although there is every reason to suppose that forage plants in general are a better source of this class of vitamins than the grains.

"The fact that the fat soluble vitamin of milk is concentrated in the fat of this product might lead to the inference that skim milk would be inadequately provided with this substance. It is evident, however, that a portion of the vitamin contained in the milk fats dissolves in the whey of milk and consequently is present even in skim milk, although perhaps not as abundantly as we should wish.

"Of late there has appeared in the advertising literature of manufacturers of milk-product substitutes the statement that the vitamins of milk are destroyed by pasteurization. This statement is absolutely false. In our experiments in the study of the vitamins, butterfat is heated higher than is required for pasteurization and for much longer periods of time without destroying this substance.

"Further, there is in these times of food scarcity a tendency to use plant oils as substitutes for butterfat, even claiming for them a value equal to that of butterfat. No plant oils so far investigated, and those include cottonseed oil, almond oil, peanut oil, cocoanut oil, and sunflower seed oil, contain the fat soluble vitamin in appreciable quantities. It is false to claim these as substitutes for butterfat. We do not condemn them, for they are valuable food products as sources of energy

and their use for that purpose should be encouraged; but they should sail under their own banner and be used in nutrition for exactly what they are worth. To remove the butterfat from whole milk and replace it with cocoonat oil and then claim that the product is equal to whole milk for the nutrition of growing children is not true.

"In the dairymen's competition with butter substitutes a word should be said concerning oleomargarine. This product is made from both plant and animal oils and the higher grades are churned with milk or butter or both. The plant oils used contribute no fat soluble vitamins; the neutral oil, or that pressed from lard, contains no fat soluble vitamins. The oleo oil, or that prepared from beef fats, does contain some of this type of vitamins and of course the milk products contribute another portion. The result is that the finished oleomargarine contains some of this vitamins, but it is necessarily not in the same concentration as found in the natural butter. Their dilution, as compared with butterfat, is in proportion to the plant oils and neutral oil used, with a further dilution by the use of oleo oil which contains this substance in less concentration than does butter. Consequently, even the higher grades of oleomargarine will have their fat soluble vitamin content diluted, the degree of dilution depending upon the method of manufacture. Five per cent of butterfat in a ration of purified food materials contributes enough fat soluble vitamins for normal growth, but 5 per cent of the oleomargarine we have tested will not accomplish this. These are the facts as they are known today, and they should make it clear that no product can claim the distinction of substitute unless it shows equal nutritive value in quantitative relations. These facts do not condemn oleomargarine any more than they condemn plant oils, but merely disclose what each contributes to nutrition."

In addressing the National Dairy Show this year Dr. McCollum laid particular stress on the function of "Fat Soluble A" and the necessity of maintaining an adequate supply in the diet of adults. He said:

"Orientals and peoples of the tropics who use no milk are inferior to Europeans and Americans both physically and in respect to their mental development.

"It is impossible to make up a satisfactory diet out of such things as cereal grains together with tubers as potatoes, beets, and meats. You can have all those in a diet in the right proportion, therefore, have any chemical composition you want, but they fail to promote satisfactory nutrition either to man or animal. The reason for this is three-fold, there is a poor mineral content, the proteins are of a poor quality, and the unknown substance called Fat Soluble A is lacking and the animals suffer. There are only two methods by which a satisfactory diet can be made up; one is by the use of the above together with a liberal amount of either milk or eggs, or the leafy vegetables such as spinach, cabbage, turnip leaves or other vegetables suitable for use as greens. In all groups of industrially employed peoples, there is a tendency to purchase for their food supply such foods as rice, rolled oats, potatoes, sweet potatoes, and meats. All peoples who are living on this type of

diet tend to suffer from tuberculosis because their vitality is lowered by long continued use of a faulty diet and this pre-disposes them to tuberculosis.

"There is a large group of people throughout the south who grow a cash crop such as cotton rather than engaging in diversified agriculture who use the same type of diet and thereby have their resistance lowered so that they become infected with pellagra, which has increased to an alarming extent in recent years.

"Dr. K. Goldberg, of the Public Health Service in Washington, has made a very careful and extensive study of the diet of pellagra. He finds that those who use a liberal amount of milk and some eggs do not suffer from pellagra.

"The greatest factor in the cure of tuberculosis, once it is contracted is through proper hygienic treatment together with liberal feeding on a diet in which milk and eggs find a very conspicuous place.

"There has been a great reduction in the use of dairy products in the United States during the last year, and this is a serious matter from the standpoint of public health. The use of milk has made us what we are. The keeping of dairy animals is the greatest single discovery in the history of human progress. The cost of production has so increased that the price must go up that the business may be profitable.

"Every public spirited person should at this time make it his business to educate his acquaintances in the matter of using more of all kinds of dairy products in order to encourage an industry which is in great jeopardy."

From the foregoing facts it is evident that the superiority of milk and the other dairy products and the important position which they command as foods is due to their ability to supply proteins which can be readily and completely used and to supply sufficient vitamins to the diet to promote growth. Very few other foods can do this and all of the other foods which can accomplish the same result cost from two to three times as much as milk. Eggs, for instance, must sell for a price per dozen equal to the price of a pint of milk before they can do the same work at the same cost. Leafy vegetables are important as a component of the diet for their valuable mineral content but they cannot furnish enough fat soluble vitamins.

Dairy products such as milk, cheese and cottage cheese alone are our cheapest sources of an adequate supply of this essential and the cheapest source of desirable proteins.

In a book recently published, "Every Day Foods in War Time," by Mary Swartz Rose, this is found:

"When the milk picher is allowed to work its magic for the human race, we shall have citizens of better physique than the records of our recruiting stations show today. Even when the family table is deprived of its familiar wheat bread and meat, we may be strong if we invoke the aid of this friendly magician."

BUTTER OR OLEOMARGARINE

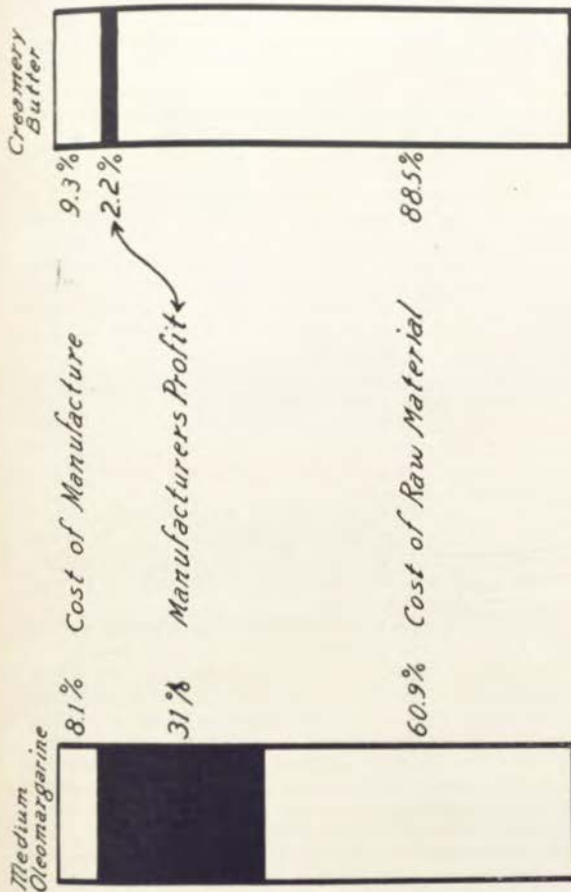
Aside from their vastly different nutritive values, butter and oleomargarine have to Iowans an economic significance not generally appreciated.

During the last ten years Iowa has produced an average of 95,735,702 lbs. of creamery butter of which about 15% was consumed in the state and 85% shipped to eastern markets. These figures are exclusive of the farm dairy butter almost all of which is consumed locally.

Butter is an Iowa product. The raw material, butterfat, is a continuous cash "crop" from nearly every Iowa farm. Butter is made by Iowa labor, in Iowa factories which are made of Iowa building-materials and equipped with Iowa owned and Iowa made machinery operated by Iowa coal. Most of the manufacturer's profit remains in Iowa where it is spent with Iowa merchants.

Last year there was made in Iowa 83,349,309 lbs. of creamery butter which the creameries sold for \$38,806,989. What became of this money may be seen from the accompanying cut. Eighty-eight and one-half per cent or \$34,344,185 was paid to Iowa farmers for the cream and milk containing the butter-fat; 9.3% or \$3,609,049 was spent by the creameries for Iowa labor and power, and most of the remaining \$853,755 was distributed among Iowa farmers in the form of dividends from their creameries.

Oleomargarine is not an Iowa product nor does Iowa business derive any benefit from its manufacture. Some hog and beef fat is used as a raw material but by far the larger part of the raw material is either cottonseed oil, from the southern states or coconut oil from the Islands of the Pacific. Most of the oleo reaching Iowa is made in factories located in Illinois, Ohio and Missouri. The stock in these factories is owned there, labor employed there and the laborer's salary and the stockholder's dividends spent there.



This chart shows the comparative cost of manufacturing of butter and oleomargarine. This chart is of interest to dairymen and consumers alike, as it shows what becomes of the consumers dollars.

AS TO COST OF MILK

There has been a great deal of discussion within the last year on the cost of milk in the vicinity of Des Moines and central Iowa. We have read with a good deal of interest most that has been written. In my last report to the Governor, I gave some information on this subject, yet the fellow, who on being asked what he knew about the cost of milk, answered by asking the question, "How long is a stick?"—came as near giving an intelligent answer as some of us that have been doing so much writing.

The facts are that this is a question that is difficult of solution, for the reason that conditions are so varied in this section. It may be reasonably easy to go on to any particular farm, and arrive at fair conclusions as to cost in this one case, but this can't be done in a few days or even a few weeks, unless this time is spread over different intervals for a year.

To make this work of any value, this survey should be made on at least 15% of all the farms that supply milk for Des Moines. Assuming that the supply comes from 1,000 farms, when you have finished this work on 150 farms, you will find that it is no small job and requires a lot of time.

For about 37 years I have been more or less a student of dairying. I have never been a believer in the dual purpose cow. For a great many years, beginning in the eighties, there was little encouragement or inducement offered the dairymen or breeders of dairy cattle in Iowa, even by our agricultural college or the Dairy and Food Department.

Steers and hogs were raised and fed at a profit. About this time there appeared on the scene of action the creamery promoter. These men gave the dairy game a set back that it has hardly recovered from, especially in Southern Iowa up to this time. Their mission was to sell a neighborhood a \$1,500 or \$2,000 creamery building and equipment for from \$3,500 to \$4,500, and pass on until they found another bunch of "suckers." Their scheme was worked without reference to whether a community had sufficient cows to support a creamery or not, and while many of these glib

tongued hot air artists guaranteed 30% on the investment, about all the people have left in most cases, is an old building that stands as a monument to their folly.

You ask what this has to do with the cost of milk in Des Moines at this time. It has much to do with it, as it retarded the growth of the dairy industry to such an extent that it is only within the last four or five years that it has received any attention worth while.

I recall the fact that during the winter of 1910 and '11, the Dairy and Food Commission was interested in the passage of some legislation that seemed to us was much to the advantage of the farmer dairymen of Iowa. During this session, it was hard to find a senator or representative from south of the main line of the C. R. I. & P. Ry. that would give these measures any consideration. Their answer was, "There is no dairying in our county." Many of them did not appear to realize that they represented a section of the state that was in every way better suited to this industry than some of the northern counties that have become wealthy, largely on account of their activities in this industry. It is most gratifying to know that many of the members of the legislature from Southern Iowa have come to know some of the advantages that may accrue to their section by fostering the industry and have in later sessions given it splendid support. They realize that in many sections, the fertility of the soil has been exhausted and that there is no better way to bring it back than by the use of the dairy cow.

It is not at all strange that Iowa has been a little slow in doing the things that will enable us to produce milk and dairy products at a reasonably low cost. With a rich productive soil on which can be grown at a profit most of the cereals, less attention has been paid to dairying, than would have been the case had our soil been less fertile. The growing of beef cattle, with hogs as a side line, makes less work than the handling of the dairy cow with hogs.

Now that the demand for milk and dairy products has increased somewhere in proportion to the increased population, we cannot expect to go among our farmers who have been breeding beef cattle and buy profitable dairy cows, neither can these farmers expect to produce milk at a profit from cows bred for another purpose.

We are frequently asked why the dairymen surrounding Minneapolis, St. Paul and Milwaukee, produce milk at a less price than those in Central Iowa. My answer is, that in the last 15 or

20 years there has undoubtedly been five pure bred dairy sires introduced in the section of country tributary to the above named cities to one in Central Iowa.

It has been demonstrated by the Experimental Station at Ames that daughters of a pure bred dairy sire out of scrub dams average 94% more milk and 62% more fat than their dams, and his grand-daughters 245% more milk and 168% more fat than their original dams. This we think conclusive evidence that any section using pure bred dairy sires might naturally expect to produce milk at a much less cost than a section not availing themselves of this advantage. The sooner the people of Iowa and especially those in Southern Iowa come to recognize the fact that the cow is simply a machine for converting our coarse feeds and cereals into edible food, either dairy products or meat and that there is a vast difference in the kind of cows we use, the earlier the question of milk cost will be settled. It is just a question of efficiency. If there were two shoe factories in this city, one with modern machinery 95% efficient, the other with old or obsolete machinery 65% efficient, what chance would the latter concern have in competition with the first named? If he remained in business at all, he would have to get more for his shoes than his competitor, and you know about what chance he would have to do this.

In the early eighties, bran sold in Northern Iowa as low as \$4.50 per ton, good mixed clover and timothy hay at \$4.50 to \$5.00 per ton, corn 25c to 30c per bushel, oats as low as 20 to 25c. Corn and oats were generally mixed in equal parts by weight and ground. The above named feeds composed the dairy ration. The barn and farm equipment was much less expensive than at the present time. Land values were about a fifth of the present ruling prices. Farm labor could be had at \$18. to \$25. per month and board, day labor from \$1.00 to \$1.50 per day. Dipped milk sold at 5 to 6c per quart retail. Prices at this time range about as follows: Bran \$35.00 per ton, cotton seed meal and gluten feed \$60.00 per ton, good mixed hay \$25.00, alfalfa \$34, corn \$1.25, oats 60c per bushel, farm labor \$45.00 to \$55.00 per month and board, day labor \$2.50 to \$4.00 per day. Milk prices over the state average around 13 or 14c or a trifle over double the former low price. With this information at hand dairy feeds, land, labor and the cow, costing about four or five times what they did, is it fair and reasonable to conclude that milk is too high at present prices?

The farmer dairyman has never been accused of being a very shrewd business man, but it is my opinion that he is shrewd enough

not to continue to milk cows and do this work for nothing, when the cow may be disposed of and better returns may be had by selling the farm crops and saving the labor necessary to put his dairy products on the market, whether they be sold as milk, butter or cheese.

Milk and dairy products are cheap at present prices as compared with many of the more common food products. Scientists like Dr. R. V. McCollum, of the Johns Hopkins University, within the last few years have shown that they contain life giving substances known as vitamins so necessary to the proper growth of children, as well as adults.

The public must get themselves into a state of mind so that they are willing to pay a fair price for dairy products the same as for other food products if they expect to continue to use them as they should be used. Remember there are no substitutes for dairy products.

**HUMAN FOOD PRODUCED BY FARM ANIMALS FROM
100 POUNDS OF DIGESTIBLE MATTER CONSUMED**

Animal	Edible Solids Produced
Cow (milk)	18.0 pounds
Pig (dressed)	15.6 pounds
Calf (dressed)	8.1 pounds
Poultry (eggs)	5.1 pounds
Poultry (dressed)	4.2 pounds
Lamb (dressed)	3.2 pounds
Steer (dressed)	2.8 pounds
Sheep (dressed)	2.6 pounds

FEEDING FOR MILK PRODUCTION

By Prof. H. H. Kildee, Animal Husbandry Department, Ames, Iowa.

Selection of Feed-Stuffs.

In securing the lowest possible cost of production, and ultimately the largest profit, from the herd, the proper selection of feeds is important. The primary object of the feeder, in all cases, is the maximum production of milk for least expenditure of feed. While each feed-stuff is fairly uniform, so far as nutrient content, effect on the system and palatability are concerned, it is impossible to recommend a particular ration which will prove most economical and efficient at all times, because feed-stuffs vary in price in different seasons and localities, and also because the feed requirements may vary with each individual cow.

Characteristics of a Good Ration.

The general requirements which should be met by rations for dairy cows are as follows: Palatability, variety, bulk, succulence, balance of nutrients, proper effect upon the system and economy.

Palatability is a factor of great importance, for, no matter how good the ration is from the standpoint of digestible nutrients contained, the best results can not be expected unless it appeals to the cow's appetite. To secure this palatability, feeds of good quality liked by the cow should be fed in a clean manger. All grains, such as oats, barley, and corn, give best results when ground.

A cow soon tires of a ration made up of but one or two feeds and as radical or frequent changes in the ration are not conducive to the best results, it is important that feeds be so combined in the ration as to give variety. This variety is essential for the dairy cow because, unlike the beef steer, she is fed for a long period and for successive periods.

Bulk is required to help make digestion in the roomy digestive tract as thorough as possible; moreover, the bulky feeds grown upon the farm are the cheapest feeds. When bulk is lacking the digestive juices do not act as thoroughly upon the small, compact food mass and all the digestible nutrients cannot be utilized. This bulk is obtained not only through feeding alfalfa and clover hays and corn silage, but also by making the grain ration rather bulky. Corn and cob meal, ground oats and bran are bulky and all are good for the dairy cow. The most economical milk production can be secured only when the roughages produced upon the farm are utilized to the best advantage, especially when some high protein or leguminous hay is grown, such as clover, alfalfa, oats and Canada field peas, soy beans or cow peas.

Succulent feeds are very essential in profitable milk production. During the summer months succulence may be obtained from pasture grass, until the hot, dry weather makes it necessary to add corn silage or soiling crops. For winter feeding, corn silage is the most economical source of succulence under most farm conditions. Succulence is needed partly because the dairy cow is producing a product high in per cent of water, and partly because it has a good effect upon her system.

What "Balance" Means.

By balance of nutrients is meant a proper proportion between the digestible nutrients, protein, carbohydrates, fat and ash. Every food nutrient has several functions to perform in the body. The carbohydrates are used largely for the production of heat and energy, but may also be converted into body fat and stored as such. In the case of the milk-producing cow, a large quantity of the carbohydrates is used in the production of butter fat and milk sugar.

The fats are more concentrated heat and energy producers than carbohydrates, a given quantity having two and one-fourth times the heat and energy value. They serve the same purpose as the carbohydrates in the ration.

Proteins are used for building up and replacing muscular and other active tissues. In the case of milk-producing cows they are used in the production of the casein and albumin of milk. In the case of pregnant animals, proteins are used for the growth of the fetus. Proteins cannot be replaced by either fats or carbohydrates for the building of body and milk protein. Owing to the fact that their cost is usually much greater than that of the carbohydrates, where they are only equal in value to the carbohydrates in heat and energy production, proteins should not be fed in excess of the amount necessary for body maintenance and milk secretion.

The ash or mineral matter has not received the attention it merits from the feeders of live stock, but experimental work in progress at a number of the stations indicates that in the near future this nutrient will receive much more attention. The main function of the ash is to build up bone in the growing animal and also in the fetus, and to form the mineral portion of milk.

The best combination of these nutrients will vary with the individual cow, the quantity and quality of milk she gives, the prices of feed-stuffs, and her condition as to whether she is pregnant or not. Cows that have a tendency to become too fleshy need less carbohydrates and more protein in proportion, and cows with the opposite tendency more carbohydrates. As milk contains relatively large amounts of protein, fats and ash, the ration fed should carry a liberal supply of these nutrients so that the cow will not have to draw from her own body to make up a deficit. At the Wisconsin Experiment Station it was found that in 110 days a dairy cow, fed a liberal ration, yet one deficient in lime, gave up 25 per cent of all the lime of her skeleton. Similar results have been secured where cows have been fed rations sufficient only to maintain

their bodies and not for milk production. Body tissue is sacrificed in order that the cow may secrete milk. Many of the cows on the Iowa farms today are doing this same thing. They produce milk in fair quantities for a few months after calving, not because of the ration made up solely of ear corn, timothy hay and corn stalks, but in spite of it. However, after they have drawn upon their own bodies as long as they can they rapidly decline in milk flow after five or six months. In many cases this lack of persistency is due to inherited characteristic as well as to failure to feed, especially for milk production.

The proper effect of feeds upon the digestive system can be secured by a study of the characteristics and influence of different feeds. It is important to consider whether the feed or combination of feeds will have a cooling, laxative effect upon the digestive tract, or whether it will be heating and constipating.

The ration must be economical. In selecting feed-stuffs, thought must be given to the relative values of different feed-stuffs as well as to their price per pound. Home-grown feeds should be used so far as practicable. However, it is more profitable at times to sell most of the grain and purchase by-product feeds to be used in conjunction with the corn silage and clover or alfalfa hay. This point should receive the careful attention and best thought of the owner of live stock. Where the dairy farm produces clover, alfalfa and oat and pea hays, a large amount of the only nutrient the Iowa farmer needs to buy, protein, may be secured cheaply. No dairy farm is complete in its equipment without at least one silo for winter feeding and one with a smaller diameter for summer feeding. The two most common succulent feeds for winter are corn silage and roots. Experimental work has proved that silage, as compared with roots, yields more heavily per acre, costs much less and gives equal results from similar weights of dry matter. Silage is also very desirable for the herd during the latter part of July and most of August, when pastures are usually very short, due to hot weather and lack of rainfall. The value of silage or soiling crops at this season does not lie solely in the temporary increase of milk flow, but also in maintaining it, for after a cow once decreases in her milk flow it is practically impossible to bring her back to normal for the remainder of her lactation period. Contrary to the opinion formerly held, milk from silage-fed cows is not inferior in flavor or odor to milk from cows fed dry feed. Great care should be taken, however, to prevent the odor of silage from contaminating the freshly-drawn milk, which takes up odors very quickly. It is best to feed the silage after milking, and just what will be eaten up clean at that feed. The silo should be shut off from the barn proper.

Preparing the Cow for Her Year's Work.

The proper time to begin feeding a cow for milk production is six to eight weeks prior to freshening. She should have at least this length of time to rest and prepare for the next lactation period. The feeds given at this time should meet the following requirements: Rest and cool out the digestive tract, supply nourishment for the growth of the fetus or unborn calf, and build up the flesh and strength of the cow herself.

For the cows that are to freshen during the summer or early fall it is a good plan to have a small pasture set aside so that they may have abundance of pasture grass and not be molested by the other cows. In addition to this a few pounds of ground oats and in some cases a small quantity of bran will be sufficient. Cows that are to freshen during the winter should receive from 20 to 25 pounds of corn silage, all the clover or alfalfa hay they desire and a grain mixture of three parts ground oats, two parts bran and one part oil meal. The amount of grain per day is to be governed by the individual animal. Animals thin in flesh may be given a small quantity of corn but should not be crowded, but rather fleshed up gradually. Timothy hay and cottonseed meal are not desirable as they are rather constipating, while laxative feeds are needed at this time. Too large a quantity of corn is likely to have a bad effect upon the system. It is well to reduce the ration slightly just prior to calving as by so doing the danger of milk fever and after-calving troubles is decreased to some extent.

A few days before calving put the cow in a clean, disinfected, well-bedded boxstall, if her bowels are not moving freely, a dose of three-fourths to one pound of epsom salts or one quart of raw linseed oil will prove very beneficial. A grain ration of two parts bran and one part oil meal is very good at this time.

For a few days after calving the cow's drinking water should be luke warm. In addition to alfalfa or clover hay and a small quantity of silage, she should be fed bran mash or a small allowance of bran, oil meal and ground oats. If the cow does not pass the afterbirth promptly and the man in charge does not understand the anatomy of the reproductive organs, a competent veterinarian should be called; that should be done also when the cow has difficulty in calving.

Care of Cow First Thirty Days After Calving.

If the cow has been properly cared for the first three days she may then be placed on dry and more solid food. The manner in which she is fed during the next thirty days determines largely the character of the work she will do during her lactation period. Experienced feeders of beef cattle realize that thirty days are required to get steers on full feed, and likewise, the dairy cow needs to be given thirty days. Without doubt parturition weakens the digestive apparatus and heavy feeding soon after calving is liable to be followed by indigestion, bloat or impaction. During the first thirty days after parturition the maternal instinct is at its highest pitch and during this time, if properly cared for, the cow can be brought to her greatest possible milk flow.

To do this, the feeds must be suited to the individual cow's needs. Beginning on the fourth day with five pounds of grain daily, the ration should be increased slowly—say at the rate of half pound each alternate day. This rate of increase is rapid enough, for the cow will respond as well to a half pound increase as she will to a pound. This increase may continue just as long as the cow continues to increase profitably in her milk flow. When she ceases to respond, then the feed should be lessened

In the same gradual manner for a few days and it will, as a rule, be noted that the cow will further increase in milk flow. The feed given on the day she begins to decline in milk determines practically the amount of grain she should receive. Much less than this amount will not compel her best work and any additional feed will be worse than wasted.

The exact amount and quality of the food will be determined by the condition and individuality of the cows. Seldom do two cows demand to be fed in exactly the same way. Cows inclined toward beefness require a narrow ration, or one containing a proportionately large amount of protein; cows of the strictly dairy type, inclined to work hard and become thin in flesh, need to be fed more extensively of foods rich in carbohydrates. Cows of large capacity and the ability to produce great volumes of milk, require more than cows with less capacity and ability.

Amount to Feed.

The amount of feed given the cow is of great importance. The average dairy cow requires about 50 per cent of a normal ration for maintenance. Consequently, if this cow is fed but one-half the normal ration, she receives simply enough to maintain her body and the milk she gives will be produced at the expense of her body tissues. Under such conditions the flow of milk would no doubt keep up for a time, but the animal would not be able to continue the work and her strength for a very long period. This is one of the chief reasons why cows on many farms drop off rapidly in milk flow after the first two or three months of their lactation periods. It is poor economy to underfeed the dairy cow because her maintenance requirements for the year will remain the same and her milk production will be certain to suffer.

There are cows that are overfed, thus receiving food in addition to the requirements for maintenance and milk production, and this extra food is used for fat formation. This happens where all the cows are fed alike, irrespective of lactation period and production. This is also poor economy, because when many cows start to "flesh up" they continue to do so at the expense of milk production.

The best ration will depend upon the condition, individuality and record of the cow, but it is a common practice to allow one pound of grain for each two and a half to four and a half pounds of milk produced, depending upon the richness of the milk, or six to eight pounds of grain for each pound of butter fat. In addition to this grain ration, the average cow should receive one to one and a half pounds of clover or alfalfa hay and two and a half to three pounds of corn silage for each 100 pounds live weight.

ADVANTAGES OF DAIRYING

Dairying maintains the fertility of the soil.
 Dairying furnishes a steady income.
 Dairying furnishes a steady employment of labor.
 The market for dairy products is steady.
 Dairying utilizes unsalable roughage.
 Dairying affords opportunity for increased income.
 Dairying utilizes waste land.

THE WORK OF THE IOWA STATE DAIRY ASSOCIATION

INCREASED PRODUCTION NECESSARY

The necessity for the increase in the production of dairy products is more essential now than ever before. This is shown most emphatically in a brief summary of the imports and exports of dairy products for the past five years; figures for which have been obtained through the Dairy Division, U. S. Department of Agriculture.

During the year 1913 the United States imported large quantities of dairy products from foreign countries in the form of cheese, amounting in round numbers to 460,000,000 pounds. In 1914 the amount of dairy products coming to this country amounted to 700,000,000 pounds, 90,000,000 of which was in the form of butter and 610,000,000 in the form of cheese.

In 1913 we exported approximately 50,000,000 pounds of butter and 30,000,000 pounds of condensed milk, but in 1914 we did not export butter at all and the exports of condensed milk fell to about 10,000,000 pounds.

In 1915 the great change came; we did not import dairy products to any extent but became a great exporting nation.

In 1915 we exported 120,000,000 pounds of butter, 80,000,000 pounds of cheese and 15,000,000 pounds of condensed milk. During 1916 we increased these exports to 275,000,000 pounds of butter, 125,000,000 pounds of cheese and 350,000,000 pounds of condensed milk. During the year 1917 we more than doubled the exports of 1916. Our butter exports amounted to 550,000,000 pounds. Our cheese exports reached the \$510,000,000-pound mark and our condensed milk amounted to 600,000,000 pounds.

The year 1917 was the banner year. It was one of excitement, as all will remember. High prices prevailed and prosperity for the dairymen seemed to be assured. The question was then, and is now, "How did we do it?" The answer is simple. We saved, we conserved, we produced more.

The figures for 1918 are only preliminary, but they reflect the experience of the industry rather accurately. In February, 1918,

the dairy interests began to be alarmed. The markets were congested, prices for milk and butterfat were getting low, but the price of feed and labor continued at the high water mark.

Dairymen were afraid. The condenser companies and creamerymen offered no encouragement, and when the dairymen got together in Chicago, April 12th and 13th, they were a serious bunch. It was learned that ships for transporting dairy products were not available and hence, the markets could not be cleared by exportation.

Good business management prevailed. The people were advised to eat more and they did. This government and foreign governments used their purchasing power and the day was saved. No one was hurt seriously and the dairy industry remained intact.

During 1918 it is estimated that we will export approximately 320,000,000 pounds of butter, 330,000,000 pounds of cheese, and 1,250,000,000 pounds of condensed milk.

The exportation of butter and cheese dropped off considerably, but the condensed milk exportation made up the shortage, so that our total exports will be far in excess of the year 1917.

In 1913 when we imported 460,000,000 pounds of cheese dairy product, we had the production of 90,000 cows estimating that the average production was 4,000 pounds per cow, while we were exporting butter and condensed milk from approximately 15,000,000 allowing the same production per cow.

In 1914 we exported the products of approximately 5,000 cows and received the products of 175,000. In 1917 we exported the product of approximately 375,000 and in 1918 it is estimated that the products of 490,000 cows will be shipped abroad.

With less than half the milk cows in Europe, that were there before the war the indications are that the United States will not only be required to continue to furnish dairy products but she must also supply thousands of dairy cattle for foundation stock in the devastated countries.

BUILDING IOWA HERDS

Due to the shortage of labor and the high cost of feed for the production of milk many herds in Iowa have been dispersed. The cost of production has also caused many dairymen to investigate the profitableness of their cows and has resulted in the sale of the unprofitable animals. All of these factors have had a tendency to reduce production. In order to overcome this loss the Iowa State Dairy Association has been bending its efforts toward the organ-

ization of dairy calf clubs, and assisting the farmers to purchase high grade and pure bred dairy cattle.

The clubs which were organized in 1917 and completed their work in 1918 are as follows:

Organized by	Location	No. of Calves
Farmers Savings Bank.....	Barnes City	40
Central Savings Bank.....	What Cheer	42
First Savings Bank.....	Sutherland	61
Brighton State Bank.....	Brighton	45
Brighton and Johnson Bank.....	Waterloo	189
Leavitt National Bank.....	New Sharon	28
Iowa Savings Bank.....	Wellman	65

The clubs organized during 1918 and which will close their year's work in 1919 are as follows:

Organized by	Location	No. of Calves
Farmers Co-operative Creamery.....	Britt	32
National Bank of Decorah.....	Decorah	169
Farmers Co-operative Creamery.....	Exira	34
Merchants National Bank.....	Grinnell	25
First National Bank.....	Iowa City	52
Farmers Co-operative Creamery.....	Klemme	38
Farmers Co-operative Creamery.....	Leland	46
All Banks Co-operating.....	Milford	64
Riceville Creamery Co.....	Riceville	20
Saratoga Co-operative Creamery.....	Cresco	32
Supt. of Schools.....	Strawberry Point	22
Farmers Co-operative Creamery.....	Victor	10
Bank of Woden.....	Woden	28
Farmers Co-operative Creamery.....	Clear Lake	12

OTHER WORK

From November 1 1917, to November 1, 1918, representatives of the Association met 153 audiences. The records of attendance show that 21,584 people were reached. Of the 153 audiences 38 were in attendance at farmers institutes and 115 at creamery and dairy meetings.

A special campaign was conducted in the southern part of the state during the winter of 1917 and 1918. The Association worked in connection with the Dairy and Food Commission and Iowa State College.

Community Dairy Shows have been conducted in connection with most of the Association meetings.

During the spring and fall months when the work is urgent on the farm and it is therefore difficult to hold meetings, bulletins are sent to the local newspapers. These contain timely suggestions

which assist the farmer in solving the problems which confront him with reference to his dairy herd. They are written with the idea of assisting the creameries in improving the quality and quantity of raw product. The newspapers are lending their assistance by giving the information a prominent place in their columns.

A service department to assist the man just entering the dairy business to locate and purchase foundation animals for his herd was also conducted. The object of this department is to bring the man who has dairy cattle for sale in contact with the man who wishes to buy. A large number of farmers have taken advantage of this service and many of them have been enabled to purchase the animals they desired at a much smaller expense than if they had attempted to locate the stock themselves. It has been a means of encouraging the purchase of pure bred dairy sires to head herds of ordinary type in many sections of the state.

The Dairy Cattle Congress which was originally started by the Association and is now recognized as one of the two great national dairy expositions was fully as successful this year as before in spite of the war conditions. This show brings dairy cattle breeders with their choice animals from every part of the United States and offers the farmers of not only Iowa, but the Mississippi Valley an opportunity to become acquainted with the various breeds. Premiums are offered for butter, cheese, and milk, which in addition to the display of dairy appliances and farm implements, bring thousands of prosperous farmers. The convention proper is held in a building on the grounds, the subjects of interest to the butter-makers, creamery men and dairymen are discussed by authorities of national reputation.

Good authorities tell us that six and eight-tenths pounds of corn fed to a good beef steer will produce one pound of live weight worth 16 cents.

This same feed or its equivalent in cost will produce a pound of butterfat worth 60 cents when fed to a good dairy cow.

You must sell the steer before you get the 16 cents and you have nothing left. After receiving 60 cents for the butterfat you have the cow left to go on and produce her like and continue to act as a source of income.

The difference between the price that the steer returns for the feed and what is received for the butterfat is 44 cents. We think this fair compensation for your labor.

LAWS ENFORCED BY DAIRY AND FOOD COMMISSIONER

DAIRY LAW

The object of the dairy law is to insure the manufacture of clean, wholesome dairy products of uniform quality and possessing high nutritive value, and to encourage and promote all branches of the dairy industry, thereby securing for Iowa farmers a steady and fair market for one of Iowa's most valuable agricultural products.

FUNCTION OF ASSISTANT COMMISSIONERS AND DAIRY INSPECTORS

Inspection and educational work relative to sanitary conditions of dairy farms, cream buying stations, creameries, condensed milk factories, cheese factories, ice cream factories.

EDUCATIONAL WORK AT CREAMERIES

Instructs buttermakers in new methods of handling raw materials and manufacture of butter.

Confers with and addresses creamery boards and assists in moulding policies of the creameries.

Assists in the building of new and remodeling of old creameries, and installation of new equipment.

Periodically checks moisture content of the butter being made.

Periodically checks salt content of the butter being made.

Studies methods of manufacture at the creameries for the purpose of increasing the efficiency of the plant.

Checks costs of production and costs of marketing.

Advises creamery as to best sources of equipment and materials.

Assists in securing frequent and regular transportation facilities.

Assists in securing satisfactory markets in our eastern cities for butter.

Tests creamery scales, both test scales and platform scales, to insure accuracy and fair dealing.

Schools operators in conducting babcock test.

Holds examinations to determine competency of candidates to hold license to perform babcock test.

Checks and controls production of navy butter.

Checks and controls production of Iowa trade-marked butter.

Assists in the organization of cow-test associations and calf clubs.

Assists in educational work tending to promote greater and more economical production of milk and cream.

INSPECTION WORK IN THE FIELD

Inspects stocks of butter and butter substitutes at, warehouses, stores, bakeries and restaurants to see that illegal butter and illegal butter substitutes are not carried in stock or offered for sale.

Investigates and conducts cases relative to testing of milk and cream by unlicensed babeock operators.

Investigates complaints relative to unlicensed milk plants and milk depots.

Investigates complaints relative to false reading of babeock test and other unfair practices.

Investigates complaints relative to the application of the anti-discrimination law as affecting the purchase of butter fat.

FUNCTION OF THE LOCAL MILK INSPECTORS

In charge of local milk inspection work under supervision of State Milk Inspector.

Inspects dairy farms supplying market milk to his district.

Inspects conditions, scores and keeps records as to sanitary conditions of dairies, milk plants and milk depots.

Periodically tests percentage of fat and solids in milk sold in his territory.

Periodically secures and forwards samples to the department laboratory for scoring and bacteriological analysis.

Investigates complaints as to quality of milk delivered and relative to violations of the laws pertaining to the production and sale of milk in his territory.

FOOD LAW

The object of the food law is to prevent the manufacture and sale of harmful, deleterious and adulterated foods or foods which are sold under false representation as to their quality or value.

FUNCTION OF FOOD INSPECTORS UNDER FOOD LAW

Inspect Iowa establishments where foods are manufactured to see that no harmful or fraudulent adulterant enters their composition.

Inspects conditions under which foods are stored, transported and sold to see that adulteration is not practiced.

Surveys and forwards to laboratory samples of foods which he suspects or concerning which he receives complaint as to quality, adulteration or short weight.

Inspects retail establishments to see that no illegal food-stuffs are carried in stock.

Inspects quality of eggs, poultry and other farm produce sold to buyers and handled through trade channels to see that these produce are not spoiled or in a condition which would lead to their being spoiled before reaching the consumer.

SANITARY LAW

The object of the sanitary law is to insure cleanliness in the manufacture, distribution and sale of foods.

* FUNCTION OF INSPECTORS UNDER SANITARY LAW

Determines sanitary conditions in establishments where foods are manufactured, prepared, stored and sold.

Sees that raw materials are in sound condition and that decayed and other unwholesome materials are kept out of food products.

Sees that no diseased persons are employed in establishments where foods are manufactured or sold.

Sees that foods are properly protected from dust, dirt, foul odors, flies, rodents and other contaminating agencies.

Sees that restaurants, hotels and other similar establishments maintain proper toilet and washroom facilities in order that employees can keep clean.

SEED LAW

The object of this law is to prevent the sale of undesirable varieties of seeds, seeds of low germination, dirty seeds, seeds containing excessive amounts of weed seeds, and seeds which are short in weight.

FUNCTION OF INSPECTORS

Inspects seed houses to see that seeds are properly cleaned and stored.

Traces the origin of seeds to see that undesirable and too slow maturing varieties are not imported.

Sees that packages of seeds are full weight.

Investigates complaints relative to fraudulent dealing in seeds.

Samples stocks of seeds and sends samples to laboratory for analysis.

WEIGHT AND MEASURE LAW

The object of the Weight and Measure law is to secure for all the true weight or measure of the commodity sold or purchased.

FUNCTION OF THE WEIGHT AND MEASURE INSPECTORS

Inspects and tests accuracy of all weights, measures and scales used in the purchase and sale of articles of commerce.

Checks weights or measures of articles bought and sold by weight or measure to see that proper weights and measures have been given.

Inspects heavy wagon, elevator and mine scales to see that they are properly installed and kept adjusted.

Investigates complaints relative to false weights and measures and other violations of the weight and measure law.

CONCENTRATED COMMERCIAL FEEDING STUFFS LAW

The object of this law is to secure fair dealing in the sale of commercial feeds.

FUNCTION OF INSPECTORS

Examine stocks of feeds to see that they are properly labeled as to quality, etc., and to forward samples to laboratory for analysis and comparison of feeding value.

Inspect stocks of feeds to see that packages bear tax tags.

Other laws enforced by this department are:

Paint and Linseed Oil Law,

Turpentine Law,

Cold Storage Law,

Commercial Fertilizer Law,

Calcium Carbide Law,

Insecticide and Fungicide Law.

The duties of inspectors under these laws are similar to their duties under the laws in which duties are set forth in detail.

SUMMARY

During the year ending November 1, 1918, our inspectors have inspected a total of 23,028 establishments as follows:

Grocery	4,632
Meat Market	3,558
General Store	2,383
Bakery	814
Slaughter House	124
Restaurant	1,813
Coal Dealer	1,253
Elevator	1,185
Feed Store	474
Ice Cream Factory	651
Creamery	1,536
Dairymen	643
Farm Dairy	240
Confectionery	493
Wholesale Grocer	432
Seed Dealer	80
Bottling Works	131
Cream Station	2,031
Produce	716
Miscellaneous	467
Total	23,028

The following tabulation shows the nature of samples analyzed in our laboratory during the year:

Cream and Milk	1,110
Ice Cream	103
Paints and Oils	16
Miscellaneous Food Products	397
Samples for Attorney General and County Attorneys	83
Samples for Pharmacy Commission	8
Stock Foods	304
Seeds	69
Bacteriological Analysis	347
Board of Control	23
Total	2,460

DEPARTMENT FINANCES

Fees Received Year Ending October 31, 1918.

Inspection Fee Tags	\$23,157.08
Sanitary Law Licenses	11,526.00
Scale Inspection Fees	7,345.61
Babcock Test Licenses	5,230.00
Scale Tag Licenses	4,365.00
Stock Food Licenses	3,675.00
Milk Licenses	2,935.00
Commercial Fertilizer	320.00
Cold Storage	225.00
Butter Trade-Mark Expenses of Wrappers and Labels	35.39
Feeding Stuff Analysis	34.00
Seed Analysis	11.00
Total	\$58,762.08

EXPENSES YEAR ENDING OCTOBER 31, 1918.

Name	Salary	Expenses	Total
W. B. Barney	\$ 2,700.00	\$ 277.79	\$ 2,977.79
E. L. Redfern	2,400.00	40.75	2,440.75
L. P. Anderson	1,500.00	1,017.25	2,517.25
J. S. Butler	1,200.00	704.06	2,304.06
C. S. Bogle	1,650.00	781.06	2,431.06
A. B. Briggs	1,600.00	1,413.20	3,013.20
B. O. Brewster	1,600.00	1,140.65	2,740.65
T. A. Clarke	1,600.00	1,041.63	2,641.63
L. L. Flickinger	1,600.00	1,069.70	2,669.70
M. E. Flynn	1,600.00	731.00	2,331.00
G. M. Lambert	1,600.00	1,008.79	2,608.79
H. W. McCreary	1,600.00	889.26	2,489.26
J. W. Milnes	1,600.00	727.13	2,327.13
E. J. Nolan	1,600.00	1,843.04	3,443.04
C. Ottosen	1,600.00	1,007.59	2,607.59
Dr. O. T. Thompson	1,600.00	1,469.34	3,069.34
S. O. Van De Bogart	1,600.00	735.65	2,335.65
W. H. Harrison	2,000.00	77.55	2,077.55
P. W. Stephenson	1,566.64	656.41	2,123.05
*E. C. Lytton	1,250.00	28.10	1,378.10
*R. E. Clemons	1,288.79	858.28	2,147.07
*M. E. McMurray	902.12	711.00	1,613.12
*H. E. Forrester	946.21	775.52	1,716.73
*E. A. Countryman	871.84	524.84	1,408.88
*C. O. Fraser	755.55	380.59	1,136.39
*L. P. Shaffer	683.87	411.19	1,095.06
*H. A. Stearns	424.69	213.78	638.47
*Humphrey Richards	339.99	228.13	568.12
*A. W. Day	1,083.33		1,083.33
*P. W. Crowley	1,050.00	155.10	1,205.10
R. V. Murphy	1,125.03		1,125.03
Elms Schneck	900.00		900.00
*Florence Gallarno	704.02		704.02
*Rens Thorson	575.82		575.82
*Mrs. Vera Thompson	225.00		225.00
*Margie Garrity	77.42		77.42
*G. H. Chittick	375.00	4.15	379.15
*W. G. Jordan	775.02		775.02
*W. C. McCarty	336.54		336.54
Janitor Service		826.67	826.67
General Expense		2,850.47	2,850.47
Inspection Fee Tags		2,800.20	2,800.20
Milk Agents' Fees		4,250.46	4,250.46
Milk Agents' Expense		426.86	426.86
Freight and Drayage		180.18	180.18
Telephone		92.93	92.93
Express		58.02	58.02
Electricity		26.01	26.01
Telegraph		22.08	22.08
Total	\$47,566.98	\$32,305.77	\$79,872.75

*Employed less than a year.

CITY MILK LICENSES

Table showing the number of milk licenses issued to city milk dealers for each year from 1909 to 1918. In each case the year ends on July 4th.

Year	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Number	1,149	1,106	1,310	1,908	2,038	2,189	2,365	2,729	2,856	2,901

LOCAL STATE MILK INSPECTORS OF THE STATE OF IOWA

Cities	Inspectors
Adams	Maurice Healy, M. D.
Burlington	W. F. Schroeder
Cedar Rapids	Phillip Pray
Council Bluffs	W. M. Hendrix
Davenport	W. J. High
Des Moines	W. B. Barney, Jr.
Clinton	J. H. Spence, D. V. S.
Dubuque	J. N. Graham, D. V. S.
Ft. Dodge	Francis Ludgate, M. D. C.
Iowa City	C. S. Chase, M. D.
Keokuk	Geo. R. Narrie, M. D.
Marshalltown	R. M. Allen, D. V. S.
Mason City	A. L. Wheeler, M. D.
Muscatine	C. J. Hackett, D. V. S.
Ottumwa	B. W. Van DerVeet
Sioux City	W. D. Hayes, C. P. H.
Waterloo	E. J. Eaves

REPORT OF COMMISSIONER

CREAMERY STATISTICS OF IOWA

SHOWING POUNDS OF MILK AND CREAM RECEIVED, POUNDS OF BUTTER MADE AND DISPOSITION OF SAME, SO FAR AS REPORTED

County	No. of creameries reported	Pounds of milk received	Pounds of cream received	Pounds of butter manufactured	Pounds sold to patrons	Pounds sold outside the state	Pounds sold in Iowa
Adair	5	133,192	1,145,492	402,057	36,488	328,428	76,736
Adams	1		244,450	88,291	9,863	60,833	17,673
Appanoose	1						
Allamakee	7		541,543	1,842,609	74,908	1,698,284	82,563
Ashtabula	6	54,371	1,491,920	511,948	43,921	566,712	54,668
Benton	4	220,800	1,183,380	460,657	2,269	72,991	78,953
Black Hawk	12	11,669,510	4,973,122	1,936,973	90,371	1,197,956	619,488
Boone	1	129,367	41,837		3,799	38,671	
Bremser	24	60,650,902	1,711,796	3,651,868	287,829	2,208,681	180,445
Buchanan	6	10,511,222	876,948	1,246,103	104,674	1,119,546	117,600
Buena Vista	3	435,468	1,166,090	403,531	22,187	313,554	192,396
Butler	9	2,817,093	2,619,654	1,111,830	74,256	11,561,873	123,442
Calhoun	4	96,530	709,653	374,273	29,941	307,553	35,214
Carroll	7	333,939	1,958,808	748,412	20,970	552,269	411,823
Cass	2	1,430,471	602,301	456,760	573	377,969	53,258
Cedar	5	43,327	2,487,422	852,297	43,560	529,482	760,610
Cerro Gordo	7	626,631	7,778,082	2,348,229	53,437	2,084,454	256,353
Cherokee	1		68,548	29,474	100	6,361	9,656
Chickasaw	9	6,314,899	4,606,292	2,111,813	145,201	3,700,902	74,396
Clay	7	289,000	935,297	546,262	52,947	683,511	12,211
Clayton	13	14,576,545	4,747,177	2,249,333	113,626	1,688,736	171,421
Cleton	1	15,266	3,658,619	1,513,831	33,723	1,199,868	107,522
Crawford	1	89,334	938,922	379,425	156	353,378	19,094
Dallas	1	130,750	131,799	52,260	7,560		41,828
Delaware	1	11,533,962	2,392,250	2,414,032	136,438	1,973,680	175,776
Des Moines	1	14,352	336,160	149,675	580	29,607	124,897
Dickinson	1	1,177,923	589,228	352,949	501,113	59,797	
Dubouque	15	5,892,366	3,248,995	2,791,503	168,871	3,146,981	287,342
Empire	2	87,272	2,928,227	841,666	27,241	328,407	25,650
Fayette	19	21,659,482	7,087,827	2,934,021	201,379	2,354,456	491,981
Floyd	4	61,678	1,545,326	737,283	26,799	566,235	185,913
Franklin	6		2,309,225	727,732	32,275	692,547	164,390
Greene	1		11,129	45,737	3,538	13,299	23,683
Grundy	4	536,407	1,221,149	625,362	44,361	612,978	9,486
Guthrie	5	84,412	1,079,817	343,879	17,883	148,532	137,373
Hamilton	3	645,827	401,096	131,247	29,843	71,196	14,332
Hancock	6	69,463	4,062,564	1,172,440	39,159	1,063,277	82,917
Hardin	11	90,973	3,082,442	3,193,680	93,014	784,183	131,256
Harrison	1	91,000	25,000				
Henry	1		13,000				
Howard	1		3,051,176	1,419,626	33,284	1,207,133	190,619
Humboldt	5	181,000	1,691,931	806,282	22,321	698,712	147,788
Ia	1			10,800	2,600	8,800	
Iowa	7	22,906	1,627,531	563,911	34,146	311,013	233,629
Jackson	9	57,719	3,794,373	1,328,715	38,321	1,297,739	82,817
Jasper	1		231,608	75,491	332	4,672	79,819
Johnson	2		981,221	214,300	152,000	162,434	
Jones	7	5,390,560	1,673,873	111,304	1,292,533		96,668
Keokuk	2		688,424	272,054	1,008	221,044	45,378
Kossuth	14		4,291,864	1,531,638	145,037	1,130,204	117,282
Lee	2		1,273,189	1,421,831	36,915	1,279,869	87,891
Linn	6		3,938,430	1,491,238	42,328	1,082,830	222,147
Lucas	1		527,699	121,098	112,000	9,098	
Lyon	3		614,657	646,838	5,743	342,300	1,385,225
Mahaska	2			223,042			
Marshall	3		1,172,147	631,145	61,428	483,165	119,612
Mitchell	7		9,853,720	1,411,666	99,641	1,247,550	44,238
Monroe	1			46,399	1,668	36,433	15,862
Monroe	1		118,500	49,900	1,000	39,000	

CREAMERY STATISTICS OF IOWA—Continued.

County	No. creameries reported	Pounds of milk received	Pounds of cream received	Pounds of butter manufactured	Pounds sold to patrons	Pounds sold outside the state	Percentage sold to patrons	
Montgomery	1		865,991	161,191	5,177	28,524	6.00	
Muscatine	1		395,351	77,673	2,453	34,929	8.53	
O'Brien	3		832,941	363,227	15,303	164,277	21.00	
Osceola	4	18,434	556,066	327,547	19,285	231,486	41.63	
Page	1		715,537	871,841		790,267	90.92	
Palo Alto	9	866,735	2,519,202	1,191,984	130,494	966,434	38.40	
Plymouth	1		275,000	88,000	500	87,000	31.64	
Pocahontas	2		28,800	369,537	128,487	9,812	81.24	
Polk	4	7,165,338	8,762,539	2,825,182		875,078	30.87	
Pottawattamie	1		493,880	1,439,483	3,300	1,141,384	78.65	
Poweshiek	2	183,030	148,000	50,900	200	77,706	52.49	
Ringgold	1		127,820	221,350	21,917	104,632	47.26	
Sac	1		1,940,647	783,663	288,532	330,689	42.19	
Scott	1		32,220	131,005	14,717	116,226	88.68	
Shelby	1		3,537,584	1,613,718	71,237	1,091,047	67.06	
Sioux	7	416,298	1,692,868	643,103	111,400	383,541	22.67	
Story	8	147,444	1,148,000	160,000	10,000	130,000	11.36	
Tama	1		178,093	291,556	16,500	132,564	59.80	
Taylor	1		2,423,493	843,447	4,356	723,477	30.28	
Union	2	118,566	34,565	41,600	2,750	31,790	76.10	
Van Buren	1		3,494,663	1,853,521	44,246	912,739	54.67	
Wapello	3		3,009,066	688,506	1,876	613,729	88.11	
Wayne	1		1,747,081	387,800	13,391	89,611	51.31	
Webster	4	214,466	5,297,597	1,473,322	153,981	1,580,126	30.12	
Winnebago	9	1,149,701	7,582,014	255,216	71,426	2,138,892	28.12	
Winneshiek	11	19,715	2,319,660	29,594,806	11,965,096	912,323	89.12	
Woodbury	3		11,500	3,609,808	1,236,016	73,600	895,714	20.85
Worth	3		143,569	997,823	271,372	15,918	175,182	16.73
Wright	9							
	420	158,882,622	192,638,720	83,349,309	4,383,293	65,317,684	32.40	

CONDENSED MILK FACTORIES

Number	Name of Factory	Located at or Near	Name of Proprietor, Secretary or Manager	P. O. Address of Proprietor, Secretary or Manager	P. O. Address of Manager
1	Bremer County— Mohawk Condensed Milk Co.	Waverly	S. J. Scudder	New York City	W. E. Bock
2	Dallas County— Perry Packing Co.	Perry	Leroy Corlies	Omaha, Neb	H. Z. Eyster
3	Washington County— Hawkeye Cond. Milk Co.	Brighton	O. F. Mangold	Brighton	O. F. Mangold

CHEESE FACTORY LIST

Number	Name of Factory	Located at or Near	Name of Proprietor, Secretary or Manager	P. O. Address of Proprietor, Secretary or Manager	P. O. Address of Manager
1	Adams County— Nodaway Factory	Nodaway	F. M. Eastlack	Nodaway	Francis Eastlack
2	Allamakee County— Cherry Mound	S. of Waukon	D. J. Murphy	Waukon	R. Gerber
3	Forest Mills Factory	S. of Waukon	D. J. Murphy	Waukon	K. E. Austin
4	French Creek Factory	S. of Waukon	D. J. Murphy	Waukon	Frank Best
5	Hanover No. 2 Factory	S. of Waukon	D. J. Murphy	Waukon	Otto Steinhart
6	Hanover No. 1 Factory	S. of Waukon	D. J. Murphy	Waukon	M. Heilenbrecht
7	Rossville Cheese Factory	Rossville	D. J. Murphy	Waukon	M. W. Winger
8	Village Creek Factory	S. of Waukon	D. J. Murphy	Waukon	R. F. Ole
9	Dorchester Factory	Dorchester	D. J. Murphy	Waukon	Emil Proseclnik
10	Waukon Mill Factory	Waukon	D. J. Murphy	Waukon	John Chaloupnik
11	Volney Factory	Volney	D. J. Murphy	Waukon	R. E. Fredenfels
12					Monona

CHEESE FACTORY LIST—Continued.

Number	Name of Factory	Located at or Near	Name of Proprietor, Secretary or Manager	P. O. Address of Proprietor, Secretary or Manager	Name of Cheesemaker	P. O. Address of Cheesemaker
13	Bremer County— Janesville Co-op. Cheese Plyc.	Janesville	Robt. Hallen	Janesville	Chas. Bye	Janesville
14	Cass County— Lewis Cheese Factory	Lewis	Mrs. M. M. Delean	Lewis	John H. Jaberg	Lewis
15	Clayton County— Elkport Cheese & Cream Co.	Elkport	Geo. L. Gifford	Elkport	Henry Eickhoff	Elkport
16	Howard County— Jamestown Cheese Factory	Riceville	John Stittler	Riceville	John Stettler	Riceville
17	Humboldt County— Pioneer Cheese Factory	Renwick	Willie Keller	Renwick	Willie Keller	Renwick
18	Elmer Cheese Factory	Renwick	Badger Cheese Co.	Monroe, Wis.	Albert Keller	Renwick
19	Muscataine County— Muscataine French Cheese Co.	Wilton Jct.	P. A. Schmidt	Wilton Jct.	P. A. Schmidt	Wilton Jct.
20	Polk County— Norwalk Cheese Factory	Norwalk	Joe Percini	Norwalk	Joe Percini	Norwalk

*Central Churning Plant.

c-Co-op.

s-Stock.

i-Individual.

DAIRY AND FOOD DEPARTMENT

CREAMERY LIST

Number	Name of Creamery	Located at or Near	Name of Proprietor, Secretary or Manager	P. O. Address of Proprietor, Secretary or Manager	Name of Buttermaker	P. O. Address of Buttermaker
	Adair County—					
1	Greenfield Cry. Co.	Greenfield	W. A. Foster	Greenfield	Chris Lundhoy	Greenfield
2	Adair Co-op. Cry. Co.	Adair	D. J. Couden	Adair	J. T. Ryan	Adair
	Adams County—					
3	Farmers Mut. Co-op. Cry.	Prescott	O. M. Green	Prescott	E. E. Green	Prescott
	Appanoose County—					
4	Strickler Cry. Co.	Centerville	L. F. Strickler	Centerville		
	Allamakee County—					
5	Postville Far. Co-op. Cry.	Postville, $\frac{1}{2}$ mi. W.	C. C. Sander	Postville	B. F. Schultz	Postville
6	Calhoun Cry. Co.	Lansing	C. J. Riser	Church	F. W. Hessel	Church
7	Arctic Springs Cry.	Quandahl 10 mi. S. Spr. G.	O. C. Flatberg	Spr. Gr. Minn.	Martin Goodno	Sp. Gr., Minn.
8	Far. Waukon Cry. Co.	Waukon	Chas. L. Hansmeier	Waukon	Albert H. Hansmeier	Waukon
9	Far. Co-op. Cry. Co.	Waterville	P. Mortenson	Waterville	J. O. Johnson	Waterville
10	New Albin Co-op. Cry.	New Albin	R. G. May	New Albin	E. S. Rice	New Albin
11	Ludlow Co-op. Cry.	Waukon	Henry Seibert	Waukon	Wm. P. Muth	Waukon
	Audubon County—					
12	Audubon Twp. Cry. Assn.	Exira, 6 mi. E.	L. P. Nelson	Exira	L. P. Nelson	Exira
13	West Hamlin Cry. Co.	Exira, 6 mi. W.	Martin Nelson	Exira	Carl Lyngs	Exira
14	Audubon Cry. Co.	Audubon	Peter Jensen	Hamlin	Peter Windfelt	Hamlin
15	Exira Cry. Co.	Exira	A. S. Stone	Exira	C. E. Peterson	Exira
16	Oakfield Twp. Cry.	Exira	Henry Dinggaard	Exira	M. Anderson	Brayton
17	Crystal Spring Cry. Co.	Kimballton	Geo. Marcuseen	Audubon	Peter Thuesen	Kimballton
	Benton County—					
18	Farmers Cry. Co.	Belle Plaine	John L. Sherk	Belle Plaine	C. H. Patterson	Belle Plaine
19	J. Beyer Cry. Co.	Norway	John Beyer	Norway	Geo. Phillips	Norway
20	Model Creamery Co.	Newhall	Wm. Galdermann	Newhall	Clay Seyo	Newhall
21	Vinton Cry.	Vinton	C. G. Daniels	Vinton	C. G. Daniels	Vinton

REPORT OF COMMISSIONER

CREAMERY LIST—Continued.

Number	Name of Creamery	Located at or Near	Name of Proprietor, Secretary or Manager	P. O. Address of Proprietor, Secretary or Manager	Name of Buttermaker	P. O. Address of Buttermaker
Blackhawk County—						
22	Far. Cry. Co. Co-op.	Dunkerton	G. S. Glecknet	Dunkerton	W. P. Hughes	Dunkerton
23	Crain Creek Cry.	Denver	Wm. Meier	Denver	Wm. Meier	Denver
24	Mt. Vernon Cry. Co.	Boies	Geo. H. Moeller	Denver	E. H. Rohrsen	Cedar Falls
25	Benson Dairy Co.	Benson	J. R. Dinmond	Cedar Falls	J. P. Lorenzen	Cedar Falls
26	Co-op. Cry. of Jubilee	Jesup	A. J. Widdel	Jesup	Harley Evert	Jesup
27	Union Cry Co.	Pinchford	G. A. Everson	Janesville	Thomas Sadler	Janesville
28	Cedar Valley Cry.	Waterloo	Wm. Widdel	Waterloo	Frank Winslow	Waterloo
29	Hudson Co-op. Dairy Assn.	Hudson	A. H. Brandhorst	Hudson	W. McFarlane	Hudson
30	Cedar Falls Cry Co.	Cedar Falls	Riedel Jensen	Cedar Falls	Carl Hestbech	Cedar Falls
31	C. W. Fosse Cry.	LaPorte	C. A. Fosse	La Porte City	H. Bettner	La Porte City
32	Orange Creamery	Waterloo	C. Bechtelheimer	Waterloo	R. W. Chadwick	Waterloo
Boone County—						
33	Rosendale Co-op. Cry Co.	Story City, 6 mi. W., 1 1/4 mi. N.	L. C. Peterson	Story City	J. M. Gertsen	Story City
Bremer County—						
34	Climax Cry. Assn.	Sumner	E. Lampe	Sumner	L. L. Zbornik	Sumner
35	Western Douglas Cry. Co.	Plainfield	Carl O'berien	Plainfield	Ernest Haase	Waverly
36	Excelsior Cry. Co.	Sumner	Geo. Rockdaechel	Sumner	W. P. Hughes	Sumner
37	Readlyn Co-op. Cry.	6 mi. N.W.	H. A. Griese	Readlyn	H. A. Griese	Readlyn
38	Frederika Cry. Assn.	Readlyn	J. H. McDonald	Frederika	John Ambruse	Readlyn
39	Spring Fountain	Sumner	Wm. Zell	Sumner	F. W. Bremer	Frederika
40	Janesville Cry. Assn.	Janesville	D. K. Smailing	Janesville	B. O. Squires	Janesville
41	Tripoli Cry. Co.	Tripoli	J. A. Eerlin	Tripoli	F. H. Harms	Tripoli
42	Potter Siding Cry. Co.	Tripoli	Fred Hildbrant	Waverly	E. M. Guiney	Waverly
43	Sumner Creamery Co.	Sumner	S. A. Munger	Sumner	E. B. Olde	Sumner
44	Washington Cry. Co.	Waverly	M. S. Fritschel	Waverly	O. H. Bucher	Waverly
45	Dayton Creamery Co.	Sumner	F. E. Hatch	Sumner	C. H. Zell	Sumner
46	Siegel Cry. Co.	Tripoli	Fred Rodemeyer	Tripoli	J. W. Wetemeyer	Waverly
47	Fremont Creamery	Tripoli	J. L. Clark	Tripoli	J. L. Clark	Tripoli
48	Denver Cry. Co.	Denver	E. W. Brandt	Denver	A. W. Mosey	Denver
Buchanan County—						
49	Klinger Cry. Co.	Readlyn, 3 mi. S.	C. H. Rohrsen	Fairbank	C. H. Rohrsen	Fairbank
50	Artesian Co-op. Co.	Waverly, 6 mi. S. E.	Henry Seegers	Waverly	Carl Meier	Waverly
51	First Maxfield Cry Co.	Denver	H. C. Griese	Denver	H. C. Koeneke	Denver
52	Knittlet Cry. Co.	Readlyn	J. Stottmann	Readlyn	P. H. Whelng	Readlyn
53	Little Valley Cry.	Sumner, 6 mi. S.	Chas. Krueger	Sumner	Fred Wills	Sumner
54	Gilt Edge Cry.	Plainfield	James Mellinger	Plainfield	R. L. Alderson	Plainfield
Hazelton Fr. Co-op. Co.						
55	Lamont Creamery Assn.	Lamont	O. C. Gladwin	Lamont	E. A. Cole	Lamont
56	Hazelton Fr. Co-op. Co.	Hazelton	J. W. Basham	Hazelton	Matt McDowall	Hazelton
57	Fairbank Cry. Co.	Fairbank	A. E. Langley	Fairbank	A. E. Brant	Fairbank
58	Jesup Creamery Co.	Jesup	C. L. Bright	Jesup	H. E. Fowler	Jesup
59	Winthrop Creamery	Winthrop	E. C. Capper	Winthrop	J. L. Slaughter	Winthrop
60	Wapsie Valley Cry.	Independence	C. V. Rosenberger	Independence	R. R. Stewart	Independence
Buena Vista County—						
61	Plain View Cry Co.	Storm Lake	L. W. McCreery	Storm Lake	L. W. McCreery	Storm Lake
62	Linn Grove Creamery	Linn Grove	Peter Peterson	Linn Grove	Peter Peterson	Linn Grove
63	Alta Creamery	Alta	J. J. Bork	Alta	J. J. Bork	Alta
64	Far. Cry. Prod. Co.	Newell	J. C. Proe	Newell	N. C. Olson	Newell
Butler County—						
65	Albin Co-op. Cry.	Parkersburg	W. H. Chapman	Parkersburg	Louis Johnson	Parkersburg
66	New Hartford Far. Mut.	New Hartford	R. I. Farnsworth	New Hartford	P. W. Peterson	New Hartford
67	Co-op. Cry. Co.	Clarksville	Mrs. M. J. Johnson	Clarksville	M. A. Cones	Clarksville
68	Clarkeville Cry. Co.	Allison	William Allan	Allison	Roy Sweet	Allison
69	Far. Co-op. Cry. Co.	Allison	D. C. Austin	Shellrock	Frank Daniels	Shellrock
70	Shellrock Cry. Co.	Shellrock	Jacob Jacobson	Greene	Jacob Jacobson	Greene
71	Far. Co-op. Cry.	Greene	C. J. Rohde	Parkersburg	John S. Smith	Parkersburg
72	Community Creamery	Dumont	E. M. Reed	Dumont	E. M. Reed	Dumont
73	Dumont Creamery	Parkersburg	S. L. Patterson	Austinville	P. F. Anderson	Austinville
74	White Rose Cry.	Austinville				
Calhoun County—						
75	A. Baird & Co.	Lohrville	Hugh Baird	Lohrville	John J. Stamen	Lohrville
76	Cedar Creed Cry. Co.	Somers	S. P. Peterson	Somers	S. P. Peterson	Somers
77	Pomeroy Cry. Co.	Pomeroy	Harry Moon	Pomeroy	Geo. Froom	Pomeroy
78	Moon Bros. Cry.	Manson	Harry Moon	Manson	Chas. G. Moon	Manson
Carroll County—						
79	Dedham Creamery	Dedham	Hans Lauridsen	Dedman	Hans Lauridsen	Dedman
80	Halbur Cry. Co.	Halbur	M. J. Wagner	Halbur	M. J. Wagner	Halbur
81	Jensen Cry. Co.	Coon Rapids	Mens Jensen	Coon Rapids	Julius Shur	Coon Rapids

CREAMERY LIST—Continued.

Number	Name of Creamery	Located at or Near	Name of Proprietor, Secretary or Manager	P. O. Address of Proprietor, Secretary or Manager	Name of Buttermaker	P. O. Address of Buttermaker
82	Templeton Creamery	c Templeton	John Bieri	Templeton	Frank Domayer	Templeton
84	Farmers Co-op. Cry. Co.	c Breda	A. J. Polking	Breda	J. E. DuChavina	Breda
85	Rose Valley Cry.	c Russell	Celestus Kohorst	Carroll	Clemens Kohorst	Carroll
	Manning Cry. Co.	c Manning	J. A. Bruck	Manning	Geo. Albers	Manning
Cass County—						
86	Central Ia. Poultry Egg Co.	c Cumberland	Corin Bros.	New York	Victor Hattesen	Atlantic
87	Atlantic Produce Co.	c Atlantic	G. G. Jeck	Atlantic	W. E. Hoenke	Atlantic
Cedar County—						
89	Durant Far. Cry. Assn.	s Durant	H. H. Shafer	Durant	George Denton	Durant
90	West Branch Cry.	c West Branch	W. C. Phelps	West Branch	H. A. McConnell	West Branch
92	Lowden Far. Mut. Co-op. Cry. c	Lowden	Kossuth Pauls	Lowden	W. I. Sloan	Lowden
93	Golden Star	c Bennett	W. H. Kroeger	Bennett	B. R. Christensen	Bennett
94	Tipton Creamery	c Tipton	A. J. Garth	Tipton	O. E. Wichman	Tipton
	Massillon Co-op. Cry.	c Massillon	P. H. Schneider	Massillon	Peter White	Massillon
Cerro Gordo County—						
95	Ventura Farmers Cry.	c Ventura	J. E. Sawyer	Clear Lake	E. P. Conway	Ventura
96	Rockwell Co-op. Cry.	c Rockwell	F. C. Siegfried	Rockwell	F. D. Ford	Rockwell
97	Thornton Creamery	c Thornton	G. & H. Assink	Thornton	Geo. Assink	Thornton
98	Plymouth Co-op. Cry. Co.	c Plymouth	N. F. Ward	Plymouth	C. N. Hart	Plymouth
99	Far. Mut. Co-op. Cry. Co.	c Clear Lake	H. E. Palmeter	Clear Lake	Guy Thomas	Clear Lake
100	E. E. Higley Co.	c Mason City	C. O'Keefe	Mason City	M. M. Sorenson	Mason City
101	Daughterty Far. Cry.	c Dougherty	R. J. Mullen	Dougherty	P. J. Gaetzinger	Dougherty
Cherokee County—						
102	Cherokee Cry. & Btg. Wks.	c Cherokee	John H. Goeb	Cherokee	Leonard Lowell	Cherokee
Chickasaw County—						
103	New Hampton F. Cry Assn.	c New Hampton	J. W. Kriger	New Hampton	D. W. Mohler	New Hampton
104	Williamstown Cry. Assn.	c New Hampton	C. M. Burmaster	Fred'ricks'burg	Theo. Slack	New Hampton
105	Alta Vista Far. Co-op. Cry.	c Alta Vista	Albert Treizen	Alta Vista	R. Jorgensen	Alta Vista
Fredericksburg Butter Fety. c						
106	Fredericksburg Butter Fety. c	Fredericksburg	C. L. Whitcomb	Fred'ricks'burg	Chris Russler	Fred'ricks'burg
107	Lawler Creamery Assn.	c Lawler	Vincent Galligan	Lawler	John Finnegan	Lawler
108	Farmers Co-op. Cry. Assn.	c Nashua	A. H. Pickard	Nashua	Hugh Bullis	Nashua
109	Jerico Cry. Assn.	c Jerico, 11 mi N.E. of Hampton	T. O. Knutson	New Hampton	J. P. Kelly	New Hampton
110	Sande Co-op. Cry. Assn.	c Cresco	H. O. Natvig	Lawler	J. F. Nicks	Lawler
111	Ionia Far. Cry. Assn.	c Ionia	W. J. Heinmiller	Ionia	F. W. Stieckman	Ionia
Clayton County—						
112	The Farmers Co-op. Cry. Co.	c Edgewood	W. A. Robinson	Edgewood	W. H. Escheid	Edgewood
113	Littleport Far. Co-op. Cry. Co.	c Littleport	G. C. Ruegnutz, Jr.	Elport	E. Batchelder	Littleport
114	Strawberry Point Far. Cry. Co.	c Strawberry Point	C. D. Woodgett	Str. Point	H. D. Ladage	Strawberry Pt.
115	Union Far. Co-op. Cry.	c Monona	C. E. Hazlett	Monona	P. A. Jordahl	Monona
116	Garber Far. Co-op. Cry.	c Garber	R. F. Smith	Garber	L. C. Popenbagen	Garber
117	Far. Cry. Co.	s Osterdock	H. A. Mallory	Garber	R. J. Smith	Osterdock
118	Milville Cry. Co.	c Milville	Fred Mueller	Guttenberg	Robert Wilson	Turkey River
119	Garnavillo Far. Cry. Co.	c Garnavillo	A. J. Kregel	Garnavillo	J. F. Fisher	Garnavillo
120	Crown Branch Cry. Co.	c Elkader	J. T. Leonard	Elkader	J. Leonard	Elkader
121	Edgewood Cry. Co.	c Edgewood	H. P. Beyer	Edgewood	Royal Finman	Edgewood
122	Northern Iowa Prod. Co.	c McGregor	C. F. Limbeck	McGregor	H. Clough	McGregor
123	Farmersburg & St. Olaf Cry. c	St. Olaf	H. O. Larson	St. Olaf	Herbert Olson	St. Olaf
124	Volga Far. Cry. Assn.	c Volga	L. J. Tenney	Strawberry P	W. A. McGuenos	Volga
Clinton County—						
125	Farmers Co-op. Cry. Co.	c Wheatland	W. A. Templeton	Wheatland	R. E. Love	Wheatland
126	Far. Co-op. Cry. Co.	c Toronto	Henry Struck	Toronto	Wm. F. Shurke	Toront
127	Clinton County Central Cry.	c DeWitt	O. C. Copper	DeWitt	O. C. Copper	DeWitt
128	Swift & Co. Prod. Co.	c Clinton	F. W. Johnson	Clinton	H. W. Ames	Clinton
129	Charlotte Cry. Co.	c Charlotte	Marten Nielsen	Charlotte	Martin Nielsen	Charlotte
Crawford County—						
130	Nicholson Ice & Prod. Co.	s Denison	B. Y. Nicholson	Denison	A. Hyslop	Denison
Clay County—						
131	Royal Creamery Co.	s Royal	Peter F. Soenke	Walcott	D. R. Dunnett	Walcott
132	Fostoria Cry. Co.	c Fostoria	Victor Welter	Fostoria	Victor Welter	Fostoria
133	Greenville Cry. Co.	c Greenville	L. Larsen	Greenville	L. Larsen	Greenville
134	Far. Cry. Co. Co-op.	c Dickens	D. C. Van Hoven	Dickens	Geo. Plack	Dickens
135	Spencer Day Prod. Co.	c Spencer	Axel Miller	Spencer	E. Anderson	Spencer
136	Webb Creamery	c Webb	Jas. Stowring	Webb	Hartman Anderson	Webb
137	Langdon Mut. Co-op. Cry.	c Langdon	A. B. Cutler	Langdon	M. C. Peterson	Langdon
Dallas County—						
138	Far. Co-op. Cry. & Prod. Co.	c Dexter	Jas. L. Keachie	Dexter	Jas. L. Keachie	Dexter

CREAMERY LIST—Continued.

Number	Name of Creamery	Located at or Near	Name of Proprietor, Secretary or Manager	P. O. Address of Proprietor, Secretary or Manager	Name of Buttermaker	P. O. Address of Buttermaker
Delaware County—						
139	Silver Spring Creamery Co.	Delhi	E. B. Porter	Delhi	H. P. Bancroft	Delhi
140	Colesburg Co-op. Cry. Co.	c Colesburg	Robt. A. Gull	Colesburg	Landis	Crowsburg
141	Hazel Green Cry. Co.	c Hazel, 6 mi. E	Daniel King	Delhi	Alex. Graham	Manchester
142	Earlville Cry. Co.	c Earlville	I. S. Hulton	Earlville	H. G. Davis	Earlville
143	Farmers Cry. Co.	c Ryan	Henry Brayton	Manchester	W. I. Dilger	Ryan
144	Thorpe Far. Co-op. Cry. Co.	c Thorpe	M. E. Blair	Manchester	C. Stuessie	Manchester
145	Masonville Co-op. Cry. Co.	c Masonville	Mary O'Hagan	Masonville	M. Leyden	Masonville
146	Hear Grove Cry. Co.	c Dyersville	Ben J. Woerdehoff	Earlville	Joe E. Taylor	New Vienna
147	Hopkinton Cry. Co.	c Hopkinton	D. H. C. Johnston	Hopkinton	R. Fursten	Hopkinton
148	Manchester Co-op. Cry. Co.	c Manchester	L. F. Porter	Manchester	Elmer J. Reed	Manchester
149	Far. Mutual Cry. Co.	c Sand Spring	John L. Batchelder	Sand Springs	J. L. Batchelder	Sand Spring
150	Greely Farmers Co.	c Greely	W. E. Noble	Greely	W. R. Crabb	Greely
Des Moines County—						
151	Burlington Creamery Co.	Burlington	N. J. Nelson	Peoria, Ill.	Howard Lauren	Burlington
Dickinson County—						
152	Milford Par. Butter & Cheese Assn.	Milford	Fred W. Born	Milford	Fred Born	Milford
153	The Terrill Cry.	c Terrill	Percy Tjossen	Terrill	Percy Tjossen	Terrill
154	Lake Park Co-op. Cry. Co.	c Lake Park	J. G. Chrysler	Lake Park	E. E. Starr	Lake Park
155	Western Packing Co.	Spirit Lake	B. B. VanSteenburg	Spirit Lake	H. E. Theiss	Spirit Lake
Dubuque County—						
156	Balltown Far. Co-op. Cry. Co.	c Balltown	L. J. Sigwarth	Waupeton	Alfred Barker	Waupeton
157	Hickory Valley Cry. Co.	c Dubuque	Simon Burlage	Farley	Fred Havens	Farley
158	Hague Creamery	c Zwingie	H. S. Hague	Zwingie	H. S. Hague	Zwingie
159	Holy Cross Cry. Co.	c Holy Cross	Wm. Peiler	N. Buena Vista	J. F. Dawson	N. Buena Vista
160	Sherrill Mut. Co-op. Cry. Co.	c Sherrill	J. C. Boley	Dubuque	Fred Koeller	Specht's Ferry
161	Beatrice Cry. Co.	c Dubuque	A. F. Ulrich	Dubuque	Tony Norskow	Dubuque
162	New Vienna Central Cry. Co.	c New Vienna	H. F. Smith	New Vienna	M. O. Birwker	New Vienna
163	Swift & Co.	c Dubuque	H. M. Ross	Dubuque	Frank Gonsler	Dubuque
164	Wm. Friedman Globe Cry. Co.	c Luxenburg	Wm. Friedman	Turkey River	J. P. Cripps	New Vienna
165	Worthington Far. Cry. Co.	c Worthington	Wm. White	Worthington	Chris Beahler	Worthington
Hawkeye Farmers Cry. Co.						
166	Hawkeye Farmers Cry.	c Farley	C. B. Hanna	Epworth	Thom. Landis	Farley
167	Iowa Dairy Co.	c Dubuque	Andrew Fluetsch	Dubuque	H. E. Williams	Dubuque
168	Cascade Co-op. Cry. Co.	c Cascade	P. J. Coulin	Cascade	Al Fay	Cascade
169	Holy Cross Cry. Co.	c N. Buena Vista	Robt. Butters	Peosta	John Dawson	N. Buena Vista
170	Far. Golden Star Cry. Co.	c Dyersville	Albert J. Kern	Dyersville	D. F. Broers	Dyersville
Emmet County—						
171	Farmers Cry. Co.	Wallingford	O. O. Refrell	Wallingford	Chas. Reppin	Wallingford
172	Ringsted Co-op. Cry. Co.	c Ringsted	J. C. Jensen	Ringsted	J. C. Jensen	Ringsted
Fayette County—						
173	Farmers Co-op. Cry. Co.	c St. Lucas	G. H. Hackman	St. Lucas	Geo. Hauer	St. Lucas
174	Waucoma Far. Cry. Assn.	c Waucoma	W. H. Murphy	Waucoma	Frank Shipton	Waucoma
175	Maple Grove Cry. Co.	c Oelwein	Ray A. Bell	Oelwein	Floyd Bowdish	Oelwein
176	Alpha Far. Cry. Co.	c Alpha	H. A. Goodnow	Alpha	W. C. Rizer	Alpha
177	German Cry. Co.	c Westgate	Wm. Seegers	Westgate	E. H. Homan	Westgate
178	Richfield Cry. Co.	c Sumner	G. F. Niemann	Sumner	J. R. Zbornik	Sumner
179	Oran Creamery Co.	c Oran	J. N. Getz	Oran	B. P. Bentley	Oran
180	Center Valley Cry. Co.	c Sumner	R. O. Dietel	Sumner	Ray Scoles	Sumner
181	Westgate Co-op. Cry. Co.	c Westgate	F. S. Coleman	Westgate	L. C. Banas	Westgate
182	Fayette Cry. Assn.	c Fayette	Peter E. Jubb	Fayette	C. H. Finch	Fayette
183	Clermont Valley Cry. Co.	c Clermont	Frank Fay	Clermont	Amos Ericksen	Clermont
184	Elgin Farmers Dairy Co.	c Elgin	Melcher Luchsinger	Elgin	Ed. Hanson	Elgin
185	West Union Far. Cry. Co.	c West Union	Nelis J. Nielson	West Union	Nelis J. Nielson	West Union
186	Hawkeye Cry. Co.	c Hawkeye	H. F. Hault	Hawkeye	Frank Bowdish	Hawkeye
187	Farmers Cry. Co.	c Arlington	Floyd Finusey	Arlington	E. B. Mitlestadt	Arlington
188	Harlan Far. Mut. Co-op. Cry. Co.	c Maynard	J. C. Lewis	Maynard	Frank Seely	Maynard
189	Riverside Cry. Co.	c Wadena	F. J. Schroeder	Wadena	Fred P. Gernand	Wadena
190	Oelwein Far. Cry. Co.	c Oelwein	L. C. Harwood	Oelwein	G. A. Hanson	Oelwein
Floyd County—						
191	Charles City Cry. Co.	c Charles City	N. H. Nelson	Charles City	Jack Herzog	Charles City
192	Niles Cry. Co.	c Colwell	Frank Brunner	Charles City	Chas. Zarath	Charles City
193	Nora Springs Cry. & Prod. Co.	c Nora Springs	W. F. Miner	Nora Spgs.	C. Erickson	Nora Springs
194	Rockford Co-op. Dairy Assn. Co.	c Rockford	J. O. Ermland	Rockford	J. O. Ermland	Rockford
Franklin County—						
195	W. F. Priebe Co.	c Hampton	W. F. Priebe	Chicago, Ill.	F. C. Koenig	Hampton
196	Sheffield Cry. Co.	c Sheffield	A. E. Adams	Sheffield	A. E. Adams	Sheffield
197	Farmers Co-op. Cry. Co.	c Popejoy	W. Jaques	Dows	H. J. Binger	Popejoy
198	Lattimer Co-op. Cry. Co.	c Lattimer	Ed. Johnson	Lattimer	Rasmus Nelson	Lattimer
199	Hamilton Cry. Co-op. Co.	c Coulter	Geo. Dohrmann	Hampton	L. Anderson	Coulter
200	Farmers Cry. Co.	c Alexander	W. F. Dunn	Alexander	P. L. Malvin	Alexander

CREAMERY LIST—Continued.

Number	Name of Creamery	Located at or Near	Name of Proprietor, Secretary or Manager	P. O. Address of Proprietor, Secretary or Manager	Name of Buttermaker	P. O. Address of Buttermaker
261	Greene County— Jefferson Creamery	Jefferson	C. E. Mills	Jefferson	C. E. Mills	Jefferson
262	G. W. Nicholson Co.	Grand Junction	W. W. Werts	Grand Jct	C. W. Larson	Grand Jct.
263	Grundy County— Buck Grove Cry. Co.	Aplington	H. G. Kramer	Aplington	H. G. Kramer	Aplington
264	Fern Cry. Co.	Parkersburg	W. H. Henning	Parkersburg	H. Soles	Stout
265	Beaver Center Cry.	Stout	Andrew Meyer	Stout	T. E. Dilger	Stout
266	Fredsville Co-op. Cry.	DiKe, 4 mi. N.E.	N. C. Syndergaard	Cedar Falls	F. D. Shifflet	Cedar Falls
267	Guthrie County— Casey Cry. Co.	Casey	Harlin E. Smith	Casey	J. F. Addy	Casey
268	Farmers Cry. Prod. Co.	Guthrie Center	E. J. Kilgare	Guthrie Cn't'r	Marlin Van Dam	Guthrie Center
269	Panora Co-op. Cry. Co.	Panora	F. F. Wilcox	Panora	F. F. Wilcox	Panora
270	Menlo Mutual Cry. Assn.	Menlo	F. L. P. Hitchcock	Menlo	R. O. Rae	Menlo
271	Bayard Co-op. Cry.	Bayard	D. G. Garnea	Bayard		
272	Hamilton County— Ellsworth Co-op. Cry.	Ellsworth	S. Stenberg	Radcliffe	C. T. Kuntson	Ellsworth
273	Randall Far. Cry.	Randall	C. L. Sydnes	Randall	Richard Larson	Randall
274	Far. Co-op. Cry. Co.	Stratford	Edward Peterson	Stratford	John Rierson	Stratford
275	Ellingson Mathre Co.	Webster City	Ellingson Mathre Co.	Web. City	E. L. Hall	Webster City
276	Hancock County— Crystal Cry. Co.	Crystal Lake	H. P. Stahr	Crystal Lake	R. O. Rasmussen	Crystal Lake
277	Britt Creamery Co.	Britt	H. A. Schaper	Britt	G. O. Kolthoff	Britt
278	Kanawha Far. Mutual Cry.	Kanawha	J. L. Larson	Kanawha	N. H. Anderson	Kanawha
279	Woden Far. Cry.	Woden	Adolf Ortheil	Woden	Jno. Paulsen	Woden
280	Far. Co-op. Cry.	Garner	J. Kiesel	Garner	C. R. Conaway	Garner
281	Klemme Co-op. Cry. Co.	Klemme	Valentine Josten	Klemme	A. G. Girner	Klemme
282	Hardin County— Eldora Cry. Co.	Eldora	H. Soballe	Eldora	Fred Thompson	Eldora
283	Steamboat Rock Cry.	Steamboat Rock	A. M. Whitney	Steamboat Rk.	A. M. Whitney	Steamboat Rk
284	Cleves Cry. Co.	Cleves	R. H. Sharp	Cleves	J. F. Sharp	Cleves
225	Ackley Cry. Co.	Ackley	B. R. Hadley	Ackley	F. U. Nelson	Ackley
226	Alden Co-op. Cry. Co.	Alden	E. O. Edwards	Alden	Floyd M. Kidd	Alden
227	Owasa Co-op. Cry. Co.	Owasa	H. Brakaw	Owasa	H. F. Brakaw	Owasa
228	Concord & Scott Cry.	Radcliffe	D. A. Bobb	Radcliffe	D. H. Bobb	Radcliffe
229	Hubbard Co-op. Cry. Co.	Hubbard	H. K. Granner	Hubbard	Fred Herraog	Hubbard
230	Swift & Co.	Iowa Falls	Swift & Co.	Chicago	J. D. Fiete	Iowa Falls
231	Iowa Falls Cry.	Iowa Falls	S. J. Osgood	Iowa Falls	J. R. Jones	Iowa Falls
232	Harrison County— Community Cry. Co.	Woodbine	E. A. Maxwell	Woodbine	E. A. Maxwell	Woodbine
233	Henry County— Pleasant Hill Dairy	Mt. Pleasant	H. Campbell	Mt. Pleasant	H. Campbell	Mt. Pleasant
234	Howard County— Whelan Product Co.	Elma	J. P. Whelan	Elma	J. P. Whelan	Elma
235	Maple Leaf Cry. Co.	Maple Leaf	D. Lane	Elma	G. W. Graf	Elma
236	Far. Co-op. Cry. Assn.	Chester	L. A. Eggerichs	Chester	C. C. Plummer	Chester
237	Cresco Cry. Co.	Cresco	Palmer & Nelson	Cresco	L. A. Palmer	Cresco
238	Schley Cry. Co.	Cresco	C. A. Fosse	Cresco	L. H. Dier	Cresco
239	Farmers Cry. Co.	Cresco	B. M. Thomson	Cresco	W. W. Newland	Cresco
240	Saratoga Cry. Co.	Saratoga	John Zidlicky	Cresco	Hans Witke	Saratoga
241	Farmers Co-op. Cry.	Chester	L. A. Eggerich	Chester	C. C. Plummer	Chester
242	Far. Co-op. Cry.	Protovin	C. P. Pecinovsky	Protivin	C. W. Chyle	Protivin
243	Humboldt County— Wacousia Cry. Co.	Ottosen	A. O. Clove	Ottosen	L. J. Bremsen	Ottosen
244	Bradgate Cry. Co.	Bradgate	A. O. Clove	Bradgate	D. A. O'Neill	Bradgate
245	Thor Cry. Co.	Thor	I. E. Lanning	Thor	Wm. Boyle	Thor
246	Bode Creamery Assn.	Bode	H. C. Olson	Bode	I. J. Shuresen	Bode
247	Humboldt Creamery Co.	Humboldt	W. F. Priebe, Jr.	Oak Park, Ill.	Andrew P. Anderson	Humboldt
248	Iowa County— Marengo Cry. Co.	Marengo	Ady & Sullivan	Marengo	A. H. Ady	Marengo
249	J. H. Nell Cry. Co.	Tama	J. H. Nell	Tama	John Patterson	Tama
250	Victor Cry. Co.	Victor	Wm. Boyle	Victor	Wm. Boyle	Victor
251	Holstein Co-op. Cry.	Holstein	John DeSutter	Holstein	John DeSutter	Holstein
252	Genoa Bluff Cry. Co.	Ladora	Esther Strait	Marengo	H. C. Whisler	Marengo
253	Troy Cry. Co.	6 1/2 mi. S.E.	Geo. C. House	Williamsburg	W. R. Edwards	Williamsburg
254	Williamsburg Cry. Co.	Williamsburg	H. W. Hudepohl	S. Sinasia	M. Greenfield	Williamsburg
255	Jackson County— St. Donatus Cry. Co.	Dubuque 14 mi. S.W.	J. L. Heinrich	St. Donatus	L. E. Palmerton	St. Donatus

CREAMERY LIST—Continued.

Number	Name of Creamery	Located at or Near	Name of Proprietor, Secretary or Manager	P. O. Address of Proprietor, Secretary or Manager	Name of Buttermaker	P. O. Address of Buttermaker
254	Preston Cry. Assn.	c Preston	Max Ehler	Preston	J. A. Gordon	Preston
257	Sterling Cry. Co.	c Lamotte	Hoffman Cry. Co.	Lamotte	John M. Hoffman	Lamotte
258	Springbrook Creameries	c Preston	Batch W. Newman	Preport	A. J. Segus	Preston
259	Far. Union Co-op. Cry.	c Maquoketa	M. W. Joiner	Maquoketa	H. C. Thompson	Maquoketa
260	Bellevue Cry. Co.	c Bellevue	J. P. Runkle	Bellevue	J. F. Runkle	Bellevue
261	Hansen Produce Co.	c Maquoketa	L. B. Hulman	Maquoketa	G. S. Wing	Maquoketa
262	Far. Cry. Co.	s Sabula	Cliff L. Day	Sabula	R. L. Letts	Sabula
263	Monmouth Cry.	c Monmouth	F. G. Irons.	Monmouth	Walter Miller	Monmouth
	Jasper County—					
264	Dairyland Dairy Co.	c Newton	Guy M. Lambert	Newton	Walter Anderson	Newton
265	Maplehurst Dairy Co.	c Newburg	E. G. Squire.	Newburg	E. G. Squire.	Newburg
	Johnson County—					
266	Iowa City Produce Co.	c Iowa City	A. J. Fenney	Iowa City	Ross Swence	Iowa City
267	Sidwells Dairy	c Iowa City	B. D. Sidwell	Iowa City	W. E. Hunter	Iowa City
	Jones County—					
268	Amber Co-op. Cry.	c Amber	P. B. Daly.	Amber	Watson Shick	Amber
269	Iowa Cry. Co.	c Oxford Junction	L. F. Sutton	Clinton	Vern Sley	Oxford Jct.
270	Far. Cry. Co.	c Center Junction	C. A. Burmeister	Center Jct	P. E. Craig	Center Jct.
271	Farmers Mutual Cry.	c Monticello	O. W. Brazelton	Monticello	Fred Lehman	Monticello
272	Langworthy Co-op. Cry. Co.	c Langworthy	John H. Batchelder.	Langworthy	John H. Batchelder.	Langworthy
273	Scotch Grove Co-op. Cry. Co.	c Scotch Grove	H. R. Jacobs	Scotch Gr.	Harry Johnson	Scotch Grove
274	Anamosa Far. Cry. Co.	c Anamosa	Henry Mrey	Anamosa	Claude A. Miller	Anamosa
	Keokuk County—					
275	S. E. Reisman Cry Co.	c What Cheer	S. E. Reisman	What Cheer	Earl D. Spaith	What Cheer
276	Geo. M. Griffin Co.	c Sigourney	R. E. Gould	Sigourney	R. E. Hall	Sigourney
	Kossuth County—					
277	Penion Cry. Co.	c Penton	C. F. C. Laage	Penton	C. F. Hollis	Penton
278	Bancroft Co-op. Cry. Co.	c Bancroft	M. J. Dyer.	Bancroft	M. J. Dyer	Bancroft
279	Sexton Co-op. Cry.	c Sexton	G. B. Eno.	Sexton	T. P. Kleins	Sexton
280	Whittemore Farmers Cry.	c Whittemore	M. W. Fandel	Whittemore	J. A. Fenger	Whittemore
281	Algona Co-op. Cry.	c Algona	D. A. Wallace.	Algona	M. P. Christiansen	Algona
282	Ledyard Co-op. Cry.	c Ledyard	F. S. Jenks	Ledyard	H. M. Dyer	Ledyard
283	Swea City Cry. Co.	c Swea City	C. W. Pearson	Swea City	Carl Nelson	Swea City
284	Rahn Cry. Co.	c St. Benedict	E. F. Rahn.	St. Benedict	Leo D. Reaser	St. Benedict
285	Lone Rock Co-op. Cry.	c Lone Rock	Robert Jawe	Lone Rock	Wm. Heigason	Lone Rock
286	Far. Co-op. Cry.	c Hoberton	F. L. Boale	Algona	Joel Blomster	Hoberton
287	Lotts Creek Co-op. Cry. Co.	c Lotts Creek	Otto Wichtendahl	Lone Rock	Fred Kucker	Lone Rock
288	Burt Co-op. Cry. Co.	c Burt	M. E. Warner	Burt	Paul Macaulay	Burt
289	Germania Co-op. Cry.	c Germania	J. E. Smith	Germania	H. W. Jarchow.	Germania
290	Titonka Co-op. Cry.	c Titonka	J. C. Neuville	Titonka	S. S. Hudson	Titonka
	Lee County—					
291	Swift & Co.	c Keokuk	Swift & Co.	U. S. Yd. Chl.	R. S. Merriek	Keokuk
292	Ft. Madison Cry. Co.	c Ft. Madison	B. K. Peter.	Ft. Madison	J. W. Peter	Ft. Madison
	Linn County—					
293	Springville Cry. Co.	c Springville	C. E. Batchelder	Springville	Charley Wuettnar	Springville
294	Blue Valley Cry. Co.	s Cedar Rapids	G. T. Gutrie	Chicago, Ill.	Randers Strand	Cedar Rapids
295	Center Point Cry.	c Center Point	Pollock & Romne	Center Point	C. N. Pollock	Center Point
296	Valley Farm Cry. Co.	c Central City	E. E. Henderson	Central City	E. E. Henderson	Central City
297	Coggan Cry. Co.	c Coggan	W. L. Ware	Coggan	G. O. Miller	Coggan
298	Walker Ia. Cry.	c Walker	H. J. Nietert	Walker	S. W. Laird	Walker
	Lucas County—					
299	Douglas Ice Cream Co.	s Chariton	A. V. Whitlatch	Chariton	W. C. Miller.	Chariton
	Lyon County—					
300	Rock Rapids Cry. Co.	c Rock Rapids	W. J. Purchas	Rock Rapids	A. E. Robertson	Rock Rapids
301	Farmers Cry. Co.	c Inwood	A. W. Willander	Inwood	A. W. Willander	Inwood
302	George Cry. Co.	c George	C. K. Rasmussen	George	Ed. Wilson.	George
	Mahaska County—					
303	Oskaloosa Cry. Co-op.	s Oskaloosa	V. E. Reisman	Oskaloosa	O. W. Allright	Oskaloosa
304	Love & Gasperi Cry.	c Oskaloosa	Jas. C. Love	Oskaloosa	Jas. C. Love	Oskaloosa
	Marion County—					
305	Pella Creamery	s Pella	C. P. Dykstra	Pella	H. F. Lenocker	Pella
	Marshall County—					
306	Minerva Valley Cry. Assn.	c Clemens	Chas. Schindele	Clemens	L. C. Albaugh	Clemens
307	Jackson Dairy Co.	c Marshalltown	Jackson Dairy Co.	Marshalltown	Geo. L. Richardson	Marshalltown
308	State Center Far. Cry. Co.	c State Center	Ray Stoeffer	State Center	Chris Jessen	State Center
	Mills County—					
309	The Glenwood Cry. Co.	s Glenwood	C. M. Gray	Glenwood	C. M. Gray.	Glenwood

CREAMERY LIST—Continued.

Number	Name of Creamery	Located at or Near	Name of Proprietor, Secretary or Manager	P. O. Address of Proprietor, Secretary or Manager	Buttermaker Name of	P. O. Address of Buttermaker
310	Mitchell County— Osage Co-op. Cry. Co.	c Osage	John Torstiff	Osage	Geo. Burdette	Osage
311	Riceville Cry. Co.	c Riceville	Gimer & Wenck	Riceville	W. A. Fritz	Osage
312	St. Ansgar Cry. Co.	c Osage, 10 mi SW	M. A. Tollifson	St. Ansgar	H. R. Bullis	Riceville
313	Rock Creek Cry. Assn.	c St. Ansgar	H. L. Johnson	Rudd	J. E. McCoffrey	St. Ansgar
314	Stacyville Cry. Co.	c Stacyville	W. A. Schandt	Stacyville	A. F. Maison	Osage
315	New Haven Cry. Co.	c New Haven	Julius Brunner	Osage	Mitchel Jorgensen	Osage
316	Little Cedar Cry.	c Little Cedar	John Christensen	Little Cedar	Johnsen Christansen	Little Cedar
317	Monroe County— Albia Creamery Co.	c Albia	W. H. Kreger	Albia	Fay G. Burlingame	Albia
318	Montgomery County— Blue & Rafferty Cry. Co.	c Red Oak	Blue & Rafferty	Red Oak	W. F. Coonlye	Red Oak
319	Tyler Bros.	c Villisca	R. F. Tyler	Villisca	H. F. Tyler	Villisca
320	Muscatine County— West Liberty Cry. Co.	c West Liberty	Emmett Buckman	West Liberty	W. H. Samfson	West Liberty
321	O'Brien County— Sheldon Creamery	c Sheldon	D. A. Miller	Sheldon	L. E. Woodewias	Sheldon
322	Hartley Cry. Co.	c Hartley	W. A. Sims	Hartley	C. W. Green	Hartley
323	Archer Creamery	c Archer	R. G. Rensink	Archer	A. Steinke	Archer
324	Sutherland Creamery	c Sutherland	Adolph Christensen	Sutherland	Adolph Christenson	Sutherland
325	Oscola County— Ashton Creamery	c Ashton	Evert den Herder	Ashton	Evert DenHerder	Ashton
326	Melvin Creamery	c Melvin	F. W. Year	Melvin	I. C. Durnor	Melvin
327	Johannes & Sellers Prod.	c Sibley	J. F. Johannes	Sibley	James E. Moore	Sibley
328	Page County— Swift & Co.	c Clarinda	S. F. Haynord	U. S. Yds., Chi	Fred Kelley	Clarinda
329	Palo Alto County— Fairville Cry. Co.	c Cylinder 8 mi. N. E.	C. H. Bleckmann	Cylinder	O. W. Dubbs	West Bend Cylinder
330	West Bend Co-op. Cry.	c West Bend	A. L. Prye	West Bend	Ray Trebil	West Bend
331	Depew Creamery Co.	c Cylinder	Nick Martin	Cylinder	Henry Hansen	Graettinger
332	Lost Island Cry. Co.	c Graettinger	A. C. Christiansen	Graettinger	F. W. Shellman	Ayrshire
333	Silver Lake Cry. Co.	c Ayrshire	P. W. Shellman	Ayrshire	M. Anderson	Emmetsburg
334	Emmetsburg Creamery Co.	c Emmetsburg	L. Stuchmer	Emmetsburg	T. R. Wilson	Mallard
335	Mallard But. & Cheese Assn.	c Mallard	J. Logan Anderson	Mallard	Wm. Walters	Graettinger
336	Farmers Creamery Co.	c Ruthven	M. P. Junker	Ruthven	M. P. Junker	Ruthven
337	Farmers Co-operative	c Ruthven	Elmer Gustafson	Ruthven	Elmer Gustafson	Rodman
338	Rodman Cry. Co.	c Rodman		Rodman		Rodman
339	Plymouth County— Plymouth Cry. Co.	c Brunsville	Jobe Kennedy	Brunsville	Jobe Kennedy	Brunsville
340	LeMars Creamery Co.	c Le Mars	Hutchinson Bros. Co.	Sioux City	P. E. Hormon	LeMars
341	Pocahontas County— Palmer Creamery Co.	c Palmer	Ed. V. Johnson	Palmer	Ed. A. Johnson	Palmer
342	Pocahontas Cry.	c Pocahontas	Geo. Siebels	Pocahontas	Gust Wehler	Pocahontas
343	Laurens Cry.	c Laurens	J. G. Hinn	Laurens	F. W. Johnson	Laurens
344	Polk County— Farmers Produce Co.	c Des Moines	L. O. Loiseaux	Des Moines	N. Danielson	Des Moines
345	Swift & Co.	c Des Moines	F. S. Hayward	Chicago	Fred Goodenow	Des Moines
346	Plynn Dairy Co.	c Des Moines	E. D. Berry	Des Moines	S. H. Pemberton	Des Moines
347	Beatrice Cry. Co.	c Des Moines	H. R. Wright	Des Moines	A. L. Larson	Des Moines
348	Des Moines Cry. Co.	c Des Moines	Schermerhorn-Shotwell	Des Moines		
349	Pottawattamie County— Bloomer Cold Storage Co.	c Council Bluffs	G. D. Bridenbaugh	Co. Bluffs	Sam'l Chambers	Co. Bluffs
350	Poweshiek County— Grinnell Cry. Co.	c Grinnell	J. W. Fowler	Grinnell	M. Lee	Grinnell
351	Brooklyn Cry. Co.	c Brooklyn	E. C. Kamoss	Brooklyn	E. E. Kamoss	Brooklyn
352	Ringgold County— Mt. Ayr Cry.	c Mt. Ayr	Howard Tedford	Mt. Ayr	C. E. Mills	Mt. Ayr
353	Sac County— Farmers Co-op. Cry. Co.	c Early	Bruce A. Brandt	Early	B. F. O'Hara	Early
354	Sac City Cry.	c Sac City	H. F. Lange	Sac City	A. G. Redman	Sac City
355	Scott County— The Pioneer Cry. Co.	c Davenport	Geo. Simonson	Quincy	Louis Rasmussen	Pt. Bryan, Ill.
356	Tri-City Buttery Co.	c Davenport	P. J. Lyngholm	Davenport	Niels Christensen	Davenport
357	Bell Jones Co.	c Davenport	J. A. Bell	Davenport	Geo. Terris	Davenport

CREAMERY LIST—Continued.

Number	Name of Creamery	Located at or Near	Name of Proprietor, Secretary or Manager	P. O. Address of Proprietor, Secretary or Manager	Name of Buttermaker	P. O. Address of Buttermaker
	Shelby County—					
358	Harlan Ice & Cold Storage	Harlan	M. Ankerstjerne	Harlan	M. Ankerstjerne	Harlan
359	Blue Valley Cry.	Kimballton	H. H. Jorgens	Harlan	Chris B. Jensen	Harlan
	Sioux County—					
360	Farmers Co-op. Cry.	Boyd	John Rensink	Bayden	H. J. Wargowsky	Boyd
361	Farmers Mutual Cry. Co.	Hospers	J. F. Vander Veer	Hospers	J. F. Vander Veer	Hospers
362	Rock Valley Cry. Co.	Rock Valley	F. E. Corwin	Rock Valley	M. Anderson	Rock Valley
363	Farmers Mutual Co-op.	Orange City	Joe Rexwinkle	Orange City	D. Steinburg	Orange City
364	Farmers Co-op. Cry.	Hull	J. W. Smit	Hull	Aug. M. Hein	Hull
365	Alton Cry. Co.	Alton	C. J. Mueller	Alton	Herbert Lucas	Alton
366	Far. Mut. Co-op. Cry.	Sioux Center	Martin Muller	Sioux Center	O. Vonker	Sioux Center
367	Hawarden Cry. Co.	Hawarden	Emil Zarr	Hawarden	Emil Zarr	Hawarden
	Story County—					
368	McCallsburg Far's. Cry.	McCallsburg	G. J. Vallem	McCallsburg	O. A. Jensen	McCallsburg
369	Farmers Mutual Cry. Assn.	Slater	C. F. Lake	Gilbert	C. P. Lake	Gilbert
370	Huxley Far. Co-op. Cry.	Huxley	Sam Malame	Huxley	O. J. Olson	Huxley
371	Story City Cry. Co.	Story City	Fred Miller	Story City	Fred Miller	Story City
372	Roland Far. Cry. Co.	Roland	H. E. Evenson	Roland	L. H. Larsen	Roland
373	Iowa State College Cry.	Ames	M. Mortenson	Ames	J. J. Brunner	Ames
374	Zearing Cry. Co.	Zearing	C. P. Bean	Zearing	Carl Peterson	Zearing
	Tama County—					
375	Traer Cry. Co.	Traer	John Erickson	Traer	B. Stanborg	Traer
376	Gladbrook Cry. Co.	Gladbrook	Gude Brothers	Gladbrook	Albert McCardie	Gladbrook
	Taylor County—					
377	Bedford Cry.	Bedford	Frank Venning	Bedford	Leslie Klopp	Bedford
	Union County—					
378	Afton Creamery	Afton	V. O. Williams	Afton	V. O. Williams	Afton
379	Swift & Co.	Creston	Swift & Co.	Chicago	Lenord Brotherton	Creston
	Van Buren County—					
380	Blue Grass Cry. Co.	Stockport	L. C. Morris	Stockport	John Dahm	Stockport
	Wapello County—					
381	F. G. Buxton Cry.	Ottumwa	G. F. Buxton	Ottumwa	P. N. Keltner	Ottumwa
382	Swift & Co.	Ottumwa	F. S. Hayward	Chicago	Martin L. Ahl	Ottumwa
383	Yorkshire Cry. Co.	Ottumwa	R. N. Morrell	Ottumwa	R. B. Burns	Ottumwa
	Waynes County—					
384	J. L. Humphrey	Humeston	J. L. Humphrey	New Bedford	M. W. Bizley	Humeston
	Webster County—					
385	Ft. Dodge Creamery Co.	Ft. Dodge	O. R. Loomis	Ft. Dodge	Berhard Jensen	Ft. Dodge
386	Gold Bar Creamery Co.	Ft. Dodge	S. U. Dencker	Ft. Dodge	Hedolph Dencker	Dayton
387	Dayton Co-op. Cry. Co.	Dayton	J. A. Nixon	Dayton	M. J. Massager	Dayton
388	Gowrie Co-op. Cry.	Gowrie	J. E. T. Johnson	Gowrie	P. B. Border	Gowrie
	Winneshiek County—					
389	Buffalo Center Co-op. Cry. Co.	Buffalo Center	B. B. Bruhns	Buffalo Center	B. Swanson	Buffalo Center
390	Forest City Co-op. Cry.	Forest City	J. E. Read	Forest City	J. B. Friable	Forest City
391	Lincoln Co-op. Cry.	Rake	A. A. Sheldon	Rake	L. K. Horker	Rake
392	Leland Co-op. Cry. Co.	Leland	E. E. Branstad	Leland	S. O. Kusley	Leland
393	Thompson Co-op. Cry.	Thompson	M. M. Tapager	Thompson	Bennett Lovik	Thompson
394	Lake Mills Cry. Co.	Lake Mills	Ole T. Groen	Lake Mills	Carl Hovland	Lake Mills
395	Vinje Cry. Assn.	Scarville	Ole Strom	Scarville	Albert Knudson	Scarville
396	Scarville Cry. Assn.	Scarville	J. E. Hermanson	Scarville	Sorn Kustensen	Scarville
	Winneski County—					
397	Decorah Far. Ice Case Cry.	Decorah	N. O. Bendickson	Decorah	N. O. Bendickson	Decorah
398	Ridgeway Cry.	Ridgeway	O. A. Fosse	Ridgeway	O. A. Fosse	Ridgeway
399	Silver Springs Cry. Co.	Ossian	W. E. Cornell	Ossian	Ois Hauge	Ossian
400	Lincoln Creamery Co.	Ridgeway	O. O. Rue	Ridgeway	J. A. Bakken	Ridgeway
401	Festina Co-op. Cry. Co.	Festina	J. B. Hulsker	Calmar	Mike Hauser	Decorah
402	Pleasant Co-op. Cry. Co.	Decorah N. E.	M. O. Faldri	Decorah	D. H. Clymer	Decorah
403	Nordness Cry. Co.	Nordness	Wm. Finnevoid	Decorah	V. V. Johnson	Decorah
404	Burr Oak Far. Co. Cry. Co.	Burr Oak 14 mi. N. E.	Geo. Ulrich	Burr Oak	Floyd Ferris	Burr Oak
405	Highland Cry. Co.	Decorah	Bidne & Akre	Locust	Peter J. Bidne	Locust
406	Calmar Cry. Co.	Calmar	A. A. Olson	Calmar	Iver Barlow	Calmar
	Woodbury County—					
407	Arctic Creamery Co.	Sioux City	C. E. Gear	Sioux City	Paul Hough	Sioux City
408	Hanford Produce Co.	Sioux City	J. H. Whittemore	Sioux City	M. O. Wheelock	Sioux City
409	Blue Valley Creamery Co.	Sioux City	G. G. Guthrie	Chicago, Ill.	C. L. Smith	Sioux City

CREAMERY LIST—Continued.

Number	Name of Creamery	Located at or Near	Name of Proprietor, Secretary or Manager	Name of Proprietor, Secretary or Manager	Name of Buttermaker	P. O. Address of Buttermaker
410	Worth County— Joice Creamery Co.	c Joice	L. Skutte	Joice	J. R. Hagen	Joice
411	Far. Butter & Cheese Assn.	c Northwood	M. D. Johnson	Northwood	F. D. Warner	Northwood
412	Far. Cry. Assn. of Toledo	c K 10 mi. N. W.	O. K. Storre	Kensett	H. C. Stendell	Northwood
413	Hanlontown Cry. Co.	c Hanlontown	E. A. Gudvaugen	Hanlontown	E. A. Gudvaugen	Hanlontown
414	Karmel Creamery	c Grafton	S. M. Glassel	Grafton	Peter Grafton	Grafton
415	Farmers Creamery	c Manly	E. H. Stock	Manly	F. C. Hinze	Manly
416	Hartland Creamery Co.	c Hartland	S. G. Eporlie	Emmons, Minn	Hans F. Engen	Northwood
417	Fertile Co-op. Dairy Co.	c Fertile	J. A. Johnson	Fertile	J. A. Johnson	Fertile
418	Wright County— Clarton Cry. Co.	c Clarton	Wiert Johnson	Clarton	J. W. Cagley	Clarton
419	Goldfield Co-op. Cry. Co.	c Goldfield	R. A. Keith	Goldfield	W. A. Thayer	Goldfield
420	Farmers Coop. Cry. Co.	c Belmont	G. F. Blotz	Belmont	C. H. Jennings	Belmont

*Central Churning Plant.

e-Co-op.

s-Stock.

i-Individual.

INDEX

	Page
Analyses	36
Cheese	6, 7
Cheese Factory List.....	41
Commissioner's Report	5
Condensed Milk	7
Condensed Milk Factory List.....	41
Cost of Producing Milk.....	20
Creamery Butter.....	2, 7, 18
Creamery List	43
Creamery Statistics	39
Dairy Association, Report of E. S. Estel, State Dairy Expert.....	29
Eggs	8
Feeding Stuffs	11
Financial Statement	37
Ice Cream	7
Inspections	8, 36
Inspectors, (duties of)	33
Laws Enforced by the Department.....	33
Milk as a Food.....	13
Milk Production, Feeding for.....	24
Market Milk	8
Milk Dealers' Licenses	38
Navy Butter	7
Personnel	4
Seed Corn	10
Weights and Measure.....	10