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State Dairy and Food Commissioner

Madison, Wisconsin: Democrat Printing Company, State Printer,
1909

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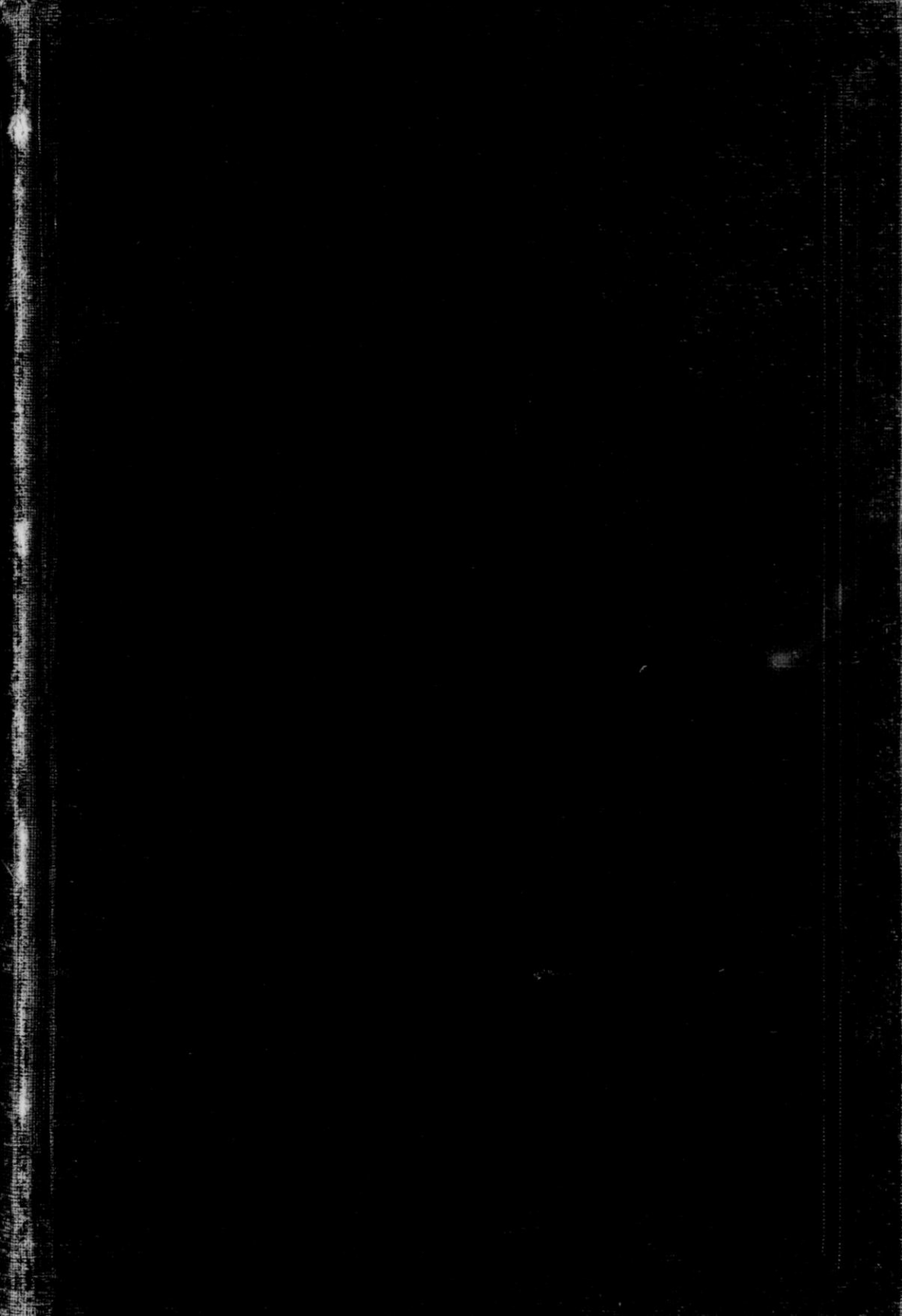
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BIENNIAL REPORT

OF THE

Dairy and Food Commissioner OF WISCONSIN

For the Two Years Ending June 30, 1908.

J. Q. EMERY

Dairy and Food Commissioner.



MADISON, WIS.

DEMOCRAT PRINTING COMPANY, STATE PRINTER

1909

DAIRY AND FOOD COMMISSIONERS OF WISCONSIN.

H. C. THOM	May 29, 1889, to May 28, 1891
D. L. HARKNESS	May 28, 1891, to June 11, 1894
THOMAS LUCHSINGER	June 27, 1894, to Feb. 7, 1895
H. C. ADAMS	Feb. 7, 1895, to May 1, 1902
J. Q. EMERY	Dec. 24, 1902

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ORGANIZATION OF THE COMMISSION.

1907/08

-
- J. Q. EMERY,
Dairy and Food Commissioner
- RICHARD FISCHER, Ph. D.,
Chemist
- U. S. BAER,
Assistant Commissioner
- J. G. MOORE,
Second Assistant Commissioner (Ch. 390, 1905; resigned Feb. 4, 1907)
- H. C. LARSON,
Second Assistant Commissioner (Creamery, Dairy and Food Inspector to
Feb. 5, 1907; Ch. 390, 1905)
- FLORENCE Q. NORTON,
Secretary (from July 1, 1907, Ch. 386, 1907)
- ETHEL D. THOMAS,
Stenographer and Confidential Clerk
- A. E. KUNDERT, M. S.,
Assistant Chemist (Ch. 390, 1905, to July 1, 1907; Ch. 386, 1907, for re-
mainder of biennial period)
- M. E. TWEEDEN,
Assistant Chemist (Ch. 144, 1903; resigned Sept. 7, 1906)
- HARRY KLUETER, Ph. G.,
Assistant Chemist (Ch. 144, 1903, to July 2, 1907; Ch. 390, 1905, for re-
mainder of biennial period)
- M. E. TITUS,
Assistant Chemist (Ch. 144, 1903; for two months from July 12, 1907)
- FRED P. DOWNING,
Assistant Chemist (from Dec. 30, 1907, Ch. 144, 1903)
- F. M. BUZZELL,
Chief Food Inspector
- F. E. CARSWELL,
Cheese Factory, Dairy and Food Inspector
- E. L. ADERHOLD,
Cheese Factory, Dairy and Food Inspector
- J. D. CANNON,
Cheese Factory, Dairy and Food Inspector
- FRED MARTY,
Cheese Factory, Dairy and Food Inspector
- THOMAS CORNELIUSON,
Creamery, Dairy and Food Inspector
- P. A. LARSON,
Creamery, Dairy and Food Inspector
- WM. MCADAM,
Creamery, Dairy and Food Inspector (Sec. 1410 to Feb. 5, 1907; Ch. 390,
1905; resigned May 2, 1908.)
- JAMES VAN DUSER,
Creamery, Dairy and Food Inspector (Ch. 144, 1903, to July 2, 1907; Ch.
386, 1907, for remainder of biennial period)
- W. F. SCOTT,
Food Inspector

LETTER OF TRANSMITTAL.

His Excellency, JAMES O. DAVIDSON,

Governor of Wisconsin.

SIR: I have the honor to submit herewith, in compliance with law, the report of the dairy and food commissioner for the biennial period ending June 30, 1908.

J. Q. EMERY,

Commissioner.

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COMMISSIONER'S REPORT.

This biennial report covers the period beginning July 1, 1906, and ending June 30, 1908. The summary of the analyses made by the chemist shows that 3,882 samples of food products were analyzed, of which number 1,848 were considered lawful, 1,946 unlawful and 88 were not classified. Besides the 3,882 samples analyzed by the chemists in our laboratory, the dairy experts of the commission tested 10,632 samples of dairy products that were not submitted to the chemist. The total number of samples, therefore, analyzed by the chemist and assistant chemists and tested by the dairy experts is 14,514.

There were 450 prosecutions of which 14 resulted in acquittals, making 436 convictions; that is, 97 out of every 100 prosecutions resulted in convictions.

There were 1,445 cheese factory inspections, 1,776 creamery inspections and 22 miscellaneous inspections. There were 4,445 samples of milk tested at cheese factories and 6,117 samples of milk and cream tested at creameries.

The milk supplies of 90 cities were inspected and 1,030 samples of milk and cream tested.

There were 804 barn and dairy inspections.

Attention is called to the reports herein published of the state chemist, Dr. Richard Fischer, of my two assistants, Messrs. U. S. Baer and H. C. Larson, and of the inspectors, Messrs. Carswell, Aderhold, Cannon, Marty, Corneliuson, Van Duser, Buzzell and Scott, members of the commission.

During this biennial period four semiannual bulletins were issued, viz.: No. 10, with 124 pages; Nos. 11-12, with 242 pages, and No. 13, with 152 pages—a total of 518 pages. A tabulation of the analytical work of the chemist and his assistants occupies two hundred pages, and two hundred fifty pages

are occupied in a partial tabulation of the work of the assistant commissioners and inspectors.

Fourteen thousand copies of bulletin No. 10 and fifteen thousand copies of each of the other bulletins were published under authority of chapter 188 of the laws of 1905 and distributed by mail to groceries and general stores, drug stores, meat markets, flour mills, confectioneries, creameries, cheese factories, daily newspapers, public, normal and high school libraries.

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The foregoing detailed publications of work done are not re-published herein for the reason that the legal limitations on the number of pages of this biennial report preclude such re-publication, and for the further reason that such republication is deemed unnecessary.

WISCONSIN DAIRY CONDITIONS.

Annual dairy products including by-products from cheese factories and creameries, approximating sixty-eight and a half million dollars in value; 2,985 cheese factories, creameries, skimming stations and condenseries, approximating with their machinery six million dollars in value, with 1,132,700 cows contributory thereto—such are the figures that give a general notion of the *extent* of Wisconsin's dairy industry.

First in the number of cheese factories; first in the number of creameries; first in the total aggregate for butter and its by-products; second only to the Empire State in the total aggregate for cheese and its by-products; second only to the same state in the total aggregate for all dairy products including by-products, with Iowa as third, Illinois as fourth, Minnesota as fifth and Pennsylvania as sixth; exceeding the combined total aggregate of all dairy products and by-products of Iowa and Minnesota by more than two million dollars and of Illinois and Pennsylvania by more than five million dollars—such is the *rank* of Wisconsin among the great dairy states of the union as shown by the United States census of manufacturers for 1905.

Cheese that commands the highest prices in the best cheese markets of the world; creamery butter whose percentage of extra is not exceeded by any state and which returns to Wisconsin patrons a net price exceeding that of any other state,—such is the *quality* of Wisconsin's commercial butter and cheese.

The two southern tiers of the counties of the state, embracing the beautiful Rock River Valley, undulated by hills and valleys, abounding in crystal waters, with a pure atmosphere rightly tempered by winter snows and summer rains, forming a part of the great Elgin creamery butter district, far-famed for the superior quality of its creamery butter; a deep rich soil supplied with purest water, yielding abundant, luxuriant grasses, along the eastern portion of the state bordering on Lake Michigan that gives to the climate an evenness of temperature and a degree of moisture peculiarly conducive to high quality in cheese, and like conditions extending over central and northern Wisconsin,—these are some of the conditions which nature has contributed to the results above indicated. Wisconsin's great

variety of soils with the presence of her varied hills and valleys, combined with her geographical location, were the tempting causes that brought within her borders dairymen from the East and sturdy, industrious and frugal German, Swiss, Scandinavian and other immigrants who, following the habits acquired in their boyhood home, have produced dairy products, especially cheese, in variety and of a quality unexcelled elsewhere.

The Wisconsin Dairymen's Association continues to be a living force. It continues to urge the need of greater advancement in the selection, breeding and care of the dairy herd, in the production of good, pure milk from healthy cows, and in the care-taking of the milk, in the quality and uniformity of dairy products, in establishing and maintaining a reputation and market for dairy products, in developing high-class dairymen, in securing larger profits by reducing the cost of production to the lowest point, by the highest efficiency possible in the methods used.

The Wisconsin dairy press is the means of expression of the most advanced and best dairy thought. Its appeal is now, as it ever has been, to the producers of milk, the dairy farmers.

The Wisconsin Agricultural Experiment Station is continually bringing new knowledge to light in the interest of the dairymen. The Babcock test, the cold storage method of curing cheese, the Wisconsin curd test are in constant use to the benefit of dairymen. The work of that station, in the testing of the weekly, monthly and yearly production of butter fat of many dairy herds throughout the state, is promotive in a high degree of dairy progress and is being effectively supplemented by the Wisconsin Dairymen's Association. More and more, dairymen are coming to realize a profit by following the scientific methods of feeding taught by that station.

Wisconsin's dairy school, the first dairy school on this continent and pioneer among schools of its class, continues to train young men in scientific principles and in the skilful application of those principles in the art of cheese and butter making.

The Wisconsin Cheesemakers' Association, the largest organization of its kind in the world, whose avowed purpose is the betterment of all matters pertaining to the cheese-making industry, is realizing to a reasonable extent the purposes of the organization. The program of its annual meetings comprises

addresses by the ablest authorities obtainable throughout the country and the discussions stimulate a splendid *esprit du corps*. These proceedings, published in annual reports and distributed to the cheesemakers of the state, are constantly stimulative of better things.

The Wisconsin Buttermakers' Association, organized for similar purposes, uses similar methods and with like results.

The Wisconsin Farmers' Institutes, with an intellectual hospitality broad enough to include all phases of agricultural activity, prove a wonderful means in promulgating to a vast constituency modern and scientific teachings as they pertain to all phases of dairying.

That the Wisconsin county agricultural training schools are becoming an important agent in improving dairy conditions in Wisconsin is a fact plainly manifest.

The Wisconsin Dairy and Food Commission has expanded during the past five years from a corps of five to a corps of twenty-two. Thirteen of these men are experts in dairy matters, energetic, alert, each striving with all his soul as well as body to be true to the motto "Forward" which Wisconsin has inscribed upon her escutcheon. Conscious that there are cheese factories that should be cleaner than they are, that there are stables which should be cleaner and better ventilated, and milk furnished to factories and elsewhere that should be better, these men devote practically all their time to the betterment of these conditions by inspection, instruction, persuasion, warning and prosecution. In addition, the dairy and food commissioner, the clerical force in the office and the chemists in their laboratory, devote a liberal share of their time and efforts to the dairy features of their work.

Great improvements in conditions have resulted in all lines of work of the commission. A much higher degree of cleanliness prevails in the creameries and cheese factories, and especially in the cans used and in the milk and cream supplied them and to cities and villages. Marked improvement in the drainage of cheese factories and creameries has been effected. This improvement of drainage has resulted in a corresponding removal of malodors from creameries and cheese factories and their surroundings. New cement floors are rapidly taking the place of old, decayed, leaky wooden floors and thus sources of bad odors and contamination are being removed. Inaccurate

pipettes are being destroyed and accurate ones substituted. Milk and cream are sampled and tested with greater care. More careful attention is being given to the cleansing of pipes, vats and utensils. Ceilings and walls are kept cleaner and freer from dust, and the premises of creameries and cheese factories are being kept more tidy. The vigorous campaign for cleanliness along all lines of the dairy business is being followed by highly gratifying improvements. This betterment in sanitary conditions contributes directly to high quality in dairy products of all kinds. It is no exaggeration to state that the better grades of the products of Wisconsin cheese factories and creameries are unexcelled by those of any state in the union.

Wisconsin has not reached the millenium in her dairy conditions. She has very much to accomplish before that goal is reached; but her persistent and intelligent striving for that end keeps her in a condition of progress.

VALUE OF WISCONSIN DAIRY PRODUCTS FOR THE YEAR JULY
1, 1907, TO JULY 1, 1908.

By a law of the state, each town, village and city assessor is required to ascertain the annual value of various dairy products specified in the law. The law requires him to report these statistics to the town clerk, who in turn is required to report the same to the county clerk. The county clerk is required to report a summary of the statistics of the various towns of the county to the secretary of state, and the secretary of state is required to certify a summary of these statistics by counties to the dairy and food commissioner. These statistics are found to be very incomplete, and are imperfect in many respects. They constitute, however, the most reliable and the safest basis for ascertaining or estimating the yearly value of the dairy products of Wisconsin.

For the year ending June 30, 1908, reports were made from 797 creameries, whereas it is known by the dairy and food commissioner through his inspectors, that there are 1010 creameries in the state. In like manner there were reports for 1393 cheese factories, whereas it is known that there are 1817 cheese factories in the state. The following estimates of the amounts of butter and of cheese produced in the creameries and the cheese fac-

tories in the state, and the amounts received for the same, are based upon these reports and have the same ratio to the numbers or amounts reported that the whole number of creameries and cheese factories that are known to be in the state bears to the number of creameries and cheese factories reported.

The estimates for the amounts of milk sold to condenseries and the money received for the same by the patrons were obtained from the books of the condenseries.

In the estimate made of the value of skim-milk, the Gurler method, recommended by Professor W. A. Henry as the most reliable method, has been used and is as follows: The value of skim-milk when fed with corn is worth half as much per one hundred pounds as shelled corn is per bushel; and the value of whey is one-half of skim-milk. The average price of shelled corn per bushel for the period covered by this report as shown by the report of the secretary of the State Board of Agriculture was sixty cents.

The amount of milk produced on the farms and not sold to creameries, cheese factories or condenseries, is estimated as the amount used for family consumption by the total population of the state. In estimating this amount, the data given by Major Alvord, former chief of the dairy division of the Bureau of Animal Industry of the United States Department of Agriculture, derived from the census of 1900 has been used. He found that there were consumed 290.1 lbs. of milk per capita per annum. Multiplying this number by the number of people in the state gives the number of pounds of milk estimated to be consumed by the people of the state and therefore produced on the farms of the state and not sold to creameries, cheese factories or milk condenseries, and this probably is too low an estimate, for there are vast quantities of milk and cream along the western and southern borders of Wisconsin shipped to St. Paul, Minneapolis, Dubuque, Chicago and other cities of Minnesota, Iowa and Illinois, whereas comparatively little milk is shipped into the state of Wisconsin from border states.

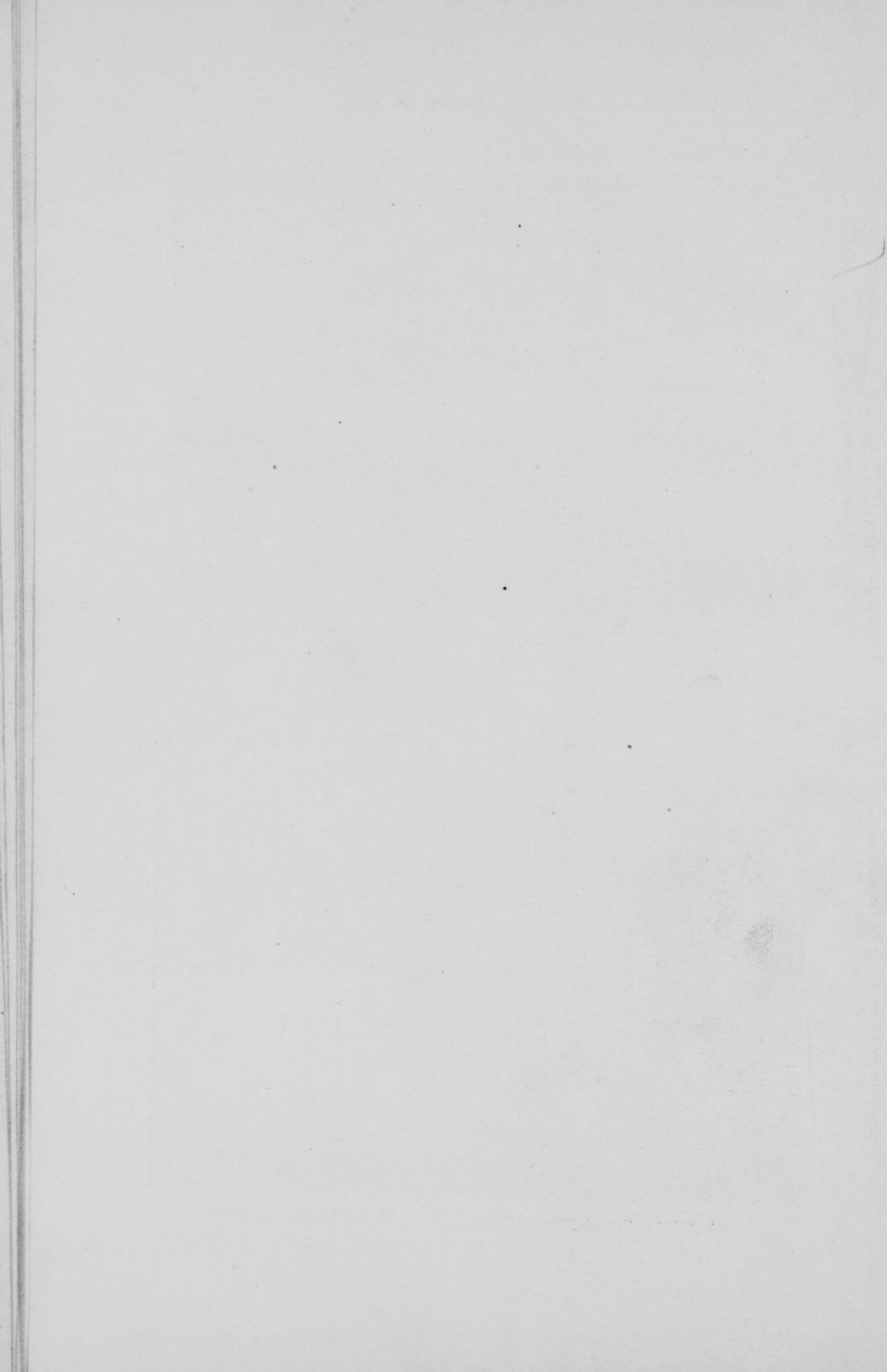
The foregoing data and methods of estimating give the following as the value of the dairy products of Wisconsin for the year ending June 30, 1908:



HILLSIDE CREAMERY.



A FIRST-CLASS WISCONSIN CHEDDAR CHEESE FACTORY.



	Number of pounds produced.	Received for, or valued at.
Cheese	166,717,000	\$21,166,000
Creamery butter	108,462,000	26,908,000
Butter produced on farms	8,059,000	1,648,000
Milk sold to condenseries	185,609,000	2,249,000
Milk produced on farms other than that sold to cheese factories, creameries or condensaries.....	646,609,000	8,406,000
Skim milk	2,048,667,000	6,146,000
Whey	1,316,416,000	1,974,000
Total		\$68,497,000

OBSTACLES TO BE OVERCOME IN THE WISCONSIN CHEESE-MAKING INDUSTRY.

The end to be attained by the Wisconsin cheese-making industry is the production of a uniformly high quality of cheese of the different varieties manufactured at reasonably remunerative profits for all the legitimate services necessarily rendered in the achievement of that end.

There are certain things that have already been done to accomplish this purpose. The quality of a considerable portion of our cheese is of the highest excellence. It is the equal of the best cheese on any market of the world. In achieving the production of a uniformly high quality of cheese there are some obstacles yet to be overcome. The first obstacles I shall mention relate to the proprietors and managers of the factories.

It is an obstacle not to provide the factory with adequate drainage. Without this, the degree of cleanliness necessary to the production of the highest grade product cannot be secured. Other obstacles chargeable to the management are the lack of suitable floors, proper light and ventilation, the refusal or neglect of the proprietors or managers to supply suitable, up-to-date apparatus. To make a twentieth century cheese requires twentieth century methods. All conditions in the factory must be such as to secure absolute cleanliness. Another obstacle in the accomplishment of the production of uniformly high-grade cheese is the employment of an incompetent cheesemaker or the withholding from a competent and enterprising maker such just share of the profits of the business as he is reasonably entitled to for the services rendered.

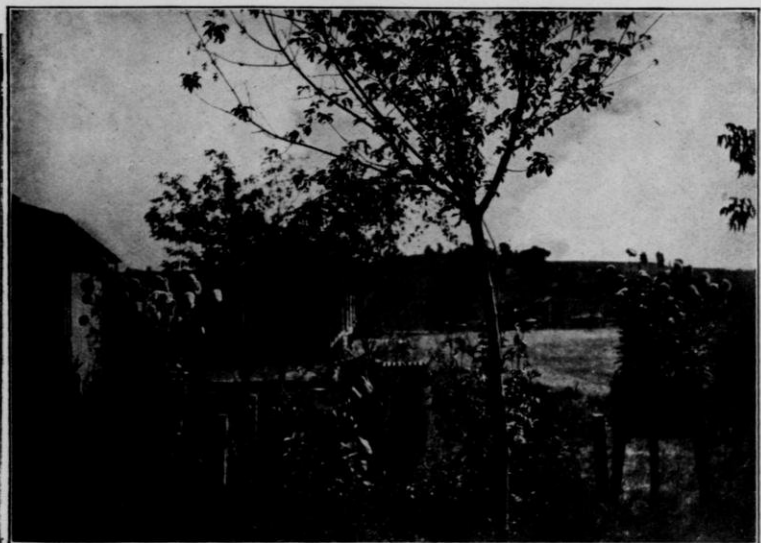
Still another obstacle is the practice of some proprietors and managers of procuring milk by the "pound for ten" plan or by the hundred-weight, regardless of butter fat content. Any practice that does not with painstaking care and scrupulous honesty return to each patron the full and proportionate value of every pound of milk furnished the factory is an obstacle in the cheese-making industry of Wisconsin.

There are some obstacles to the production of high-grade products chargeable to the patrons of the factory. The practice of some patrons of furnishing milk that is unclean or otherwise adulterated is a most serious obstacle. That the highest quality of cheese cannot be made from poor milk is a fact beyond controversy. The patron who furnishes milk to a cheese factory in dirty, rusty or open-seamed cans, the patron who furnishes milk to a cheese factory from a herd infected with tuberculosis or other disease or who keeps his cows in a filthy condition or in unlighted or unventilated stables, is creating serious obstacles if not an actual menace to the cheese-making industry.

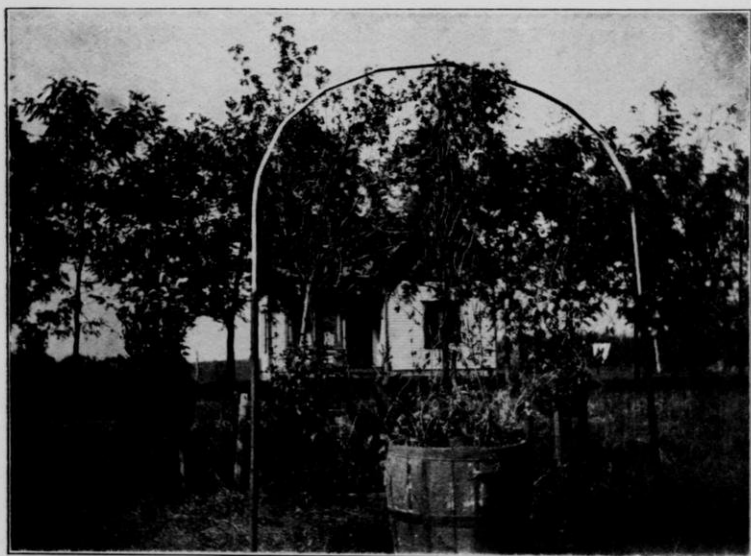
There are other obstacles which are attributed to the cheesemaker. The cheesemaker who is unclean in his person or clothing, who does not maintain his factory, apparatus and premises in a clean and sanitary condition, who is lazy, unenterprising, unskilful or dishonest, who does not take an interest in his patrons and tactfully lead them to improvement in the quality of milk furnished, creates obstacles to the production of uniformly high-grade cheese.

But there are also some obstacles to the highest success in this industry for which the cheese buyers or dealers are responsible. One of these is the practice of some dealers of making cheese with their pencil or paint brush,—that is, the practice of the so-called "marking up" of the weight of cheese. Under the operation of the present national law and of the state food laws, this practice is likely to prove dangerous and unprofitable and should be abolished.

I believe it to be an obstacle to the highest success in the cheese industry of this state not to pay for cheese strictly on the basis of quality. The strongest incentive to the production of the best quality of cheese on the part of the patrons and managers is that it is more profitable to do so. Again, the price paid for cheese should at all times be what the cheese is reason-



BACK YARD—HILLSIDE CREAMERY.



YARD—HILLSIDE CREAMERY.

ably worth, giving the dealer a reasonable profit, and not what it can be bought for by driving a sharp and unfair bargain.

It is doubtless true that the Wisconsin cheese-making industry was never in as prosperous a condition as at present. Under this condition we should not commit the follies of the past, such, for example, as the "filled cheese" folly. We may well profit by one of the fables of Aesop: "A cottager and his wife had a hen which laid every day a golden egg. They supposed it must contain a great lump of gold in its inside, and killed it in order that they might get it, when to their surprise they found that the hen differed in no respect from their other hens. The foolish pair, thus hoping to become rich all at once, deprived themselves of the gain of which they were day by day assured."

The cheese-making industry of Wisconsin has reached a point in its development when it annually yields a golden egg of \$23,000,000 to the patrons of our cheese factories.

The obstacles of which I have made mention are a foolish and unwise tendency to kill this great industry that yields annually this mammoth golden egg.

FUNDAMENTAL REQUISITES IN CREAMERY MANAGEMENT.

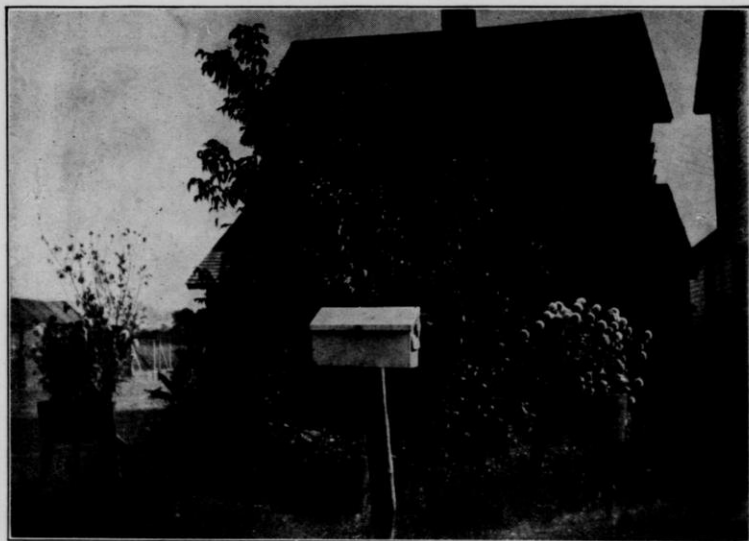
The first fundamental requisite in the management of creameries is to make sure that the quality of the butter manufactured shall be "extra." The first fundamental requisite in the production of butter of "extra" quality is cleanliness from cow to refrigerator. The problem of securing cleanliness is not to be solved by simply ignoring it nor by indifference or cowardice on the part of creamery managers. It is a fundamental requisite that the creamery management provide ample light, suitable ventilation, adequate drainage, and that sound business principles be applied to every phase of the industry. It is a fundamental requisite that creamery managers bestir themselves with intelligence, energy and courage to provide for their creameries milk or cream that is clean and fresh; that the utensils and cans used in its handling and delivery shall be clean, sound and free from rust and not battered; that the pipes in the creamery through which the milk or cream must flow shall be of the sanitary kind,—clean and free from the rotten accumulations of days, weeks, months and years. The ignoring of these requisites, the lack of absolute cleanliness in all stages of the process of

manufacture results in lowering the quality of the butter produced and, if the butter be sold strictly upon its merits, as it should be, consequently results in lowering the price received for it and the lowering of the dividend received by the patron. The management is responsible for such conditions.

It is a fundamental requisite that the management of creameries shall be such as to win and hold the confidence of the patron. But confidence depends upon integrity. It is a fundamental requisite of the creamery business that integrity permeate every transaction of the creamery management. This will beget confidence. The integrity herein referred to must be of the active and positive sort. Integrity requires that the milk or cream received each day shall be accurately weighed on accurate scales and the weights carefully and accurately recorded; it requires that the milk or cream received from the patrons shall not be allowed any deterioration on account of shiftless handling or contact with unclean apparatus. Integrity requires that the tests made for butter fat shall be strictly accurate and, to this end, that samples be taken of each delivery of milk or cream and cared for intelligently; that the pipettes used in the test shall be accurately graduated and that they be kept clean; that the amount of cream for testing be determined by accurate and sensitive scales and not by a pipette, and that the weights used in these shall be absolutely true and that these scales shall at all times be properly cared for. Integrity requires that 50% test bottles be banished from every creamery as unreliable; that the test shall be made with a tester run at proper speed, with acid of the right strength and read with butter fat at the right temperature, and that accurate and permanent record of these tests be systematically made.

Integrity requires that patrons' milk or cream be handled and tested and the butter fat manufactured by an intelligent, honest, industrious buttermaker whose skill in his art is up to the standard set by our best dairy schools, and that he receive just compensation for his services.

Integrity requires that only first-class, up-to-date apparatus be used and that it be handled with intelligence and skill; that the skim-milk and buttermilk be daily tested for butter fat and a record made and kept of these tests and that the butter fat content of the skim-milk and buttermilk be at all times re-



SIDE YARD—HILLSIDE CREAMERY.



YARD—HILLSIDE CREAMERY.

duced to the minimum. Integrity requires that a legitimate overrun be secured and that such apparatus, records and practices as are necessary to accomplish this end be provided and employed.

The integrity in creamery management that begets confidence in the patrons requires that each patron shall be credited with every ounce of butter fat that he delivers to the creamery and that he shall have an accurate and intelligent accounting for every ounce of butter which may be legitimately made from the butter fat delivered. The creamery management is in a sense a trustee charged with the care of the patrons' property and is responsible for an accurate accounting, and may be compelled at any time by the courts to give such accounting.

With such conditions prevailing,— with creameries located where the surrounding air is fresh and pure, free from dirt and foul odors and as near as possible to the patrons so that the milk or cream can be delivered daily or at least every other day for manufacture into butter, receiving and manufacturing into butter, only clean, fresh milk or cream, demanding and securing scrupulous cleanliness for each process, utensil and product, giving every patron a square deal, weighing, testing and reporting with intelligence, skill and strict accuracy,—the creamery industry may be likened unto the house the wise man built upon a rock; and when the rains descended and the floods came, and the winds blew and beat upon that house, it fell not, for it was founded upon a rock. Built upon such a foundation, and conducted upon such principles, the storms of adversity and competition will beat upon the Wisconsin creamery industry in vain.

THE PATRON'S RESPONSIBILITY FOR THE QUALITY OF FACTORY PRODUCTS.

By factory products, I understand butter and cheese to be meant.

The score card for cheese recognizes the following qualities: flavor, texture, color, finish. In a total of 100 for a perfect product, flavor is given 45; texture, 30; color, 15; finish, 10.

The score card for butter recognizes the following qualities: flavor, grain, color, salt, packing. In a total of 100 for a perfect product, flavor is given 45; grain, 25; color, 15; salt, 10; packing, 5.

It is to be observed that in both butter and cheese, flavor is by far the most conspicuous quality and when perfect receives 45 out of a total of 100 points. The flavor, therefore, of the factory product more than any other one quality and almost equaling all other qualities combined, determines the market price. In cheese, those conditions of milk that impart to it flavor, affect also its texture. For the flavor of butter or cheese, the patron is chiefly responsible. I do not say wholly responsible, but chiefly. If the patron delivers milk or cream of poor or bad flavor, it is absolutely fatal to a perfect or high class product.

The Standard dictionary defines flavor as follows: The quality, especially a specific or delicate quality, of a thing as affecting the sense of taste or the senses of taste and smell; rarely, a quality affecting smell alone; the peculiar taste of a thing, especially if it is pleasant.

The presence or absence of this delicate quality in butter and cheese determines more than anything else the market price of those products. Unless this quality is present in the milk or cream furnished by the patron, the maker can no more produce a product of high quality than could the Israelites produce bricks without straw for their Egyptian task masters. If the patron destroys that delicate quality in his milk or cream, like the passing moment, it is gone, never to return.

This leads to a brief consideration of the source of those odors in milk or cream that destroy the much coveted flavor which is characteristic of butter and cheese of the best quality. The clearest, most exhaustive and authoritative presentation of how odors and flavors find their way into milk that I have ever seen is given by Prof. King in his *Physics of Agriculture*, and to which I am indebted for much of the thought here presented. He says: "The substances producing these qualities in milk make their entrance there in three different ways: (1) from the blood at the time the milk is secreted; (2) from the outside after the milk is drawn; and (3) they are produced within the milk after it has been secreted before and after it is drawn."

The better to understand this subject, let us briefly recur to some of the fundamental principles as to the composition of matter. The molecule is the smallest part of a substance that can exist separately and still retain its composition and specific properties. The molecular theory of the composition of matter

teaches that ordinarily these molecules do not touch each other; that however compact a body may be there is in it space not occupied by the matter composing it; and that the molecules are constantly in motion. "As the worlds in space are clustered in mighty systems, the members of each revolving about one another in inconceivably *vast* orbits, so each body is a miniature system, its molecules moving in inconceivably *minute* paths."

As molecular motion increases, the molecules are forced farther apart with rise of temperature. When the motion decreases, the molecules come closer together with decrease of temperature. In other words, at a higher temperature of a body, its molecules are in more rapid motion than when at a lower temperature.

To feel fully his responsibility for the quality of factory products, the patron needs to bear in mind the infinitesimal size of the particles to which a body is capable of being divided. Let me briefly illustrate: Strychnine is bitter. Place a grain of strychnine in 1,750,000 grains of water. In each grain of the water, there will be $1/1750000$ of a grain of strychnine and can be distinctly tasted.

Dissolve 1 gram of 5.B. Methyl Violet in alcohol and distribute it through 1,000 cubic inches of water in a large flask. Pour out one-half of the colored water and fill to 1,000 cubic inches again. Repeat this operation until the eye can with certainty detect the color in this water. As many as ten divisions may be made. In the last 1,000 cubic inches of water there will be only a trifle less than $1/1000$ of a gram of 5.B. Methyl Violet, yet the color is apparent to the eye. That is, in each cubic inch of the water there is only $1/1000000$ of a gram of 5.B. Methyl Violet.

Our knowledge or recognition of odors and flavors is due to the sensation caused by the infinitesimally small molecules moving through the air and striking our nerves of smell and taste. Instance the fragrance of the rose, the flavor of the apple, strawberry or other fruit. King mentions a blind lady who took the glove of a stranger and, walking up and down the aisles of a large audience room filled with people, handed the glove to the owner, made known to her only by the likeness of the odor from the glove to that escaping from the stranger, produced by an

inconceivably small particle of the volatile principle striking the nerve of smell.

It is by the extremely minute molecules of the volatile substances escaping from the foot of the master through his shoe, remaining in his path for hours, and finally striking the nerve of smell in the dog, that he tracks his master.

I have dwelt at this length on the subject of the nature and divisibility of matter and the way we acquire a knowledge of flavors and odors to produce the conviction that small particles of dust, dung, urine or of any other filth entering milk may separate into infinitesimal particles, disseminate themselves through the whole volume of milk and work havoc to the entire mass, by imparting to it their odors and flavors. Thus one careless, slovenly patron may irreparably undo the neat, careful and painstaking work of his neighbor and foist upon the consuming public an inferior and unsatisfactory product.

It is the butter fat in the milk that chiefly absorbs and retains the odors, agreeable or otherwise. The method of gathering the fragrance of various flowers for the manufacture of perfumery has a wonderfully suggestive lesson to dairymen. Plates containing fats are placed in chambers with the flowers. These fats absorb the fragrance from the flowers and retain that fragrance a long time. They are sold as pomades and are used in the manufacture of the finer perfumes. Think for a moment of the perfume the butter fat of milk must gather and retain from an unclean and unventilated barn or from an agitated barn-yard heap. Certainly it requires no small amount of skill and art to so feed and handle a herd of cows as to impart to the product the finest flavor.

"Any volatile principle," says King, "which may chance to be present in the blood of the animal at the time the milk is being drawn will find its way into the milk and will impart a quality to it, the intensity of the flavor or odor depending upon the amount of the volatile principle present and the readiness with which it evaporates."

It is easy to understand how these volatile substances may be present in the blood from the feed furnished the cow, such as onions, cabbage, rape, turnips; or by forcing the cow to remain in and breathe an atmosphere that is filled with foul odors, due to lack of ventilation and cleanliness. Such odors being taken

into the lungs in the air breathed by the cow must enter the blood through the membranes of the lungs and impregnate it, which in turn imparts the flavor to the milk. It is to be recognized that just the reverse of this follows when the cows are kept in clean, well-ventilated barns and whose feeds are of befitting fragrance.

Damaging odors and flavors may be imparted to milk from the outside after it is drawn. "If," says King, "the odors of manure, of urine, of ammonia, or any of those associated with the decay of organic matter are in the air above the milk, the rapid motion of these molecules will cause some of them to plunge into the milk and accumulate there until they become so numerous that just as many tend to escape per minute as tend to enter. The milk is then saturated with the odor in question. The warmer the air surrounding the milk and the warmer the milk, the more quickly will the condition of saturation be reached, simply because the rapidity of molecular motion increases with temperature, for when the molecules of foul odor are once inside the warm milk, they travel or diffuse downward more rapidly because it is warm."

If the milking is done in a stable that is unclean and unventilated, filthy and filled with foul odors, it is readily understood how the streams of milk passing from the udder to the pail will force the contaminated air into the pail and impart its foul odors to the milk. The use of the separator under similar conditions must produce similar results.

Odors and flavors are also produced in the milk after it has been drawn, by the introduction into it of undesirable germs in the dust from the stable and the cow and from lack of cleanliness of vessels used in handling it.

If the milk is allowed to remain at body temperature and cool slowly, the gas-forming bacteria, whose habitat is filth, rapidly develop, producing undesirable odors; but if after being drawn the milk is soon cooled to a temperature as near 40 degrees F. as possible, the growth of these undesirable bacteria in the milk will thereby be checked and reduced to a minimum.

From the preceding statements, it plainly follows that the patron who keeps healthy cows, in clean, well-ventilated and well-lighted stables, feeds them sound, wholesome food, causes them to be milked in a cleanly manner, and the milk handled

at all stages in clean vessels and quickly cooled as soon as possible to a temperature ranging from 60 degrees to 40 degrees F., and delivers it to the factory free from chemical preservatives and with such frequency, that when delivered, it is in prime condition, meets his responsibility for the quality of factory products. And in just the proportion that the patron fails to meet these conditions does he fail to meet his responsibility for the quality of factory products.

A CAMPAIGN FOR SCRUPULOUS CLEANLINESS.

There is a campaign on in Wisconsin for scrupulous cleanliness in all dairy products. Sheridan's campaign against Early in the Shenandoah Valley is not without its suggestions and lessons for this campaign for cleanliness.

Sheridan had been ordered by Grant to so deal with that valley that it should no longer be a protected and resourceful place where the confederates could draw their supplies and make raids upon the union forces. After a series of brilliant successes over Early, the confederate commander, Sheridan was summoned to Washington by his superiors in command. In his absence, Early made an attack upon Sheridan's army at Cedar Creek, defeated it, and sent it panic stricken down the valley.

Returning from Washington, Sheridan spent the night at Winchester. Early in the morning, he was awakened by the officer on picket duty, who reported artillery firing from the direction of Cedar Creek. Then commenced that famous ride from Winchester, "twenty miles away." Sheridan had not ridden far when the appalling spectacle of a panic stricken army burst upon his view—"Hundreds of slightly wounded men, throngs of others unhurt but utterly demoralized, and baggage wagons by the score, all pressing to the rear in hopeless confusion!" As he rode through this panic stricken army, he said to these straggling men, "We must face the other way. We will go back and recover our camp." And under his leadership, those panic stricken veterans did face the other way. They followed him to the front, and, under his orders, formed in battle line in the very place where but a short time before they had met defeat.

When those soldiers had been thus rallied and were arrayed in battle line, Sheridan, that he might infuse into each one of them his own spirit and his own courage, mounted on his black

charger Rienzi, rode down the front of that entire line of battle. Those soldiers had faced the other way. And when the opportunity and the command were given, they changed defeat into one of the most brilliant victories anywhere recorded in history. Sheridan accomplished all the purposes for which he was sent into that valley.

In this campaign that is being waged by the army upon whose banner is inscribed, "Cleanliness in Wisconsin Dairy Products" against the forces of uncleanness, there is need that each buttermaker and cheesemaker be possessed of something of the courage, something of the energy, something of the power, magnetism and leadership that characterized General Sheridan in his campaign. These buttermakers and cheesemakers need to be real generals. They need to call upon the stragglers from the ranks of cleanliness to face the other way, to face toward cleanliness—cleanliness of cows, cleanliness of barns, cleanliness of dairy utensils, cleanliness of milk, cleanliness of cream, cleanliness of creamery as to floor, walls, ceilings, windows, pipes, vats—cleanliness in everything from cow to consumer. Those who are facing towards uncleanness need to be moved by some powerful leadership to face the other way. The opportunity and the duty to exercise that leadership with the patrons of each creamery and cheese factory in Wisconsin is with the buttermaker and cheesemaker.

BUTTER AND CHEESE SCORING CONTESTS.

The following is taken from an address by Mr. U. S. Baer at the Sixth Annual Meeting of the Wisconsin Buttermakers' Association held at Wausau, February 5-8, 1907. Mr. Baer is assistant dairy and food commissioner, and secretary of the Wisconsin Cheesemakers' Association.

"About three years ago your worthy secretary, Mr. J. G. Moore, started to promote and agitate the question of holding a butter and cheese scoring contest in Wisconsin.

"We had heard so much of Michigan, so much of Minnesota and so much of Iowa and their contests that we thought we would try to inaugurate one in Wisconsin. A circular letter was mailed out June 14, 1904, from the Dairy and Food Commissioner's office, as follows:

"Madison, Wis., June 14, 1904.

"To the Butter and Cheese Makers of Wisconsin:

"At the Eau Claire meeting of the Wisconsin Buttermaker's Association, the holding of a monthly scoring contest was agitated. No tangible conclusions were arrived at and nothing done.

"Other states, notably Iowa and Minnesota, have found it to their advantage to have educational scoring contests, similar in plan and scope to the ones inaugurated and carried to successful conclusions by our National Creamery Buttermakers' Association. The Dairy and Food Commission wishing to do all within its power to aid the butter-makers and cheesemakers, will, if sufficient interest is shown, hold a monthly scoring contest. The plan contemplates:

"First—the donating of the first exhibit by the makers to help pay expenses;

"Second—The other exhibits to be sold and the proceeds returned;

"Third—The exhibits to be shipped by express to Madison, with the exception of the month of September, when entries would be sent to Milwaukee and there made a part of the exhibit at the State Fair, and if the makers wished to pay the extra fees, compete for the State Fair premium;

"Fourth—Contests to close with the next state meetings of the butter and cheese makers' associations, where the same package would be eligible to compete for the premiums offered by the state associations;

"Fifth—The exhibits of butter and cheese to be analysed by a chemist for their fat, water and salt contents.

"If you are interested in this proposed contest, we would be pleased to have you so inform us, with such criticism on the plan as outlined, as you may wish to make, and with any suggestions that you may have to offer.

"If this scoring contest is inaugurated, what co-operation will you give to the undertaking? Will you make entries in the proposed scoring contest?

"A prompt reply is important and is requested.

"Cheesemakers will please send reply to U. S. Baer, Secretary of the Wisconsin Cheese Makers' Association, Assistant Dairy and Food Commissioner, and Cheese Expert for this Commission, care of the Dairy and Food Commission, Madison, Wisconsin.

"Buttermakers will please send reply to James G. Moore, President of the Wisconsin Buttermakers' Association and Creamery Expert for this Commission, care of the Dairy and Food Commission, Madison, Wisconsin.

"J. Q. EMERY, Commissioner."

"We received only about a dozen or fifteen replies to this circular letter and, as I remember, during the month of April, a call was sent out from the Dairy and Food Commissioner's office inviting the officers of the State Dairymen's Association, the officers of this association, representatives of the State Dairy School and of the Agricultural College, and also the officers of the Cheese Makers' Association to meet in conference at the Dairy and Food Commission office at the state capitol in Madison.

"At that conference it was decided to send out a call to the creameries and cheese factories of the state and see if we could organize a contest, in fact the contest association was organized at that meeting, and Mr. Hill, at that time president of the Wisconsin Dairymen's Association, was made president of this contest association, Prof. Farrington was made treasurer, Mr. Moore secretary, and U. S. Baer vice president of the association.

"This time a mailing card, with a return card, was sent out to the creameries and cheese factories. We heard from somewhere in the neighborhood of 240 buttermakers and about 125 cheesemakers that they would enter into this contest and bear part of the expenses themselves.

"The dairy press of the country has made very favorable comment on our method of scoring. The method of scoring the butter and cheese that has been sent to us from month to month, with the exception of the state fair scoring of both butter and cheese, the scoring of the cheese at the Cheesemakers' convention at Milwaukee, has been to have the butter scored by three judges and the cheese scored by three judges. Those who were entered in the contest from month to month have given us each month a statement of the process of manufacture and that, taken with the numerical score and the descriptive score of the three judges, has gone into the work of framing up letters of criticism, if there were any criticisms, to the buttermaker and cheesemaker back in the factories. This meant an immense amount of labor. Over at the dairy school, Dean Henry of the College of Agriculture, gave the time of some of his men, particularly Mr. Marty and Mr. Benkendorf, to the work of checking in those goods, unpacking them, checking them out and shipping them. He has also tendered us free of cost the cold storage rooms at the dairy school building, and free transportation of the product back to the refrigerator car for shipment.

"Commissioner J. Q. Emery has contributed the time and energy of a number of his official staff, and it is very largely due to his counsel that this Wisconsin cheese and butter scoring contest has been successfully carried on. It has meant that Secretary Moore and others, including myself, have had to put in not alone hours, but days of our time in taking care of these exhibits from month to month, in the scoring of the exhibits and in the working out of those letters of criticism, of which I venture to say most of you have had a sample.

"Now, just a word as to future contests and our plans for continuing these contests. Recently, through Commissioner Emery, a meeting was arranged with the officers of the University of Wisconsin, President Van Hise, Dean W. A. Henry of the Department of Agriculture, Professor Farrington of the Dairy School, Commissioner Emery, Mr. Moore and myself. We were told at that meeting by the president of the university that he had carefully watched this work all the season and had come to the conclusion that it ought to be made a sort of university extension educational course, in connection with that institution, and he said to us, 'We will arrange to make a sort of department of this and provide an expert man who is in touch with the buttermakers and cheesemakers of the state of Wisconsin, to take charge of it. We will give him expert stenographic service, and we will get expert judges at the expense of the University of Wisconsin.'"

The following is from an address of Mr. J. G. Moore, delivered at the meeting of the Wisconsin Cheese Makers' Association in 1907. Mr. Moore was then second assistant dairy and food commissioner and secretary of the Wisconsin Buttermakers' Association.

"In the year 1904, as president of the Wisconsin Buttermakers' Association, I suggested the idea of a contest in the president's annual message. I appointed a committee of six men at that convention to see what could be done to get a scoring contest for Wisconsin, but nothing was done. Some of us agitated the subject with Dairy and Food Commissioner Emery, and the result was we got out a circular letter which we sent to all the creameries and cheese factories in Wisconsin, so far as we knew them. To that letter we received

about a half dozen replies from as many buttermakers and as many cheesemakers, so for the time being the plan fell flat. At your convention two years ago I presented a paper on the scoring contest for Wisconsin and still nothing was done. At the Buttermakers' convention held at Madison last year, on being asked for a showing of hands, at least seventy-five men held up their hands to the inquiry as to whether they would engage in a contest. A conference was called by the Dairy and Food Commissioner of the officers of this association of the Wisconsin Dairymen's Association, of the Wisconsin Buttermakers' Association and representatives of the Agricultural College. These gentlemen met in the office of the Dairy and Food Commissioner and talked the matter over. Previous to this, at the expense of the two associations, the buttermakers and the cheesemakers, we sent out a return paid postal card asking again whether the buttermakers and cheesemakers would enter the contest. There was a sufficient number of replies at this time to warrant us going on with the contest, something like 100 cheesemakers and over 200 buttermakers replying.

"At that conference the Wisconsin Agricultural College offered the use of its cold storage rooms and kindly offered also the services of a man to take care of the exhibits and look after them as they came in, also to see them shipped out again. The plan contemplated that we would have to hire a stenographer to take care of the books, who would devote her entire time to the work. Looking after the same devolved upon a member of the Dairy and Food Commission, and I was selected to do it. Commissioner Emery agreed to furnish some of the judges, the dairy school furnished one for the butter and Mr. Michels, your vice president, tendered his services throughout the season as one of the butter judges. It was requested that the butter and cheese be sent to Madison each month, express charges prepaid.

"We received the highest number of entries in the butter division in the contest, about one hundred and forty odd; about eighty was the highest number of cheese entries it seems to me at any one time, and the number of entries each month were as follows:

"There were 27 cheesemakers who sent cheese once, some of those sent the first month; 17 for two months; 10 cheesemakers for three months; 10 for four months; 8 for five months; 9 for six months; 6 for seven months; 11 for eight months and 14 for nine months.

"At the conference it was decided that we should use three judges for the different monthly scorings. In using three judges these men worked together, but so far as their criticism and the numerical score which they gave to the exhibit, they worked separately, each man giving you his individual opinion.

"These score cards were made out in duplicate and after the scoring was over, Mr. Baer for cheesemakers, and I for the buttermakers, looked over the entry blank which you were asked to fill out and send in, and in the light of the judging and the score of the judges we tried to send you a letter which would be helpful in some way to make a better article. This took a great deal of time. In fact it would usually take Mr. Baer a day or two to dictate those letters. As for myself, having almost double the entries of butter, it would take almost twice as long. At each monthly contest we devoted nearly a week to this work.

"As regards the continuation of the contest, at the instance of Dairy and Food Commissioner Emery, a conference was called at the Agricultural College between the Commission and the Agricultural College authorities to supply ways and means for carrying on another contest. It was decided at that time that the Agricultural College, with the help of the Dairy and Food Commission, would carry on the contest next year without any expense to the members other

than paying the express charges on their butter and cheese to Madison, the Agricultural College furnishing a cold storage room and a man necessary to take care of the work, and in this case a man would be selected to devote his entire time to taking charge of this contest."

The lists of participants in these butter and cheese scoring contests were published in the reports of the Wisconsin Cheese Makers' Association and of the Wisconsin Buttermakers' Association for the year 1907. At the annual meetings of those associations, special prizes, medals, diplomas and pro rata premiums were awarded to successful competitors in the scoring contests that had been carried on. The Dairy and Food Commissioner of the state was called upon to make those awards. At the meeting of the Wisconsin Cheese Makers' Association in January, 1907, he accompanied the awarding of those prizes with the following address:

That great Athenian orator, Pericles, when called upon in accordance with the custom of the ancient city of Athens to pronounce an oration on the merits and achievements of the Athenian soldiers who had fallen in defense of their country, began that renowned oration by deprecating the custom which demanded a speech on such an occasion, claiming that those who had acted nobly should only be honored by noble acts, and that their glory should not be risked on the oratory of one man.

Though the special prizes, medals, diplomas, pro rata premiums awarded are each an act that speaks with an eloquence all its own, the management has seen fit to invite me to accompany these awards with some remarks that the occasion may suggest as appropriate.

Contests have been common in all countries and in all ages. There have been contests of war and contests of peace; contests for gain and contests for honor; contests for amusement and contests for education; contests innumerable and of innumerable kinds. In some of the famous Olympic games the winner received as reward a wreath from the sacred olive tree and was publicly proclaimed victor, an object of ambition with the noblest and wealthiest of the Greeks. The victor became a marked man in his state; he was considered to have conferred upon himself and his family everlasting glory. Ovations and many substantial honors were bestowed on him. His praises were sung by eminent poets, and often his statue was erected in the sacred grove of Jupiter at Olympia.

These Olympic games so appealed to the imagination of St. Paul that in his first letter to the Corinthians, he likened the struggles of Christians to them in his famous exhortation "Let us lay aside every weight and the sin that doth so easily beset us and let us run with patience the race that is set before us."

I am quite sure that this exhortation must have recurred many times to the cheesemakers, who have engaged for the past nine months in the Wisconsin Educational Scoring Contest. Again and again have you been deeply conscious of many weights and besetting sins in the cheese-making business that were to be set aside and the great and long continued patience required to run this nine months' race that was set before you if victory were to crown your efforts. These weights and besetting sins that were to be laid aside were by no

means simply those that were personal to the maker. They were those that were common to the cheese-making business. This contest has been the means of setting forth in bold relief to the contestants the weights and besetting cheese-making sins that must be laid aside. It has emphasized in each contestant's mind the fact that in this branch of business the cheesemaker cannot live to himself alone—that, using another of St. Paul's figures, the cheese-making body is not one member, but many—and that in that body, the eye cannot say unto the hands, I have no need of thee, nor again, the head to the feet, I have no need of you, but the members should have the same care one for another; and whether one member suffers, all members suffer with it, or if one member be honored, all members rejoice with it.

You winners have brought honor upon yourselves, and you and all those associated with you in this contest, those who have planned it and those who have managed it, those makers who have participated in the contest, and the patrons who have furnished excellent milk for manufacture into cheese, the donors of these prizes and medals, the dairy and daily press who have aided and encouraged the undertaking and given wide publicity to the scorings have unitedly contributed to honor the Wisconsin cheese-making industry. The report of the scorings in the contest has called widespread attention to the great variety and high quality of Wisconsin cheese. It is an open secret, that the better grades of Wisconsin cheese have been put into cold storage in large cities and resold to dealers and consumers under another name, thus robbing Wisconsin of her rightful heritage. It is an open secret that the better grades of Wisconsin Cheddar cheese have been sold on the British market, commanding the highest market prices without its being known to be a Wisconsin product.

It is an open secret that the better grades of the Swiss type of cheese manufactured in Wisconsin have been bought at our factories, held in curing rooms or cold storage elsewhere for six to eight months and then returned and sold to Wisconsin dealers and consumers as the best grade of imported cheese.

Educational scoring contests, as this has been conducted, tend not only to improve the skill of the individual makers, but to bring the high quality of Wisconsin cheese into fair and just recognition.

Some of you victors recognize, I am sure, that you have won by a hair's breadth. You have had competitors that have been worthy of your best efforts. Again permit me to refer to that famous oration of Pericles. Speaking in the loftiest terms of the merits of the Athenian soldiers, he declared that it was no disgrace to be beaten by such men. And when I recall the excellence of the products you have contributed to this contest, as indicated by the figures reporting the scores, I here declare that to you who have not been winners, it is without dishonor not to have won against such superb competitors.

Following is an extract from the dairy and food commissioner's address on the occasion of the awarding the special prizes, medals, diplomas and pro rata premiums at the meeting of the Wisconsin Buttermakers' Association at Wausau in February of the same year:

It is an open secret, that during the past few years at least, gratifyingly large numbers of Wisconsin creameries have in the conduct of their business adopted the state's motto "FORWARD" as their own.

It is an open secret, that one of the largest creamery butter purchas-

ing firms in this country, if not in the world, has asserted that Wisconsin has been producing during the past season creamery butter of better quality than that state whose exploitation of her creamery products is familiar to the country.

In this connection, the report of the State Board of Managers of the St. Louis World's Fair upon the subject of the Dairy Exhibit seems both appropriate and timely. Referring to our butter exhibit that report states: "While our exhibits did not command the highest awards announced in this department, Wisconsin had no peer in the class of product presented, which represented the ordinary commercially obtainable product bought in the open market, as representative of the output of the best dairies and creameries from different sections of the state. That is to say the Wisconsin butter shown in competition was not from selected cows, specially fed, whose milk had special care and then had its cream converted into butter by the most skilled buttermakers of the state, and then packed and shipped with peculiar safeguards with a view to the highest scoring that might possibly be obtained. Wisconsin's exhibit was made up of such marketings of butter as any St. Louis buyer could have obtained at the same time, selected from all parts of the state, handled and forwarded by the ordinary means of shipment. It had no equal in a similarly presented exhibit. Higher scorings were made where, after months of careful investigation and scientific testing by many skilled inspectors, a selected list of cows was secured, systematic feeding was followed, the milk converted into butter by the most skilled buttermakers of a great state, and the butter handled, expedited and forwarded with the greatest possible safeguards and dispatch. While this, in a way, as demonstrating what may possibly be accomplished by following such ideal methods, was gratifying and stimulating to the industry, it does not detract from the prominence that was earned by Wisconsin for its faithful exhibit of unequalled commercially obtainable product, and the benefits certain to be derived therefrom."

OLEOMARGARINE.

Wisconsin was one of the first states, if not the first state, to undertake to regulate by law the manufacture and sale of oleomargarine. The first Wisconsin oleomargarine law was enacted in 1881 as chapter 40 of the laws of that year. Sections 1 and 3 of that law provided in substance that the manufacturer or seller of butter made wholly or in part from tallow, should mark the same "oleomargarine;" or, made wholly or in part from lard, should mark the same "butterine." This statute as is readily seen, was simply a label law. It proved weak and ineffective in preventing the sale of a slaughterhouse compound for genuine dairy butter, and so the fraud continued.

In 1885 the legislature again grappled with the fraud in chapter 361 and provided:

"Whoever manufactures out of any oleaginous substance or any compound of the same, other than that produced from unadulterated milk, or cream from the same, any article designed to take the place

of butter or cheese produced from pure, unadulterated milk, or cream from the same, or whoever shall knowingly sell or offer for sale the same as an article of food shall be punished."

This law was a prohibition upon "knowingly" selling such a compound as an article of food. As was to be expected, when no other objection could be made, the "unconstitutional" hobby was trotted into the ring against this statute.

The legislature of 1889 renewed its efforts to legislate the fraud out of this packing house product by enacting chapter 424, which provides:

"No person shall manufacture, mix or compound with or add to natural milk, cream or butter any animal fats or animal or vegetable oils, nor shall he make or manufacture any oleaginous substance not produced from milk or cream with intent to sell the same for butter or cheese made from unadulterated milk or cream, or have the same in his possession or offer the same for sale with such intent, nor shall any article or substance or compound so made or produced be sold intentionally or otherwise as and for butter or cheese, the product of the dairy."

Whatever merits this law of 1889 may have possessed otherwise, it failed utterly of its purpose by providing that *intent* must be proven in order to establish the unlawful character of the sale.

The experience of the New York court of appeals with such laws led that court early in the history of food law litigation in this country to declare:

"Experience has taught the lesson that repressive measures which depend for their efficiency upon the proof of the dealer's knowledge and of his intent to deceive and defraud, are of little use and rarely accomplish their purpose. Such an emergency may justify legislation which throws upon the seller the entire responsibility for the purity and soundness of what he sells and compel him to know and be certain,"

a suggestion which the legislatures of various states have since tried, with varying degrees of success, to adopt.

As showing the ineffectiveness of this law, I quote from the report of Commissioner H. C. Thom for the year 1890:

"We should strip oleomargarine of its power, and that can only be done by obliging manufacturers to make it look like itself and not like butter. Butter has worked all these years to make for itself a market and a demand. Now that they are established, it should not be robbed by an imitation. The attack has but just begun. No corner of the state is too remote for its presence, no table so humble, no dining room so grand, no lumber camp so rough that oleomargarine, with its mellow name, will not walk upon and into, with a deceitful bow and brazen smile, with the claim that its name is butter."

The legislature of 1891 enacted a law which provided in elaborate detail for the labeling of this spurious butter, permitting its sale when thus labeled, but eliminating the element of intent as a necessary element to convict under that law. This law was on the statute books for four years and proved absolutely ineffective in preventing oleomargarine from masquerading the state in the garb of genuine butter. Speaking of the operation of this law, Commissioner Adams, in his first biennial report, says:

"The law was not only violated by the sale of unlawful packages by grocerymen to customers ignorant of their character, but it was also violated when purchasers of butterine bought the article for what it was and then placed it upon the tables of restaurants, boarding houses and hotels for the consumption of guests who supposed they were eating butter."

Thus, fourteen years of strenuous effort to drive the fraud out of the oleomargarine business had proven comparatively ineffective and the oleomargarine fraud continued to stalk abroad through the state with brazen effrontery.

In 1895 the legislature enacted a new law which, with but one or two slight amendments, is the present Wisconsin oleomargarine law. That law was almost an exact copy of the Massachusetts law upon the same subject, that had been sustained by the Massachusetts supreme court. The statute is more or less prolix, but its essential feature consists in the prohibition of the sale of oleomargarine which shall be "in imitation of yellow butter." It stipulates that nothing in the law shall be construed to prohibit the sale of oleomargarine in a separate and distinct form and in such manner as will advise the consumer of its real character, free from coloration or ingredient that cause it to look like butter. The legislature, having learned by fourteen years of experience that the manufacturers of and dealers in oleomargarine could not be depended upon to label it and sell it for what it actually was, determined to make the color of oleomargarine its own declaration as to its lawful or unlawful character, and thus prevent by law oleomargarine from stealing the legitimate color of genuine butter.

Oleomargarine manufacturers and dealers declared this law was unconstitutional. The new dairy and food commissioner of the state, the late H. C. Adams, was not easily alarmed by such declarations and, after having given manufacturers and dealers

ample opportunity to comply with the law if they were so disposed, and finding that they were violating the laws, brought prosecutions in the leading cities of the state, secured convictions and drove the counterfeit of butter beyond the borders of Wisconsin. This was a time when oleomargarine manufacturers did not claim that the "natural color" of oleomargarine was yellow. Their contention had been that the "natural color" of oleomargarine is a light straw color and this contention on their part had been recognized and affirmed by no less an authority than the United States supreme court. Their reliance at that time for making oleomargarine look like yellow butter was artificial color and it was not until after the passage of the national law of 1902 that the oleomargarine manufacturers and dealers discovered that the "natural color" of oleomargarine is "yellow." The suddenness of the falling of the scales from the eyes of Saint Paul and the revelation that came to him on his way to Damascus is not to be compared with the suddenness with which the oleomargarine manufacturers discovered, after the passage of the national law of 1902, that the "natural color" of oleomargarine is "yellow."

One section of the Wisconsin oleomargarine statute provides that any person who "shall by himself, his agent or servant, render or manufacture, sell or solicit or accept orders for, ship, consign, offer or expose for sale, or have in possession with intent to sell, any article, product or compound made wholly or partially out of any fat, oil or oleaginous substance or compound thereof, not produced from unadulterated milk or cream from the same, and without the admixture or addition of any fat foreign to said milk or cream, which shall be in imitation of yellow butter, produced from such milk or cream with or without coloring matter," shall be punished as therein prescribed. "Nothing in this section shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form and in such manner as will advise the consumer of its real character and free from coloration or ingredient that causes it to look like butter."

To the ordinary dealer, as well as to those who were interested in framing the bill and securing its passage, its meaning seems plain and unambiguous; but a law in Wisconsin, as well as in every other state, is not necessarily what the framer of the law

intended it to be, but means just what the supreme court, or the court of highest appeal, says it means. It was interpreted by the dairy and food commissioner to mean that the sale of oleomargarine, which in its color could be taken for yellow butter, is prohibited. It served the purpose of manufacturers of oleomargarine to challenge this view of the meaning of the statute.

A decision of the Wisconsin supreme court has been rendered in a case involving the interpretation of the law we are considering. The case was brought against Meyer and Nowack of Watertown for selling a compound, described in the terms of the statute and as in "imitation of yellow butter." The defendants were examined in justice court and were held for trial in the circuit court of Jefferson county, before Judge Grimm. The case was tried in February, 1907. The defendants were found guilty and fined \$50 and costs. An appeal was taken to the supreme court and the decision of that court was rendered January 8, 1908.

The limitations of space are such as to preclude a detailed description of the trial of that case in the circuit court for Jefferson county; but to understand the present legal status of oleomargarine in Wisconsin a knowledge of some features of that trial is absolutely necessary.

The professed theory of the oleomargarine manufacturers and of their legal representatives was that the law must be so construed that if oleomargarine contained no "artificial" coloring, its sale was not in violation of the law, however yellow it might be. One of the witnesses, acknowledged to be the manager of the oleomargarine department of one of the Chicago oleomargarine manufacturers, swore, in a former case brought in another judicial circuit, that oleomargarine of necessity varied in color with the change of seasons, just as the natural color of butter changes with the change of seasons, and also that if the law were construed to prohibit the sale of oleomargarine of the color of yellow butter, the law thus construed would be prohibitive of the manufacture of oleomargarine during some seasons of the year. He further testified that the oleo oil is obtained from grass-fed animals in the fall of the year; and that grass-fed animals yield a yellower oleo oil than grain-fed animals; that unartificially colored June butter is purchased for use in manufacturing oleomargarine; that these products thus obtained

are held for the manufacture of oleomargarine at different seasons of the year. It is interesting to note how completely this last statement controverts the previous statement, that the color of oleomargarine changes of necessity with the change of seasons, like butter. But when the business manager of the same firm swore that his firm was able to manufacture and meet at all times of the year the demand for the "Bakers' Brand" of oleomargarine, which is only another way to describe oleomargarine whose "natural color" is not yellow but practically white, the statement of the first witness that the color of oleomargarine changes of necessity with the seasons, or a like statement by any one else, was thereby completely refuted. That testimony was an admission that practically white oleomargarine can be manufactured in unlimited quantities at any season of the year.

Being forewarned by such remarkable testimony, the dairy and food commission, in the case of the State vs. Meyer and Nowack, made investigations as to how the yellow color in the oleomargarine is produced. We purchased tallow from different butchers from grass-fed animals and from grain-fed animals as well. We manufactured oleo oils from the samples of the beef tallow we had purchased, and neutral lard from the leaf lard purchased. We were enabled to procure from a reliable source samples of different kinds of oleo oils ranging in color from white to a golden yellow; three distinct, different grades in all in relation to color. Practically white oleo oil is manufactured from the best grades of grain-fed beef cattle. Dark yellow oleo oil is manufactured from old cows, grass-fed cattle, etc. There are intermediate grades of oleo oil based upon color between these two.

In the Jefferson county case, the manager of the "butterine" department of the concern that manufactured the oleomargarine in the case swore that the quality of oleo oil varies as the quality of beef varies; that where the beef is poor the oleo oil is poor also, and that as the quality of beef goes up, the quality of the oleo oil goes up also. He passed the light colored oil as the best grade and put the higher colored oil in a lower grade.

In this connection it should be recalled that while grain-fed animals produce the lighter colored oleo oil and grass-fed animals yield yellower oleo oil, he was forced to testify that though inferior in quality, yellow oleo oil sold at as high a price as the

white, and the oleomargarine made from the yellow oleo oil sold as high as that made from the white. The conclusion from which testimony plainly is that the yellow color of oleo oil confessed by him to be inferior in quality enables them to sell oleomargarine made from it at the same price as that which they receive for the oleomargarine made from the white oleo oil, which they claimed is of a better quality. Altruism for the "poor man" naturally suspends its function at this point.

The fact was established in these trials that although manufactured from material that is purchased when prices are the lowest, this material is held and manufactured into oleomargarine and sold at prices that follow with striking precision the soaring prices of butter—another case of suspended altruism.

That same witness in the Jefferson county case testified that the sample of oleomargarine, for the sale of which the suit was brought, when presented to him in the original wrapper and fully labeled, did not look to him like butter; but when afterwards a little pat of that selfsame sample of oleomargarine was presented to him with five other pats of butter or oleomargarine on little plates as served on the table, and he had no label to aid him to decide what it was, he swore that it looked to him like very light colored butter. That this product was so made as to deceive the man who made it demonstrates how completely it would deceive the ordinary consumer.

The testimony of this expert of the oleomargarine people completely refutes the statement of a certain writer for the *Delin*—eator that persons familiar with choice creamery butter cannot be deceived into taking oleomargarine for creamery butter. Creamery butter experts know that statement to be untrue as they cannot themselves with certainty discriminate between the two.

From the evidence submitted in these cases and the investigation made by the state in preparation for these cases, it is clear that oleomargarine can be made as yellow as many shades of yellow butter by carefully selecting yellow oleo oils and cotton-seed oils; that oleomargarine can also be made that is free from coloration or ingredient that causes it to look like yellow butter, and that the contention that the natural color of oleomargarine is the color of yellow butter is as false as the oleomargarine made in imitation of yellow butter is fraudulent. In

the course of our investigation we learned that the packing house people ship to Europe large quantities of the white oleo oil and retain the yellow oleo oil for their own use in this country in the manufacture of oleomargarine. This throws not a little light on the significance of their contention as to the "natural color" of their product. Color that is produced by crafty selection and manipulation of materials is not a natural color.

Dr. Richard Fischer, chemist for the dairy and food commission, commonly called state chemist, was able to establish the fact that the oleomargarine in question was produced by the use of about 65% of very yellow oleo oil, 20% of neutral lard which is practically white, and 15% of cotton-seed oil. He was able to establish by his testimony that the yellow color of the oleomargarine in question, which was in resemblance to yellow butter, was secured through the selection of the darkest shades of yellow oleo oil, of which a very high percentage was used. This is the composition of the oleomargarine concerning which the Wisconsin supreme court stated that there was evidence from which the jury was authorized to infer conscious imitation in the manufacture.

In its decision, the supreme court of Wisconsin holds that the sale of oleomargarine "which shall be in imitation of yellow butter" is prohibited by the statute. It holds that the words "yellow butter" require no definition to explain their meaning; that they define themselves and are used in the statute in the popular rather than in any trade or technical sense. It holds that whether the prohibited product is in imitation of yellow butter is a question of fact to be determined by the jury and that the article is to be compared with yellow butter by direct testimony of any person who is able to testify on the subject, which will include all ordinary witnesses except those who show affirmatively their lack of knowledge or some degree of color-blindness.

The court says that the question whether the article sold by the defendants was the identical thing which is contraband by the statute must be determined by the testimony of witnesses who have seen it, or by the testimony of witnesses aided by the inspection of the article itself, and that its resemblance to yellow butter is a factor in such determination. *If the article is in imitation of yellow butter, it matters not whether such imitation*

is brought about by the addition of a dye or by the selection of ingredients. The court declares that there is no distinction so far as producing color is concerned between imitating or producing color by the addition of an ingredient known as a dye and added for the purpose alone of producing a given color, and the selection and addition of an ingredient which performs the same coloring function, but at the same time adds other qualities to the compound.

The court holds that the words "which shall be in imitation of" used in describing the contraband compound, imply a conscious imitation in the manufacture thereof. The court explains the meaning of conscious imitation as follows: "If one forming a compound of several ingredients knowingly select and use an ingredient which imparts to the compound the color of yellow butter, he having choice of ingredients, he will have made his compound in imitation of yellow butter just as well as if he selected a dye." "There is, however, this difference, viz., proof of the presence of the dye, which can have no other function than that of producing color, showing the conscious imitation quite clearly, while proof of the selection of the ingredients which produced the color of yellow butter, the person selecting having the choice of ingredients, is a fact from which the jury is authorized to infer a conscious imitation notwithstanding such ingredient so selected has other qualities or is in one of its forms or in one of its colors a necessary ingredient of oleomargarine. Whether or not the article in question is in imitation of yellow butter cannot be determined alone by its resemblance to yellow butter, but resemblance aided by the evidence of the existence of a dye as one of its ingredients, or resemblance aided by evidence of the existence of available necessary ingredients which will not impart to the compound the color of yellow butter and of the existence of other available ingredients which will impart to the compound the color of yellow butter, may be considered by the jury as establishing or tending to establish conscious imitation by the selection of ingredients. What is yellow butter and whether the article in question is in imitation of yellow butter are questions of fact."

The supreme court expressed the opinion that there was evidence before the trial court from which the jury was authorized to infer conscious imitation in the manufacture of the compound

as described in its decision and because there was evidence tending to show that the accused had knowledge that the compound in which they were dealing was not butter but oleomargarine and that it resembled yellow butter.

The court further says: "Resemblance to yellow butter, together with knowledge that the compound is not butter, with proof of the fact of selling, shipping, etc., will constitute a *prima facie* case." But, says the court, it will be necessary to cover by the proof both branches of the inquiry as set forth in the decision.

The contention of the oleomargarine people has been that unless the compound contained an artificial color, described by the court as "a dye," there was no imitation, but our supreme court holds that the selection of material is just as much a conscious imitation as the use of artificial color. And let me repeat that the court held that there was evidence before the trial court warranting the jury to infer a conscious imitation; that is to say, the state offered evidence warranting the jury to infer the selection of material. The offering of this evidence was strenuously objected to by the oleomargarine people and an exception was made, but the supreme court overruled their contention and held that the evidence was properly admitted.

Because of certain irrelevant testimony that was admitted despite objection and because of one instruction of the trial judge to the jury, held to be error, to the effect that the lightest shades of natural butter as well as the darkest shades of colored or uncolored yellow butter and all intermediate shades were protected by the statute, the case was remanded for a new trial.

September 8, 1908, the defendants in the foregoing case appeared before Judge Grimm, pleaded guilty and were fined each fifty dollars and costs, the costs being divided between them.

Wisconsin was the first state to enact a law to regulate the sale of oleomargarine. In all the years that have intervened, the struggle has been to compel it to look like itself and not like butter, and to be sold for what it actually is and to prevent it from entering the dining room of a hotel, restaurant or boarding house "with its deceitful bow and brazen smile, claiming that its name is butter."

Why do the packers, if not wishing to conceal the origin of their product, so strenuously strive to associate oleomargarine

with the dairy, which is not its origin, instead of with the packing house, which is its true origin? Why, instead of a wrapper with "Jersey brand" or "Holstein brand" or "Guernsey brand," "country rolls," etc., do they not use the picture of a packing house, which would suggest more truthful associations? Why not employ such terms as Polled Angus or Hereford or Berkshire or Poland China? If they must use the word Jersey, why not Duroc Jersey? Did not the oleomargarine manufacturers while the national oleomargarine bill was pending in congress try to persuade beef producers and cottonseed oil producers into the belief that if the bill became a law it would perceptibly lessen the demand for their products and lower the prices of the same? Why should they so completely forget these interests when they prepare wrappers for their products? From our experience it appears that the use of dairy products in the manufacture of oleomargarine is relatively in very small quantities.

The Wisconsin oleomargarine law is a more vigorous law than the national oleomargarine law. It illustrates what will be found true, that in the enactment and enforcement of strong and effective food laws, the *states* will have to continue in the future as they have in the past to take the lead.

If the working man or any other man wishes to invest his hard earned dollar in butter, he should be sure to get butter for that dollar; and if he wishes to invest it in oleomargarine, he should be sure to get oleomargarine at oleomargarine prices and not at the price of butter. That is what he can now do in Wisconsin because of her oleomargarine law and its enforcement.

LEGAL DEFINITIONS AND STANDARDS FOR FOOD PRODUCTS.

Upon the floor of the United States Senate, while the national food bill was pending, the Hon. John C. Spooner, then United States Senator from Wisconsin, called the attention of the United States Senate to the fact that there were no standards provided in the pending bill for food products, and urged the need of providing such standards. The following are quotations from that speech:

"I am persuaded that the lack of standard provided by law in connection with the offenses denounced in the bill and punished by the provisions of the bill, is very dangerous to it, * * * that there is

no standard except as to drugs. Whether an article is adulterated or not is a question of fact to be determined by a jury. All through the bill there are questions of fact to be determined by a jury. There is no standard rendering definite the offense. There is nothing putting a man on notice in advance of a standard to which he must live and toward which and in obedience to which he must shape his business."

Senator Spooner then called attention to specific opinions of the Supreme Court of the United States and quoted those opinions where uncertainty as to standards was held to be a fatal defect of law.

In an address delivered before the Association of State and National Food and Dairy Departments at its St. Paul meeting in 1903, before Congress had enacted the national food law, speaking upon the subject of a national pure food law, Hon. H. C. Adams, who for seven and one-half years was the Dairy and Food Commissioner of Wisconsin, and who at the time of that address was a member-elect of the House of Representatives of the United States, made the following statements:

"We want a national pure food law, into which shall be clearly and explicitly written a standard for every form, combination and mixture of food now known, that shall be the plain law of the land. * * * A national pure food law should have written into its letter such specific standard for every food product known as will satisfy the best judgment of this association. * * * Instead of delegating to this body and to that body year after year, this matter of food standards, and having interminable discussions and interminable conventions, why not do the best we can with the knowledge we have and give notice to the trade in the letter of the law of what is required of them?"

Chapter 205 of the laws of 1907 provides as follows:

"In all prosecutions arising under the provisions of these statutes for the manufacture or sale of an adulterated, misbranded or otherwise unlawful article of food, drink, condiment or drug, the latest standards of purity for food products, established by the United States secretary of agriculture, shall be accepted as the legal standards, except in cases where other standards are specifically prescribed by the laws of this state."

While by the "latest standards of purity for food products established by the United States Secretary of Agriculture" the definitions and standards for food products given in circular No. 19 of the United States Department of Agriculture were intended, there is incalculable difficulty in establishing successfully in any case beyond reasonable doubt just what standards are meant by that statute. There is also a question whether the terms of the statute as quoted would stand the test as to its

constitutionality. For these reasons and because the writing of specific definitions and standards of food products into the food laws of this state would to that extent remove uncertainty as to what constitutes an offense under the law, and would be a square deal alike to consumer, retailer, jobber and producer, the foregoing statute should be amended by writing specifically into the law the legal definitions and standards intended by Chapter 205 of the Laws of 1907.

CHEMICAL PRESERVATIVES: BENZOIC ACID AND ITS SALTS.

By the provisions of chapter 33 of the laws of 1905, the selling, etc., of foods which contain formaldehyde, sulphurous acid or sulphites, boric acid or borates, salicylic acid or salicylates, saccharin, dulcin, glucin, beta naphthol, abrastol, asaprol, fluorides, fluoborates, fluosilicates or other fluorin compounds, is made a misdemeanor, punishable by fine or imprisonment.

In consequence of this statute, these various chemical preservatives have been very largely eliminated from the food products of the state. The chemical preservative now most commonly in use is benzoic acid or one of its salts, usually sodium benzoate. This chemical preservative should by statute be specifically excluded from food products because:

1. Benzoate of soda when added to foods has been found to be harmful.

By authority of the Congress of the United States, Dr. H. W. Wiley, Chief of the Bureau of Chemistry of the U. S. Department of Agriculture, with W. D. Bigelow, Chief of the Division of Foods, F. C. Weber and others in collaboration conducted lengthy, costly and painstaking experiments as to the effects on healthy young men of added benzoic acid or benzoate to foods. Besides being an able chemist, Dr. Wiley is a physician. The results of these experiments were published in 1908 by the Department of Agriculture in a large bulletin, which is Bulletin 84, Part IV, subject "Benzoic Acid and Benzoates." The following statements are taken from that report:

"The effects of the use of benzoic acid as a preserving medium are always injurious or tend to injury."

"The administration of both benzoic acid and benzoate of soda results in serious disturbances of the digestive functions, with positive indications of illness, which may easily be increased to nausea and

vomiting, while headache is a very common symptom, developed together with a feeling of physical weakness and an unfitness to perform ordinary work."

"The administration of these drugs in foods tends to derange the normal activities of the body and to cause a loss of tissue, resulting not only in disturbances of health but also in a slight decrease in the weight of the body."

"The administration of benzoic acid, either as such or in the form of benzoate of soda is highly objectionable and produces a very serious disturbance of the metabolic functions, attended with injury to digestion and health."

"In the interests of health, both benzoic acid and benzoate of soda should be excluded from food products."

2. Physicians generally disapprove of the use of benzoate of soda as a preservative in foods and would discard such foods from their table.

3. They are unnecessary, as it has been shown beyond successful contradiction, that all classes of foods can be and have been prepared and placed upon the market without the use of benzoate of soda or other similar chemical preservatives.

This fact has been demonstrated by the Bureau of Chemistry in the Department of Agriculture in the case of cider, grape juice, mince meat, jellies, jams, catsups, preserves and other articles of the same character, and these facts have been plainly stated in public documents published by that department.

Large concerns engaged in the production and distribution of food products have made a complete commercial success of producing and handling various food products without the use of benzoate of soda or other chemical preservatives.

4. They are not foods, and furnish no nourishment for the body, and as drugs, do modify some vital action in the body.

5. They make possible and encourage unsanitary practices and careless methods in the production, preparation, and marketing of foods and the use of material unfit for food.

6. They permit the substitution of chemical preservatives for such well-established and wholesome methods of food preservation as sterilization, refrigeration, etc.

7. If there is any question whatever as to the effect of such drugs on the health of the people, the doubt as to the danger should be resolved in favor of the consumers rather than in favor of the producers. Especially is this the case when it has been demonstrated that foods can be and are produced and dispensed without these preservatives.

The following is quoted from Bulletin No. 84, Part IV, approved December 26, 1907, by Hon. James Wilson, Secretary of Agriculture, and issued July 20, 1908, by the Bureau of Chemistry of the United States Department of Agriculture on the subject of benzoic acid and benzoates:

GENERAL RESULTS OF THE INVESTIGATION SHOWING THE
EFFECT OF BENZOIC ACID AND BENZOATES UPON
DIGESTION AND HEALTH.

INTRODUCTION.

In the continuation of the work described in Parts I to III of this bulletin, experiments were conducted, according to the general plan already described, to determine the effects of benzoic acid and benzoates upon health and digestion. This investigation is of special importance because of the opinion held by many manufacturers, food officials, and consumers that benzoic acid and benzoates are probably the least harmful of the preservative substances employed. It is believed that for this reason there has been a very large increase in the use of these preservatives in the last few years, with a corresponding decrease in the amount of other preservative substances employed. It has also been claimed that there can be no reasonable objection to the use of benzoic acid by reason of its natural occurrence in many food products, either in traces or in considerable quantities. Among the products cited the cranberry occupies the most prominent position because of the notable amount of benzoic acid it contains. These considerations, however, had no determining influence on the choice of this substance for the experimental work, inasmuch as it was included in the original scheme which was prepared before the work reported in Part I was begun.

The same principles which guided the organization of the work as described in Part I were followed in the present instance. Upon the selection of the members of the hygienic table each man was subjected to a thorough medical examination of the character already described. No one was admitted to the table who was suffering from any organic disease, who manifested any tendency to hereditary disease, or who had been seriously ill within the year previous to the beginning of the experimental work.

The delay which has attended the presentation of this report for publication has been due to several causes. First, the great burden of collating the data, condensing the analytical tables, and checking the data for accuracy, required, as is usual in such cases, a large amount of time and expert labor. There were also a number of points brought out in the investigations which required further study of the question, both experimentally and in consulting authorities thereon.

Another reason for the delay consisted in the fact that various representations were making on the part of manufacturers and others respecting the effect upon the industries using benzoic acid should the conclusions reached in this report receive executive and judicial confirmation. It was thought advisable, therefore, to give ample time to the industries involved to experiment with methods of manufacture looking to the elimination of objectionable preservatives. Investigations were also undertaken by this Bureau in collaboration with the manufacturing interests along the same line. Results of these investigations have shown that there is not a single article of food which

has been commonly preserved by means of benzoic acid or benzoate of soda which can not be preserved and offered to the consumer in perfect condition without the aid of any chemical preservative. This fact has been completely demonstrated in the case of cider and grape juice, mince-meat, jelly, jams, catsups, preserves, and other articles of the same character, and there seems, therefore, to be no longer any industrial reason for delaying publication even if the former necessity for such delay be admitted.

It is believed that the distribution of the results of this investigation at the present time will neither work hardship to any manufacturing interest nor interfere in any way with any legitimate business. At the same time it will indicate to the manufacturer, as well as to the consumer, the important truth that the use of benzoic acid or benzoate of soda as a preserving medium is not without danger, that its effects are always injurious or tend to injury, and that its exclusion from food products is desirable not only in order to conform to the food and drugs act but also for hygienic reasons.

The greater care which is required in the manufacture of food products without the use of benzoic acid or benzoate of soda, necessitating the use of a higher quality of raw material, will place the industries which would otherwise use these preservatives in foods on a better plane, and secure for their products a greater consumption.

GENERAL CONCLUSIONS.

From a careful study of the data in the individual cases and of the summaries of the results, it is evident that the administration of benzoic acid, either as such or in the form of benzoate of soda, is highly objectionable and produces a very serious disturbance of the metabolic functions, attended with injury to digestion and health.

As in the case of boric acid, salicylic acid, and sulphurous acid, this injury manifests itself in a number of different ways, both in the production of unfavorable symptoms and in the disturbance of metabolism. These injurious effects are evident in the medical and clinical data, which show grave disturbances of digestion, attended by phenomena which are clearly indicative of irritation, nausea, headache, and, in a few cases, vomiting. These symptoms were not only well marked, but they were produced upon healthy individuals, receiving good and nourishing food and living under proper sanitary conditions. It is only fair to conclude, therefore, that under similar conditions of administration of benzoic acid or benzoate of soda in the case of weaker systems, or less resistant conditions of health, much more serious and lasting injury would be produced.

It was also noticed that the administration of benzoic acid and benzoate of soda was attended with a distinct loss of weight, indicative of either a disturbance of assimilation or an increased activity in those processes of the body which result in destruction of tissue. The production of a loss of weight in cases of this kind must be regarded as indicative of injurious effects.

The influence of the benzoic acid and benzoate of soda upon metabolism was never of a character indicative of a favorable change therein. While often the metabolic changes were not strongly marked, such changes as were established were of an injurious nature. It is evident that the administration of these bodies, therefore, in the food tends to derange metabolism in an injurious way.

An important fact in connection with the administration of these bodies is found in the efforts which nature makes to eliminate them from the system. In so far as possible the benzoic acid is converted into hippuric acid. There is a tendency usually manifested, how-

ever, to retain the benzoic acid in the body for a notable length of time, and this is much more marked in the case of benzoate of soda than in the case of benzoic acid.

While the administration of both these bodies, therefore, is undoubtedly harmful, the injurious effects are produced more rapidly in the case of benzoic acid than they are in the case of benzoate of soda; the data, however, will show that the total harmful effect produced in the end is practically the same in both cases; hence there appears to be no reason for supposing that the administration of the preservative in the form of benzoate of soda can be justified by any argument relating to the less injurious effect thereof upon health.

The occurrence of microscopic bodies in the urine is undoubtedly increased under the administration of benzoic acid in both forms, thus showing conclusively the tendency to stimulate the destructive activities of the body.

Coming to the final consideration of all of these different phases of the subject, there is only one conclusion to be drawn from the data which have been presented, and that is that in the interests of health both benzoic acid and benzoate of soda should be excluded from food products. This conclusion is reached independently of any consideration of the conditions which it is alleged surround the processes of manufacture and which result in the demands of manufacturers to be allowed to continue the use of these substances. This is a subject which must be discussed from an entirely different point of view and has no bearing whatever upon the general conclusions which have been reached, namely, that both benzoic acid and benzoate of soda are bodies which, when added to foods, are injurious to health.

That the use of benzoate of soda as a preservative for food products is generally regarded by state dairy and food commissioners and state food chemists as harmful, is shown by the following resolution which was adopted by the Association of State and National Food and Dairy Departments at its 12th annual session in 1908:

"Resolved, That this Association is convinced that all chemical preservatives are harmful in foods and that all kinds of food products are and may be prepared and distributed without them, and pledges its best efforts to use all moral and legal means at its disposal to exclude chemical preservatives from food products, and to this end we ask the cordial support of all national, state, and municipal authorities charged with the enforcement of food and drug laws; and in this connection we desire to express our gratitude for the helpful services of the medical profession generally, and especially to the American Medical Association."

THE QUESTION OF "UNIFORMITY" OF STATE FOOD LAWS WITH THE NATIONAL FOOD AND DRUGS ACT OF JUNE 30, 1906.

The legitimate purpose of the enactment and enforcement of state dairy, food and drug laws, and the establishment and maintenance at public cost of state dairy and food departments, is the protection of the consuming public against the harmful

consequences of the adulteration of foods and drugs. These harmful consequences include the frauds and deceptions that have been practiced on consumers by the manufacturers and distributors of fraudulent and deceptive foods and drugs, as much as the harmful consequences of the manufacture and sale of foods and drugs that are deleterious to the public health. That these laws have been enacted and these departments maintained upon the theory that there were great wrongs being perpetrated upon the public that were injuring the health and defrauding the people of the country and that these wrongs of food adulterators were far-reaching and deep-seated, there is abundant evidence.

Writing upon this subject in the beginning of the pure food movement, Dr. H. W. Wiley, Chief of the Bureau of Chemistry of the United States Department of Agriculture, Washington, D. C., made the following statement:

"What may a housewife expect who goes into a store where no food regulations, national, state or municipal exist? If she asks for butter, she may get oleomargarine or renovated butter; for honey, glucose or a mixture thereof; for pepper, an article adulterated by the addition of starch and ground shells; for jelly, some fruit juice usually derived from apple cores and skins rejected in drying, mixed with glucose, preserved with salicylic acid and colored with some sort of aniline dye. The peas or beans may contain especially if they are very green, considerable quantities of that poisonous substance, sulphate of copper; the prepared meat or sausage, boric acid and usually some coloring matter to intensify the real color of the meat; the codfish may be preserved with boric acid instead of old fashioned common salt; the sardines purporting to be of French origin may have been caught off the coast of Maine, and instead of being packed in olive oil as one would expect are often packed in cotton seed oil. She may get tub oysters highly dosed with borax; milk and cream containing formaldehyde; maple molasses made of glucose and melted brown sugar; olive oil that is wholly cotton seed oil or mixed with cotton seed, peanut or sesame oil; white wine almost saturated with sulphurous acid; red wine made partly of sugar and not wholly of the juice of the grape; Mocha and Java coffee from Brazil, yet bearing the false name; cream made of milk thickened with viscogen and artificially colored, and so on down the list."

Speaking of the conditions as they existed before food laws had been enacted and enforced, Dr. E. F. Ladd, Food Commissioner of the State of North Dakota and at the time when he was President of the Association of State and National Food and Dairy Departments, made the following statement:

"Jellies and jams were largely adulterated and misbranded, made from apple stock and waste fruit products, often containing starch paste and mucilage, colored with aniline dyes, preserved with salicylic acid, sweetened with glucose and saccharin and the whole falsely

labeled. Our canned corn, almost without exception, was bleached with sulfites, preserved and sweetened with the coal tar product—saccharin. Our peas and string-beans frequently contained copper and alum salts and often contained chemical preservatives. Our meats were embalmed with chemicals, and some of the canned products contained little besides gristle, connective tissue and waste matters, seasoned and flavored, but sold as potted ham, chicken, etc. Our sorghum syrup came largely from glucose factories, while the maple syrup was almost wholly an imitation product, worth fifty cents a gallon and retailed for \$1.50. Our strained honey was largely flavored syrups and glucose. Our candies were made from glucose, containing sulfites, to which further sulfites were added colored with coal tar colors, many of which were known to be harmful, and flavored with chemicals or synthetic flavors. Our whiskies, brandies and wines, most generally sold even in the drug stores, the good Lord only knows what they did contain, but our chemists have shown that they seldom contained real whiskey. Our cider vinegars were unknown to the apple family. Our spices were but a semblance of the real thing, made as they were from corn-meal, cocoanut shells, olive stones and other waste products. Not a few of our drugs, drug preparations, extracts, etc., contained wood alcohol known to be a deadly poison. Cereals and chicory were the basis of much ground coffee. Lemon and vanilla extracts were largely imitation products and put up with wood alcohol. Many of the preparations dispensed at the drug stores varied from 25% to 150% of the U. S. P. strength; and fully 75% of the patent medicines were fakes, pure and simple.

"But why dwell upon this longer than to show what has been accomplished through the enactment of state laws and their enforcement. Today the conditions are largely changed. Pure foods, pure drugs of proper strength and truthful labeling are in a large measure being realized."

The existence of extensive harmful adulterations of food products was distinctly recognized by the New York Court of Appeals in the early history of the pure food movement in the following language:

"It is notorious that the adulteration of food products has grown to proportions so enormous as to menace the health and safety of the people. Ingenuity keeps pace with greed and the careless and heedless consumers are exposed to increasing perils. To redress such evils is a plain duty but a difficult task."

That the foregoing statements express in terms of great moderation the conditions as they existed at the time referred to, there is abundant evidence in the reports of chemists for the state food departments who made analyses of and reports upon the multitudinous adulterations of foods. That was the "Golden Age" for the food adulterating fraternity.

It was the manufacturers and purveyors of foods who were responsible for such reprehensible conditions. This fact should not be lost sight of. To assert that they did such things "innocently" is to insult ordinary intelligence. The end sought

by the enactment and enforcement of food laws should ever be the protection of the consuming public against such flagrant wrongs. In all discussion of the question of pure food laws and their enforcement, this fact should be kept uppermost in mind.

Under the conditions described there were three courses of procedure open to the people of this country:

1. They could quietly acquiesce in these conditions. They could, by silence and inaction, allow an army of food adulterators to rob them of their health and of their incomes. They could close their eyes, stultify their intellects and proclaim that the American food manufacturers and distributors are the personification of honesty and integrity; that no wrongs were being perpetrated on consumers; that there was no embalmed beef; no adulterated food. General Miles was wrong. Dr. Wiley was wrong. The New York Court of Appeals was wrong. They were "hurting business."

2. Another method to be pursued was to let each consumer fight his own battle with these powerful food adulterating interests. Here is our laboring man with his family to support from his daily earnings. How much our political parties have concerned themselves that he should have a "full dinner pail!" Full of what? Embalmed beef? Sausage loaded with potato flour and Lake Michigan water? Oleomargarine bought as butter at the price of butter? Glucose bought as and for pure sorghum or molasses? Instead of genuine fruits, canners' wastes preserved with benzoate of soda. Bread made from a low grade of wheat flour, artificially bleached to deceive him into the belief that he is getting what he is entitled to, namely the best of wheat flour? Filled with never ending frauds and deceptions, imitations of the genuine?

By this second method of procedure, if this man considers himself wronged, defrauded, why, argued the food adulterators in their blandest manner and with their most complacent smiles, let him take his case into court. Let him employ a lawyer. Let him secure at his own expense the services of a chemist to prove that the food he purchased was adulterated, was a fraud. Let him go into court and there establish that he has sustained damages and how much and there recover the damage. Let him do all this to win his case against the strong defense we will put

up with our highly paid expert lawyers to conduct our case and equally expert and highly paid chemists to give the testimony we need.

3. But there was another and a better method of dealing with food adulterators and their frauds. It was the method which the people, through their legislatures, chose, and that is, to define food adulteration by legal enactment, provide by law and at public expense for food commissioners, food chemists, food inspectors, etc., for a vigorous and impartial enforcement of these laws for the purpose of protecting the public against the harmful consequences of food adulteration. This is the method of fair play; and fair play is what the American people love and are fully determined to have. He who fails to realize that the American people will ultimately make hard the way of the transgressor against the purity and wholesomeness and honesty of food products, fails to discern the signs of the times.

The states and not the national government were the leaders in the enactment and enforcement of food laws. New York, Massachusetts, Pennsylvania, Ohio, took the lead and were followed by other eastern states, states of the middle west, west and south. In this course of procedure, the states were pursuing their constitutional prerogatives as declared by the United States Supreme Court in *Plumley v. Massachusetts*, 155 U. S., in the following clear and ringing statement:

"If there be any subject over which it would seem that the states ought to have plenary control, and the power to legislate in respect to which it ought not to be supposed was intended to be surrendered to the general government it is the protection of the people against fraud and deception in the sale of food products."

That same court, in the same case, also held that it is within the power of a state to exclude from its markets any food product so prepared as to cause it to look like another article of food in general use and thereby mislead the public into buying what it would not otherwise purchase; and that the states, exercising their police power, have the right to determine that a food product shall not be sold under a name or under conditions which mislead the public. The states, in their contest for purity and honesty of food products, have obtained from the Supreme Court of the United States the decisions that "The constitution of the United States does not secure to anyone the privilege of defrauding the public," and in *Cherlock v. Aling*,

93 U. S. 99-103, "In conferring upon Congress the regulation of commerce, it was never intended to cut the states off from legislating on all subjects relating to the health, life and safety of their citizens."

In the case of *Heath and Milligan Co. v. Worst*, generally known as the North Dakota Paint Case, the United States Supreme Court made it very clear in a decision secured by the North Dakota State Food Commission, that it is within the power of a state to prevent the adulteration of articles and that the establishing of standards for various articles by the legislatures of the respective states is a constitutional prerogative and a legitimate exercise of the police powers of the states, and that the United States Supreme Court will not interfere with the exercise of those prerogatives by the state legislatures.

The eastern states and the states in the middle west in their efforts to protect the consuming public against the practices of food adulterators as above mentioned, secured the enactment and enforcement of food laws well adapted to the purpose, and secured numerous state Supreme Court decisions regulating and greatly strengthening the food laws and their administration. Not until 1906 did Congress rise above the influence of the food and drug and beverage adulterating interests and enact a national law. And now before the validity of this national food law has been sustained by the courts and before there has been opportunity to demonstrate the effectiveness of its provisions as a protection to consumers, there come great combinations of these food-producing and food-purveying interests which, as above stated, are responsible for the wrongs perpetrated upon the consuming public, and seeking the establishment of a sort of pluto-democracy, demand that no provisions shall be enacted into state food laws other than those found in the national law, and that existing state food laws must be amended to conform with the provisions of said national law. In other words, these combinations of interests which have perpetrated these wrongs upon the public are demanding that they be permitted to dictate what the food laws of the country shall be. No very keen intellect is required to perceive that the protection they would give the consuming public is the protection that the wolf would give to the lamb.

Unless it can be shown that the provisions of the present national food and drugs act of June 30, 1906, offer better pro-

tection to the consuming public than the various state food laws or other measures proposed by state legislatures, the plea for "uniformity" must be regarded as the plea of greed.

The states which, on account of specious pleas and the influence which powerful and wealthy organizations can bring to bear in securing such measures, have provided that their food laws must be uniform and in harmony with the provisions of the present national food law and the rules and regulations made by the three secretaries for the enforcement of the same, are awakening to the realization that they have thereby rendered their state food laws impotent and ineffective, a condition of things no doubt highly satisfactory to the gentlemen of the food adulterating fraternity. Pennsylvania had experience with such a law, only to find it denounced by her courts as unconstitutional. But even if constitutional, such a law would practically nullify every food law of the state, because it would render it obligatory on the state in every prosecution to establish just what the national law is in relation to the given case and also what the ruling is of the three secretaries. Under those conditions, it would be impossible to secure convictions, and without doubt such is the condition of things desired by those who wish to palm off their food adulterations upon the consuming public.

Any demand for the amending of existing state food laws so as to be uniform with the provisions of the national food law or for the limiting of state food laws to the provisions of the present national food law should be supported by incontrovertible reasons that the provisions of the national food law offer better protection to the consuming public than the existing state food laws which it is proposed to amend or the new state food laws which it is proposed to enact. The paramount issue in the present pure food campaign is not "uniformity" of state food laws with the present national food law regardless of the kind and amount of protection afforded to the consuming public. The paramount issue is adequate protection and a "square deal" to the consumers. The theory that the present national food law with its imperfections, deficiencies, weaknesses and emasculation through interpretation or otherwise must be held up to the states as the embodiment of perfection, that it must be accepted by the states as the culmination

of all wisdom and of all efforts to secure laws that shall in fact, as well as in profession, protect the consuming public against deceptions, frauds and harmful adulterations in food products; that the states shall take no steps in advance of the national law in food enactment, make no improvement on it; that there shall be no progress in these matters beyond the provisions of the present national law; that the states must adopt the shibboleth of mere "uniformity,"—is a good example of the crafty methods of those who proclaim their belief in the principle of food laws but with bland artfulness and cunning ingenuity try to circumvent the effective application of those principles. A state might as well wipe every food law from its statute books as to provide that the rulings made by the three secretaries in the peculiar atmosphere and conditions at Washington should become the "food laws" for that state. Such an act by a state legislature would disregard "the danger to American democracy" which President Roosevelt so forcefully described in the following language:

"The danger to American democracy lies in having the administrative power insufficiently concentrated, so that no one can be held responsible to the people for its use. Concentrated power is palpable, visible, responsible, easily reached, quickly held to account. Power scattered through many administrators, many legislators, many men who work behind and through legislators and administrators, is impalpable, is unseen, is irresponsible, cannot be reached, cannot be held to account."

In Wisconsin, the Dairy and Food Commissioner is not given exclusive jurisdiction for the enforcement of the dairy and food and drug laws,—that is, for the prosecution of offenders against those laws. Any citizen of the state, if he can obtain competent evidence, has the same right to lodge complaint with the court against violators of those laws that the Dairy and Food Commissioner has.

But such are not the facts of the case under the national food and drugs act of June 30, 1906, and the rules and regulations established for enforcing the same. Under that act and the rules and regulations established for enforcing the same and the mode of procedure therein prescribed, the citizen, as such, is barred from any right of direct appeal to the federal courts. The mode of procedure prescribed for obtaining competent evidence precludes the possibility of the exercise of such a right by the citizen, as such, and exclusive jurisdiction is given to

the officers therein named for the enforcement of the act. The producers and purveyors of adulterated and misbranded foods may well be pleased with this feature of the national food and drugs act of June 30, 1906, for in this provision of that act there lurks the possibility for some powerful combination of food producers and purveyors to so influence the enforcement or nonenforcement of the national food and drugs act as to become a protection to them in the production and sale of adulterated foods and beverages rather than a protection to the consuming public against their practices.

It is unthinkable that the citizens of Wisconsin should ever knowingly consent that their legislature, to accommodate the food adulterating business under the specious plea for "uniformity" should introduce such amendments or modifications into the Wisconsin state food laws as to bar any citizen having competent evidence from the right to enter complaint in any court having jurisdiction for the prosecution of violators of her food laws.

Laws must be adapted to the ends sought and to conditions. If conditions differ, laws to be effective must differ. Where great fundamental differences exist in conditions to be affected, they constitute inherent obstacles to uniformity. Conditions among the states are not widely different in relation to food law matters. In the states, the food laws are based upon the police power. These laws in the states affect for the most part the consumers, the retailers of foods, wholesale dealers in intra-state trade, including articles that after being brought into the state have been commingled with the property of the state and hence no longer subject to interstate commerce regulations. Courts of the rank of justice of the peace for the most part are called upon to try in the beginning violations of food laws in the states. These justices of the peace are not trained lawyers. They do not instruct the juries as to what the law in the case is, so it comes about that the juries practically determine what both the law and the facts are in those cases. That food laws may be effective and effectively enforced under such conditions, requires that they be quite detailed and specific,—that there be legal definitions and standards for the various terms and articles concerning which controversy may arise. There being much similarity of conditions in these respects

among the states, a large measure of uniformity in food laws among the states seems practicable.

But on the other hand, the present national food law is based not on the police power, but upon the interstate commerce clause of the constitution of the United States. Hence a law needed by the states and that may be valid when based upon the police power of the state may be unconstitutional when based upon the interstate commerce clause of the United States constitution.

Again, the national food law concerns the manufacturers and wholesalers of foods in interstate shipments, conditions widely different from those under which the retail business must be carried on. The national law is administered through the instrumentality of federal courts, the learned judges of which are able lawyers versed in the intricacies of law. They determine the law in the case,—the jury determines only the facts. If the national law is broad and general, the federal judges are able to apply those broad and general provisions to particular cases. They may be able to determine from expert testimony the standards that should govern the case. With these widely different conditions prevailing in the federal government and the states, it is folly to argue that the same law would operate with equal effectiveness over all.

As the national food and drugs act of June 30, 1906, and state food laws can never have jurisdiction over the same transaction, they can never be in conflict. The national food law loses jurisdiction at the very point or at the very moment that the state food law gains jurisdiction, and conversely the state food law does not gain jurisdiction over foods that have been in interstate commerce until after the national food law has lost its jurisdiction. From the very nature of our dual system of government, it is inevitable that the manufacturers, jobbers and wholesalers are the ones chiefly affected by the national law or the ones over whom the national law in the main has jurisdiction, and that upon the other hand it is the retailers and the intra-state trade that in the main are regulated and controlled by state food laws. But in any event, neither the manufacturers, jobbers, wholesalers, or retailers are in any one transaction under the jurisdiction of both national and state food laws. There is not a Wisconsin food law, the obeying of which would

be in conflict with the national food law. An article of food labeled to meet the requirements of the Wisconsin food law, is not in conflict with the national food law. The national food law rarely touches the retailer. Notwithstanding this, the peculiar spectacle is sometimes presented of retail grocers' associations gravely passing resolutions exploiting the "hardships" to which they are subjected because of the lack of "uniformity" between state and national laws. The humor of this lies in the internal evidence it affords of the source of the "coaching" which brings it about.

The national food law affects only what is commonly known as the trade, whereas state food laws affect and seek to protect the ultimate purchaser or consumer. Laws that may be well adapted to the former conditions, may be very illy adapted to the latter conditions, but the adaptation of means to effect the protection of the ultimate purchaser or consumer is the legitimate purpose of state food laws. To sacrifice the latter object for the mere convenience of manufacturers, jobbers and wholesalers, or the "trade," is to nullify state food laws,—is to make them of no effect.

The trade buys foods for the purpose of again selling them, whereas the ultimate purchaser or consumer buys for the purpose of consumption. The transactions of the trade are for profit; the transaction of the ultimate purchaser or consumer is to get the necessities of life.

Because the function of the national food law is to regulate the trade,—that is to regulate the business of those who buy to sell again, the so-called "guaranty" feature of the national law may have some justification. Under this feature of the national law, all intermediary sellers of even adulterated and misbranded foods, bought under "guaranty," although they not only sell but also guarantee the foods to comply with the national law, are immune from criminal prosecution. Whatever may be said of this feature of the national law when applied to the trade, it is intolerable that such a feature should be advocated for adoption into a state food law with the effect that the ultimate purchaser or consumer would thereby be practically defrauded from the protection of the law. Such a "joker" should find no place in a state food law.

Under the national food law, this weakness,—that is, the immunity from prosecution of the intermediary seller of adulter-

ated or misbranded foods when sold under a guaranty is met or overcome in part, at least, by authority for seizure by a libel for condemnation of the adulterated or misbranded goods, as the guaranty feature of the national law does not exempt them from this procedure. This mode of legal procedure, however, which is of the order of procedure of maritime courts is unusual and not adapted to conditions prevailing in the states. But the guaranty features of the national food law if enacted into state food laws without the clause for seizure of adulterated and misbranded foods by a libel for condemnation,—that is, by a procedure “ad rem,” would practically nullify the state food laws with a “joker.”

The argument for uniformity is an argument for the convenience of the combination of interests by which the widespread adulteration of foods has been practiced. The appeal for uniformity is in no sense an appeal for the protection of consumers against the harmful consequences of adulteration, fraud and deception in the manufacture and sale of food products. The history of the pure food movement in this country makes it clear that the states which have most effectively protected their citizens against fraud and deception in food products have been the states which have enacted and enforced specific food laws particularly adapted to the conditions existing in those states. Reference to the various state food laws will furnish confirmation of this statement. Very few, if any, of the states, whatever may be said to the contrary, have contented themselves in the enactment of their food laws with the bare skeleton national act of June 30, 1906; and this course is in full accord with the genius of our dual system of government. Wisconsin should never foolishly barter away her birthright in state food law matters for a mess of mere “uniformity” pottage.

ARTIFICIAL BLEACHING OF FLOUR.

The artificial bleaching of flour as carried on in this country consists in agitating flour with air charged with oxides of nitrogen, very strong irritating gases resembling nitric acid. While this bleaching agent may be added from tanks containing nitric oxide under pressure, it is generally produced by passing strong electric sparks through air, whereby the nitrogen and oxy-

gen of the air are made to unite to form oxides of nitrogen. Because of this method of production of the bleaching agent, the term "electrical purification" is frequently fraudulently applied to the process by manufacturers.

The artificial bleaching of flour makes what has been commonly classed as a lower grade of flour look like a higher grade, thus enabling millers to obtain a much larger percentage of what will pass for "patent" flour than a competitor who is not using a bleacher. Not only is the miller who believes that milling should be a mechanical and not a chemical process at a decided disadvantage in the price he can get for his flour, but he may even have trouble in selling it at all in competition with inferior flour which has been bleached to look better than his own. The public on the other hand, who largely judge the quality of flour by its color, are led to pay the price of high grade flour for flour of lower grade. It is held by eminent chemists that in reality flour is rendered inferior by bleaching, not only in flavor, but in baking quality and wholesomeness.

Competition forced many millers to install "bleachers" although really opposed to the process, so that within a comparatively recent time eighty percent of all the flour made in this country was artificially bleached.

In a circular letter issued by the Secretary of the Wisconsin State Millers' Association to the members of that association, the secretary makes the following statement:

"We have for a long time been wandering from the 'straight and narrow path.' We have cheapened our flour in lowering the grade by increasing the percentage of white flour, by substituting cheaper wheat, the percentage of such substitutes depending on the elasticity of our conscience and the credulity of the consumer. Notwithstanding this, our flours are pure and wholesome."

While the testimony of the secretary of the Wisconsin State Millers' Association that "we artificially whiten our flour to deceive as well as to please the eye" would unquestionably be received as competent testimony in any court, the fact that he is not a chemist, toxicologist, nor pharmacologist would probably disqualify him from giving expert testimony that "our flours are pure and wholesome."

The question of fraud and of injury to health by the use of bleached flour has been strongly agitated by some of the state dairy and food commissioners.

Dr. E. F. Ladd, Professor of Chemistry in the North Dakota Agricultural Experiment Station, and Food Commissioner of North Dakota, as a result of elaborate and exhaustive experiments on artificially bleached flour, has published the following conclusions:

1. There is produced in flour, as the results of artificial bleaching, toxic bodies.

2. Experiments previously reported indicate the possibility of a diazo reaction where flour has been subjected to bleaching, especially when the bleaching has been carried to a considerable extent.

3. The fact that the Xanthoproteic reaction takes place demonstrates that the bleaching agent has acted upon the gluten or the protein of the flour.

4. Alcoholic extracts prepared from unbleached flour and fed to rabbits did not affect them.

5. Alcoholic extracts prepared in the same manner from commercially bleached flour and fed to the rabbits in the same way caused their death within a few hours.

6. Alcoholic extracts prepared from overbleached flour in the same manner and fed in the same way to rabbits caused their immediate collapse and death.

7. Aqueous extracts prepared from overbleached flours when fed to rabbits caused their immediate collapse and death.

8. Alcohol and aqueous extracts from overbleached flour, when neutralized with sodium bicarbonate, and fed to rabbits, caused the death of the rabbits in a short time, demonstrating that it was not the acidity that produced the death of the rabbits.

9. In preparing aqueous extracts, all nitrite reacting material disappeared; hence, the death of the rabbits, in this case, must have been due to the presence of other toxic material than that of nitrites.

The following is an extract from a paper read before the Association of State and National Food and Dairy Departments at its 12th annual session, by Professor James H. Shepard, Chemist for the South Dakota Dairy and Food Commission and Professor of Chemistry in the South Dakota Agricultural College, on the subject of nitrous acid as an antiseptic:

During the past few years enormous quantities of nitrous acid have been employed in preparing the various grades of flours derived from wheat. Various comparisons between treated and untreated flours have been made and widely differing conclusions have been drawn. There is one aspect of the case, however, that has not been thoroughly investigated. Nitrous acid has not been used primarily as an antiseptic. It has been employed as a bleaching agent just the same as sulphur dioxide has been used in bleaching hops and dried fruits. Unfortunately for sulphur dioxide, it lent itself readily to the preservation of fresh meat products. Consequently its antiseptic properties were soon investigated and sulphur dioxide was placed in its proper class along with other powerful chemical preservatives. Thus far nitrous acid has escaped the fate of sulphur dioxide.

Nearly all investigations have been conducted along lines tending to show the effect of nitrous acid on gluten strength, loaf volume, etc., while the antiseptic properties of this chemical have been neglected.

Professor Ladd in his paper, read before this association at Jamestown last year, stated it as his belief that the use of nitrous acid was harmful and deleterious to the flour. Professor Alway, Bulletin 102, Nebraska, concludes that the use of nitrous acid in flour is harmless, basing his belief upon the doctrine of the harmless nature of small quantities of the reagent employed.

But it seemed to the writer that the most satisfactory way of dealing with this problem would be to experiment directly with nitrous acid to determine its effect upon the digestive enzymes themselves. Accordingly during the past year I have planned, and with the aid of my assistant, Mr. Koch, carried out a series of investigations along the lines indicated. I believe the results we have obtained are of sufficient importance to warrant my offering them for the consideration of this association. * * *

Nitrous acid is rivaled only by hydrofluoric acid as an antiseptic.

Any chemical in dilution of one part to one hundred thousand which will retard digestion nearly 25 per cent should not be permitted in any food product in any quantity whatever. And more especially is this true in the case of flour, which is eaten in one or more forms three times a day and 365 days in the year and all the years of a man's life.

In conclusion, it might be well enough to make some general strictures upon the bleaching process. Alway (loc. cit.) has found varying quantities of nitrite in bleaching process. Alway (loc. cit.) has million. But in many instances the amount reached 10, 20 and in a few cases 30 parts per million. But 10 parts per million is the same as one part in 100,000. 20 parts per million is the same as one part in 50,000. An inspection of the tables will show that nitrous acid is capable of doing much mischief at those dilutions. It is true that Alway reported nitrite as sodium nitrite. But it is also true that he made no allowances for nitric acid or nitrates. In our work the latter acid was taken into consideration. Hence the figures are fairly comparable.

One thing further must be said in this connection, and that is, this nitrite is not eliminated in the baking. While it is apparently diminished there is no certainty that it is actually diminished. It may be so held that the usual analytical process fails to extract it from the bread. I have been able to recover from one-half to one-third of the nitrite in bread that was carried by the flour from which the bread was made. But even if one-half of the nitrite is lost in baking it does not help the matter much. What reasonable man can say that this constant and insistent dosing of the human system with such a powerful antiseptic as nitrous acid in any quantity whatever is a wholesome and hygienic practice? Is it not about time that the American people took steps so effective that bread, the staff of life, may come on the table pure and free from poisonous chemicals?

And then again, who said that the best bread should be white? What great and eminent physician or hygienist has said that the health-giving and muscle-building qualities of bread are indexed and augmented by an increasing scale of whiteness? Once again I ask, who has said it? You may depend upon it that even Echo will hang her head in shame and refuse to answer. Whiteness is indicative of starch. Starch is cheaper and more plentiful than potatoes. Protein is characterized by a yellowish tint. Bread, the universal food of this nation, is and should be valued for its protein content.

Or is this whiteness in bread simply another phase of the color craze which has swept over the country? If so, and if the "trade" demands white bread, why not be sensible and drop dangerous chemicals and bleach the dough instead by aeration? This is both practical and feasible. Every housewife may have a bread mixer if she will that will take natural flour and by forcing air through the dough produce the desired shade or degree of whiteness.

The addition of nitrous acid to flour is not only useless, it is dangerous. Old and young, strong and weak, well and sick, all depend upon bread and they should have it without any poisonous chemicals. It is not contended here that bleached flour carries nitrous acid in toxic doses, but it is contended that there is sufficient nitrite present to retard digestion, and to make it a constant menace to health. Such things beget indigestion and a host of minor ills that tend to sap the vital energies of the consumer and render him an easy prey to prevalent diseases and epidemics.

Nitrous acid is a vicious antiseptic and any course of reasoning that will permit its use will also permit the use of any or all the other antiseptics known.

With such conditions prevailing, and for the purpose of protecting the great body of consumers from such frauds and deceptions, and to give them the benefit of any doubt as to the deleterious character of artificially bleached flour, the enactment of a law making it a misdemeanor to sell artificially bleached flour in the state, would seem to be wise and timely.

MEAT INSPECTION.

Except in the case of the national meat inspection law, the food inspection laws of this country, state and national, have up to this time proceeded largely upon the theory of not locking the stable door before the horse was stolen. The legend that has been permitted to be placed upon packages of food such as "Guaranteed under authority of the National Food and Drugs Act of June 30, 1906" is misleading to the great majority of the people. They have assumed that that legend is a guaranty that the national government had inspected the factories or the food products bearing this legend and assumed responsibility for their purity and the sanitary conditions under which they were produced. But nothing of the kind has occurred. The national government does not make such inspection either at the factories or of the food products bearing the legend, for the purpose of guaranteeing these products. This misapprehension upon the part of the great mass of the people is probably due to the fact that the national government, under the national meat inspection law, does assume responsibility for inspecting all carcasses of all animals slaughtered in establishments that are engaged principally in supplying meat for the interstate or foreign trade; and all carcasses which come from healthy animals are marked by a metal or rubber stamp with purple ink, with the legend "U. S. Inspected and Passed." By this

course of procedure the United States government assumes to guarantee that the meat which passes into inter-state and foreign trade is produced from healthy animals and under sanitary conditions. This policy is different from that of permitting food products designed for the market to be produced without inspection from diseased animals or under unsanitary conditions and then undertake to detect and punish the wrong doing after the products have been marketed. "Prevention is better than cure."

The states as a rule have made no provisions for the inspection of the animals slaughtered for supplying the intra-state trade.

The following paper on "The Need of State and Municipal Meat inspection as a Supplement to Federal Inspection" was prepared by A. M. Farrington, D. V. M., Assistant Chief of the Bureau of Animal Industry of the United States Department of Agriculture:

To provide clean, healthful, wholesome meats for rich and poor alike is one of the problems of modern civilization. In the early days when people lived in rural communities each householder killed animals of his own raising to supply meats for his own family and for his neighbors. In these days when people are massed in large towns and cities it is not possible for each individual to know from personal observation the source of his meat supply and whether or not it comes from healthy animals.

The purchaser as he finds the supply at retail stores or markets can determine whether the meat is satisfactory in appearance, price, and cut, but its source and previous treatment is almost a sealed book and positively unknown to the majority of people.

The first effort to solve the problem of a healthful meat supply for the people of the United States was begun by the Federal Government in the meat inspection act of March 3, 1891.* This act was not adequate for the purpose, in that it did not give sufficient authority to supervise all the processes to which meat is subjected. It enabled the Department of Agriculture to certify that the meat of animals at the time of slaughter was free from disease, but it gave no power to follow the meat through the different processes of curing, pickling, smoking, etc., in the packing houses, nor did it give authority to supervise the sanitary condition of the rooms or buildings where this meat was handled. This lack of authority has now been obviated by the Federal meat inspection act of June 30, 1906. By this act the extent of the meat inspection conducted by the Government has been greatly increased and enlarged.

During the fiscal year ending June 30, 1906, Federal meat inspection under the several previous acts had been conducted at 163 establishments in 58 cities and towns. In the fiscal year ending June 30, 1908, such inspection had been conducted at 787 establishments in 211 cities and towns. The number of employees required to put in

* The act of August 30, 1890, provided for the inspection of meat for export only, and was a commercial rather than a sanitary measure.

force the provisions of the new act was 2,200 as against 981 under the former acts. There was a proportionate increase in the amount of money spent, \$2,750,000 being the amount expended for the fiscal year 1908 and \$771,661 for the year 1906. The act of June 30, 1906, makes a permanent annual appropriation of \$3,000,000 for meat inspection.

With the authority of this law the Secretary of Agriculture is required to cause to be made (by inspectors appointed by him for that purpose) a post mortem examination and inspection of the carcasses and parts thereof of all cattle, sheep, and swine to be prepared for human consumption for transportation, or sale, as articles of interstate or foreign commerce. The act makes an exception in the case of animals slaughtered by farmers on the farm and retail butchers and retail dealers supplying their customers. All carcasses which come from healthy animals are marked by a metal or rubber stamp and purple ink, with the legend, "U. S. Inspected and Passed" also the official number of the establishment.

Consumers of fresh meats selecting meat that bears this stamp are assured that it came from animals found healthy on post mortem examination, but the Federal inspection is limited to establishments that are engaged principally in supplying meat for the interstate or foreign trade. Although some of this meat is no doubt sold for local consumption a great quantity of meat is put upon sale that does not receive such inspection.

It will be interesting to inquire into the number of animals that are killed to be consumed within a State. The slaughter of food animals in the United States may be divided into three classes, (1) the wholesale and packing, (2) the slaughter by small butchers, and (3) the farm slaughter. Although exact figures can not be given, enough can be shown to indicate that the number of animals annually slaughtered by local butchers is probably very much larger than is generally supposed.

Estimated Number of Cattle, Sheep, and Swine in the United States, and Number Slaughtered With and Without Federal Inspection, etc., During 1907.

Item	Cattle	Sheep	Swine
Number in United States January 1, 1907. (Estimated by Bureau of Statistics, Department of Agriculture).....	72,534,000	53,240,000	54,794,000
Estimated total number disposed of in 1907*....	14,507,000	19,166,400	59,725,460
Slaughtered under Federal supervision.....	7,633,365	10,252,070	32,855,377
Estimated farm slaughter.....	1,500,000	1,000,000	16,500,000
Exported alive.....	401,583	121,197	23,783
Remainder slaughtered by butchers without Federal inspection.....	4,972,052	7,793,133	10,316,300

*Percentages applied: Cattle, 20%; Sheep, 36%; Swine, 100%.

Note: In addition to the above there were 2,024,387 calves slaughtered under Government supervision, and probably fully as many without Government inspection.

It is seen that practically five million cattle, nearly eight million sheep, and over ten million hogs were slaughtered in 1907 without Federal inspection, to which may be added about three million calves. All these 26,000,000 animals were consumed by the people of the United States, and the responsibility of inspecting them has rested wholly upon the State and local authorities, since they are beyond the reach of the Federal inspectors.

The slaughterhouses where animals are killed for local consumption are usually isolated and scattered about the city or town, either situated on some back street surrounded by stables and dwelling houses or outside of the corporate limits, each butcher apparently trying to avoid observation. In many instances the houses are located on the banks of streams or creeks and the drainage is towards such streams.

Such houses, in addition to being unsightly, malodorous, unclean, and insanitary in the extreme, are actually centers for spreading disease. Where hogs are slaughtered it is more than probable that a hog infected with trichinae will be killed. The offal of such a hog when eaten by rats will infect them. These rats when eaten by hogs will again communicate the disease.

Rats act as direct transmitters of trichinosis to hogs, and this is not the only disease which may be spread by offal feeding to hogs. Old dairy cows are not infrequently killed at these houses, and from the large amount of tuberculosis found in this grade of cattle it follows that tuberculosis will be communicated to hogs feeding upon the offal.

The local slaughterhouse is also the center of infection for a number of animal parasites which are injurious to live stock or in some cases even to man and which are spread by dogs. It is well known that dogs come to such slaughterhouses for food, and when infected viscera are eaten by them they become infected and through them infection may be transmitted to other animals and to man. Several species of tapeworms are distributed in this manner.

Hog cholera is another disease which is spread from local slaughterhouses by improper disposal of the offal.

That the conditions which obtain at these local slaughterhouses need attention from authorities competent to deal with the situation is shown by a recent investigation made by the State Board of Health of Indiana of those slaughterhouses which do not have Federal inspection. An official summary of the report is as follows:

Of the 327 slaughterhouses inspected, only 23 or about 7% were found to fulfill the sanitary standards. At nearly all slaughterhouses inspected, foul, nauseating odors filled the air for yards around. Swarms of flies filled the air and the buildings, and covered the carcasses which were hung up to cool. Beneath the houses was to be found a thin mud or a mixture of blood and earth, churned by hogs, which are kept to feed upon offal. Maggots frequently existed in numbers so great as to cause a visible movement of the mud. Water for washing the meat was frequently drawn from dug wells, which receive seepage of the slaughterhouse yards, or water was taken from the adjoining streams to which the hogs had access. Dilapidated buildings were the usual thing and always the most repulsive surroundings and odors existed.

Slaughterhouses of fair sanitary condition were not found. They were all awfully and abominably bad or else met the standard completely.

By this statement it can be readily appreciated that it is necessary to improve the efficiency of the inspection of meat and meat food products that are consumed entirely within a State. It is almost impossible to secure an effective system of local meat inspection without a great increase in the number of competent meat inspectors employed, or a concentration of the business of slaughtering.

It is largely on account of the multiplicity of slaughterhouses that thorough systems of meat inspection have not been more generally established. In the small houses very frequently the slaughtering is done at night or very early in the morning, and it would necessitate the employment of a small army of inspectors to provide a sufficient number so that one should be present at each place.

The plan of concentration of slaughtering is supported by the experience of all the older civilized countries. It is recommended not only because it facilitates the inspection of meat, but because of numerous other advantages.

Since the local slaughterhouses especially are prolific sources for the spread of disease, the segregation of such places would materially reduce the number of centers of infection. It would eliminate all of the small, poorly built, badly managed slaughterhouses which are in many instances nuisances in their respective neighborhoods.

It would give the small butchers the advantages enjoyed by wholesalers and the large packers: they could use the machinery installed and the increased facilities supplied in the way of an abundance of hot and cold water for cleansing purposes which are greatly superior in a large plant, and the refrigeration is much more perfect in such a plant and would result in increased wholesomeness of meat to their consumers. The character of the local meat supply would gain in reputation and would enter into competition with that supplied by the large packers. Instead of increasing the cost, the tendency of centralization is to reduce it. A large establishment can be conducted by cooperation among the butchers at less expense. Such a system is a great safeguard to the consumer of meats, while it subjects the butchers to no hardships whatever, but makes it more convenient and cheaper for them to conduct their trade. In Europe such union or central abattoirs are owned by the municipalities, and undoubtedly this is the best system, since all butchers are assured of equal rights and privileges. Germany has more than six hundred slaughterhouses belonging to municipalities.

If cities and towns of the United States are not prepared to adopt the plan of municipal abattoirs they can at least secure a segregation of slaughtering and require animals to receive a careful post mortem at the time of slaughter.

One immense advantage to be derived from the consolidation of slaughterhouses would be the increased value received from the by-products, which are practically lost by the small slaughterers. That the value of such by-products is an important item is apparent from the statement of Mr. J. Ozden Armour, made to the Bureau of Corporations in the recent investigation of the beef industry. He spoke as follows:

The ability of wholesale butchers in the small towns to compete with the large packers in the sale of beef depends entirely upon conditions. At times such butchers can buy cattle so cheap that the large packers are almost excluded from doing business in their towns. When such a butcher has to buy his cattle in the same market that the large packers do, we are able, through our economies in manufacture and through making articles of value out of what would go to waste in his establishment, to sell to the retailers at a lower price than the local wholesale butcher can do.

From this statement and from other statements of a similar kind brought out by this investigation it is evident that the value of the by-products is an important source of profit; in fact it has been stated that the packing business of to-day would be carried on at a loss but for the utilization of the by-products. Whether this be true or not, it must be conceded that the saving of these products and converting them into articles of commercial value is a powerful argu-

ment for the centralization of small slaughterhouses. It is by this plan of concentration that the modern packing business has grown to its present magnitude, and by following the same plan it is possible for the small butcher to reap substantial rewards.

Consider for a moment that when animals are slaughtered not all of the product is edible meat. Fat cattle, for instance, dress only about 60 per cent of the live weight, sheep 50 per cent, and hogs 80 per cent. The remainder need not be destroyed and become a total loss if there are proper facilities for handling it. This is done in modern abattoirs but can not be accomplished where there is not suitable equipment. From packing-house statistics it appears, in the case of cattle, that the value of the hide and offal would probably increase the total percentage to 75. In other words, the 40 per cent of offal is equivalent in value to about 15 per cent of meat.

It would seem, if for no other reason than the saving of these by-products, that concentration in slaughtering and competent inspection should be advocated and upheld from a commercial point of view.

Since the Federal law will not permit meat slaughtered under insanitary conditions to enter into interstate and foreign trade nothing remains but for it to be consumed within the State, therefore it is up to public opinion and effort to bring about a more cleanly and healthful condition in this direction.

CONVICTIONS.

The following is a list of convictions secured during this biennial period:

CONVICTIONS.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1906.				
July 2	C. H. Luecke, Plymouth	Maintaining unclean and unsanitary cheese factory.	Chas. Osthelder, Sheboygan	\$25 and costs.
July 2	Albert Duszinski, Angelica ...	Delivering adulterated milk to cheese factory.	O. A. Andrews, Shawano	\$25 and costs.
July 3	Joseph Kizior, Angelica	Delivering adulterated milk to cheese factory.	L. C. Bold, Shawano	\$25 and costs.
July 6	E. Hoss, Black Creek	Delivering watered milk to cheese factory.	F. Heinemann, Appleton	\$25 and costs.
July 11	S. A. Griewski, Ironwood, Mich	Selling sausage in Wisconsin containing boric acid.	Griff Thomas, Hurley	\$25 and costs.
July 12	A. McMullan, Seymour	Delivering adulterated milk to cheese factory.	F. Heinemann, Appleton	\$25 and costs.
July 12	Wm. Able, Seymour	Delivering adulterated milk to cheese factory.	Jas. Lennon, Appleton	\$25 and costs.
July 12	G. Herther, Schleisingsville...	Delivering milk below legal standard..	Robertson, West Bend	\$25 and costs.
July 12	Elbert Johnson, Hersey	Delivering adulterated cream to creamery.	C. A. Disney, Hudson	\$25 and costs.
July 14	Ed. Hart, Boyceville	Delivering adulterated milk to cheese factory.	J. E. Florin, Menomonie	\$25 and costs.
July 14	A. T. Graber, Mineral Point..	Hamburger steak containing a salt of sulphurous acid.	H. Pitts, Mineral Point	\$35 and costs.
July 19	Geo. Struensee, Oshkosh	Offering adulterated cream at creamery	A. H. Goss, Oshkosh	\$25 and costs.
July 19	F. R. Heberman, Sun Prairie..	Selling sausage containing chemical preservatives.	Anthony Donovan, Madison	\$25 and costs.
July 21	Theodore Fillnow, Clintonville.	Delivering adulterated milk to cheese factory.	Jas. McNeal, Clintonville	\$30 and costs.
July 31	Henry Shigley	Attempting to deliver adulterated milk to cheese factory.	F. Firnstahl, Colby	\$25 and costs.
Aug. 1	Enger & Co., Stoughton	Selling sausage containing chemical preservative.	Anthony Donovan, Madison	\$25.
Aug. 1	Marshall & Knorr, Blanchardville.	Selling sausage containing chemical preservative.	McGinty	\$25.
Aug. -	Amsterdam Coffee Co., Milw...	Selling baking powder containing alum	N. B. Neelen, Milwaukee.....	\$25 and costs. Appealed.
Aug. 4	J. A. Wilson, Markesan	Selling lemon extract containing wood alcohol.	Edward Harroune, Princeton...	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1906.				
Aug. 10	A. T. Graber, Mineral Point...	Selling flesh of a diseased cow	H. Pitts, Mineral Point	\$75 and costs. Appealed
Aug. 10	J. Bullman, Waunakee	Selling pepper containing olive pits ...	Anthony Donovan, Madison	\$25 and costs.
Aug. 21	Hass & Krohn, Reedsburg.....	Selling sausage containing boric acid..	Chas. Sheldon, Reedsburg	\$25 and costs.
Aug. 22	Fred Scheneer, Waukesha	Selling adulterated milk	M. Muckleston	\$25 and costs.
Aug. 23	Geo. M. Sietz, Cashton.....	Selling sausage containing boric acid and artificial coloring.	John A. Shelts, Sparta	\$25 and costs.
Aug. 23	Musum Olson Co., Eau Claire.	Selling black pepper adulterated with foreign starch.	J. W. Singleton, Eau Claire....	\$25 and costs.
Aug. 23	H. V. Jones, Barneveld.....	Delivering adulterated milk.....	R. Lane, Dodgeville	\$25 and costs.
Aug. 24	A. Lansing, Waukesha	Selling adulterated milk	M. Muckleston	\$25 and costs.
Aug. 24	People's Mercantile Co., Monticello.	Selling baking powder containing alum	W. J. Saucerman	\$25 and costs.
Aug. 24	People's Mercantile Co., Monticello.	Selling evaporated milk as evaporated cream.	W. J. Saucerman	\$25 and costs.
Aug. 24	Herman Gohler, Templeton ..	Delivering adulterated milk to cheese factory.	Tullar	\$25 and costs.
Aug. 24	Mich. Schicks, Templeton.....	Delivering adulterated milk to cheese factory.	Tullar	\$25 and costs.
Aug. 24	Chas. Busse, Templeton	Delivering adulterated milk to cheese factory.	Tullar	\$25 and costs.
Aug. 24	Ernst Sodemann, Templeton...	Delivering adulterated milk to cheese factory.	Tullar	\$25 and costs.
Aug. 24	A. L. Rieve, Templeton	Delivering adulterated milk to cheese factory.	Tullar	\$25 and costs.
Aug. 25	Chas. F. Lindberg, Prentice...	Selling a compound mixture for cream of tartar.	F. W. Sackett, Phillips	\$25 and costs.
Aug. 29	Swenson & Co., Hudson.....	Selling baking powder containing alum not lawfully labeled.	Chas. A. Desney	\$25 and costs.
Aug. 31	Wm. Hills, Manitowoc	Selling adulterated milk.	.....	\$25 and costs.
Aug. 31	Aug. Heise, Manitowoc	Selling adulterated milk.	.....	\$25 and costs.
Sept. 1	Morris Fiedler, Husher	Delivering adulterated milk to cream- ery.	H. G. Smieding, Racine.....	\$25 and costs.
Sept. 1	Wm. S. Schoenberg, Wausau..	Selling lemon extract containing wood alcohol.	Louis Marchette, Wausau.....	\$25 and costs.
Sept. 1	Julius Menowitz, Mosinee	Selling black pepper adulterated with olive pits.	Wm. Marchette, Wausau.....	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1906.				
Sept. 6	G. G. Young, Ashland	Selling lemon extract containing wood alcohol.	Geo. A. McCloud, Ashland	\$25 and costs.
Sept. 6	A. Bartel, Juneau	Delivering milk below legal standard.	.....	\$25 and costs.
Sept. 7	Gottlieb Haas, Random Lake..	Offering unclean and unsanitary milk at cheese factory.	Fred Goerlitz, Sheboygan	\$25 and costs.
Sept. 19	C. Medick, Evansville	Delivering adulterated milk to creamery.	C. L. Fifield, Janesville.....	\$25 and costs.
Sept. 20	G. A. Krueger & Son, Princeton	Selling sausage containing a salt of sulphurous acid.	Edward Harroune, Princeton ..	\$25 and costs.
Sept. 22	L. Stapleman, Marxville	Delivering adulterated milk to a creamery.	Anthony Donovan, Madison	\$25 and costs.
Sept. 22	J. Stapleman, Marxville	Delivering adulterated milk to creamery.	Anthony Donovan, Madison	\$25 and costs.
Sept. 25	Joseph Cowling, Oshkosh	Offering adulterated milk at cheese factory.	A. H. Goss, Oshkosh	\$25 and costs.
Sept. 25	J. Nissenbaum, Merrill	Selling unsweetened condensed milk for evaporated cream.	M. G. Hoffman, Merrill	\$25 and costs.
Sept. 25	A. O. Eid, Merrillean	Selling catsup containing benzoic acid	Vanschack	\$25 and costs.
Sept. 26	H. Matz, Marxville	Delivering adulterated milk to creamery.	Anthony Donovan, Madison	\$25 and costs.
Sept. 26	M. Marx, Marxville	Delivering adulterated milk to creamery.	Anthony Donovan, Madison	\$25 and costs.
Sept. 27	Edward Thoenes, Wonewoc...	Selling adulterated lemon extract	C. Lyons, Mauston	\$25 and costs.
Sept. 28	N. C. Hanson, Beloit	Selling adulterated milk	C. Rosa, Beloit	\$25 and costs.
Sept. 28	Fred Zwicky, Allenville	Maintaining unclean and unsanitary cheese factory.	A. H. Goss, Oshkosh	\$25 and costs.
Sept. 29	F. Cassady, Evansville	Delivering adulterated milk to creamery.	C. L. Fifield, Janesville.....	\$25 and costs.
Sept. 29	A. Polzine, Evansville	Delivering adulterated milk to creamery.	C. L. Fifield, Janesville.....	\$25 and costs.
Sept. 29	Cron & Polzin, Camp Douglas.	Selling sausage containing boric acid or a salt thereof and artificial coloring.	C. Lyon, Mauston	\$25 and costs.
Oct. 2	C. Schwan, Kenosha	Sale of pepper containing olive pits....	G. B. McCarron	\$25 and costs.
Oct. 2	Joseph Leineweber, Kenosha ..	Sale of pepper containing olive pits....	G. B. McCarron	\$25 and costs.
Oct. 3	I. N. Snyder, Reedsburg	Sale of adulterated lemon extract	Schults, Baraboo	\$25 and costs.

Appealed.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1908.				
Oct. 4	Joseph Styger, Monroe	Operating cheese factory under unclean conditions.	Edw. Ruegger, Monroe.....	\$25 and costs.
Oct. 4	H. Smith, Darlington	Delivering adulterated milk to cheese factory.	J. H. Clarey, Darlington.....	\$25 and costs.
Oct. 5	A. Oertel, New London	Selling sausage containing boric acid or a salt thereof.	C. Lyon, Mauston.....	\$25 and costs.
Oct. 6	Ed. Becker, Neenah	Selling unclean and unsanitary milk at cheese factory.	A. H. Goss, Oshkosh.....	\$25 and costs.
Oct. 11	John Krause, Fall Creek	Attempting to deliver milk in unclean cans to creamery.	R. H. Stokes, Eau Claire.....	\$25 and costs.
Oct. 12	J. M. Home, Milwaukee	French peas containing copper salts.	N. B. Neelen.....	\$25 and costs.
Oct. 12	B. Simonson, Waunakee	Selling adulterated lemon extract.....	Anthony Donovan, Madison	\$25 and costs.
Oct. 15	J. G. Trapp, Viroqua	Selling adulterated lemon extract.....	Roger Williams, Hillsboro	\$25 and costs.
Oct. 15	M. Magaurin, Black Creek	Delivering adulterated milk to cheese factory.	F. Heinemann, Appleton	\$25 and costs.
Oct. 15	Aug. Schultz, Fall Creek	Attempting to deliver to creamery milk in unclean cans.	R. H. Stokes, Eau Claire	\$25 and costs.
Oct. 17	Gust Klingbeil, Fall Creek	Attempting to deliver to creamery milk in unclean cans.	R. H. Stokes, Eau Claire	\$25 and costs.
Oct. 20	F. G. Thomas, Monroe	Selling adulterated lemon extract.....	Thos. Luchsinger, Monroe	\$25 and costs.
Oct. 23	Werwie Bros., Kenosha	Selling adulterated maple syrup	G. B. McCarron, Kenosha.....	\$25 and costs.
Oct. 23	Wm. Radke, Juneau	Delivering milk below legal standard..	W. D. Stacy, Watertown	\$25 and costs.
Oct. 23	Bernard Kirchoff, Hustisford ..	Delivering milk below legal standard..	W. D. Stacy, Watertown	\$25 and costs.
Oct. 23	Robert Schwartz, Hustisford	Delivering milk below legal standard..	W. D. Stacy, Watertown	\$25 and costs.
Oct. 23	Aug. Bergman, Hustisford	Delivering milk below legal standard..	W. D. Stacy, Watertown	\$25 and costs.
Oct. 24	C. Uebel, Juneau	Delivering milk below legal standard..	W. D. Stacy, Watertown	\$25 and costs.
Oct. 25	John McCoy, Darlington	Delivering milk below legal standard to cheese factory.	J. H. Clarey, Darlington	\$25 and costs.
Oct. 26	Sherman Hodgson, Gratiot,	Delivering milk below legal standard to cheese factory.	J. H. Clarey, Darlington	\$25 and costs.
Oct. 29	Clayton Hubbard, Chippewa Falls.	Selling unlawful lemon extract.....	F. W. Jenkins, Chippewa Falls	\$25 and costs.
Oct. 31	J. J. Wright, Darlington	Selling adulterated lemon extract.....	J. H. Clarey, Darlington	\$25 and costs.
Nov. 8	H. C. Owens, Kenosha	Delivering adulterated milk to Creamery Co.	G. B. McCarron, Kenosha	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1906.				
Nov. 5	J. Schultz, Kenosha	Delivering adulterated milk to Creamery Co.	G. B. McCarron, Kenosha	\$25 and costs.
Nov. 13	Hoogerhide Bros., Kenosha ...	Delivering adulterated milk to Creamery Co.	G. B. McCarron, Kenosha	\$25 and costs.
Nov. 19	J. Foresman, Calamine	Delivering adulterated milk to cheese factory.	J. H. Clarey, Darlington	\$25 and costs.
Nov. 24	A. T. Parsons, Darlington	Selling adulterated lemon extract.....	J. H. Clarey, Darlington	\$25 and costs.
Nov. 26	C. H. Luecke, Plymouth	Maintaining unclean and unsanitary cheese factory.	Goerlitz	\$25 and costs.
Nov. 27	Frank Unger, Markesan	Maintaining unclean and unsanitary creamery.	Edward Harroune, Princeton...	\$25 and costs.
Nov. 28	Wm. A. Ebert, Comstock	Maintaining unclean and unsanitary creamery.	F. B. Kinsley, Barron	\$25 and costs.
Nov. 28	G. D. Ohrmundt, Reeseville ...	Maintaining unclean and unsanitary creamery.	F. B. Kinsley, Barron	\$25 and costs.
Dec. 5	Gus Berglin, Antigo	Selling Hamburger steak containing a chemical preservative.	F. W. White, Antigo	\$25 and costs.
Dec. 8	Fred Anderson, Kenosha	Delivering adulterated milk to Creamery Co.	G. B. McCarron, Kenosha	\$25 and costs.
Dec. 9	Allen Wheeler, Sylvan	Delivering cream containing chemical preservative.	Curtis, Richland Center	\$25 and costs.
Dec. 12	Chas. Beecher, Rice Lake	Selling Hamburger steak containing a chemical preservative.	F. B. Kinsley, Barron	\$25 and costs.
Dec. 13	Schuelke Bros., Manawa	Selling adulterated lemon extract.....	E. J. Bastin	\$25 and costs.
Dec. 14	H. S. Tower, Beloit	Selling adulterated lemon extract.....	C. Rosa, Beloit	\$25 and costs.
Dec. 17	John P. Giegler, Appleton	Delivering unclean milk to creamery.	F. Heinemann, Appleton	\$25 and costs.
Dec. 20	A. G. Conner, Darlington	Selling adulterated lemon extract.....	H. Pitts, Mineral Point	\$25 and costs.
Dec. 20	The Meador Grocery Co., Eau Claire.	Selling cider containing benzoic acid..	J. W. Singleton, Eau Claire	\$25 and costs.
Dec. 20	Louis Lee, Superior	Selling adulterated cream	F. S. Parker, Superior	\$25 and costs.
Dec. 21	Alex. Schulte, Hilbert	Maintaining unclean and unsanitary cheese factory.	Rothman, Ripon.....	\$25 and costs.
Dec. 21	Chas. H. Russell, Superior	Selling adulterated milk	F. S. Parker, Superior	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1906.				
Dec. 21	Peter Sorenson, Superior	Selling adulterated cream	F. S. Parker, Superior	\$25 and costs.
Dec. 21	J. S. Kelley, Superior	Selling adulterated cream	F. S. Parker, Superior	\$25 and costs.
Dec. 21	K. S. Finstad, Superior	Selling adulterated milk	F. S. Parker, Superior	\$25 and costs.
Dec. 22	S. Anderson, Superior	Selling adulterated milk	F. S. Parker, Superior	\$25 and costs.
Dec. 24	E. Lund, Superior	Selling adulterated cream	F. S. Parker, Superior	\$25 and costs.
Dec. 26	John Holm, Superior	Selling adulterated cream	F. S. Parker, Superior	\$25 and costs.
Dec. 26	N. Sorenson, Superior	Selling adulterated cream	F. S. Parker, Superior	\$25 and costs.
Dec. 27	J. G. Poser, Merrill	Selling pepper adulterated with ground olive pits.	M. G. Hoffman, Merrill	\$25 and costs.
Dec. 28	A. Christensen, Superior	Selling adulterated cream	F. S. Parker, Superior	\$25 and costs.
Dec. 28	Nels Christensen, Superior	Selling adulterated cream	F. S. Parker, Superior	\$25 and costs.
Dec. 29	T. Olson, Superior	Selling adulterated cream	F. S. Parker, Superior	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
Jan. 4	J. V. M. Davis, Pardeeville.....	Selling adulterated lemon extract.....	Frank Heidt, Portage.....	\$25 and costs.
Jan. 10	Dr. J. Jensen, Cameron.....	Selling for blackberry brandy a mixture containing saccharin and coal-tar dye	F. B. Kinsley, Barron.....	\$25 and costs.
Jan. 12	A. C. Smith, Lancaster.....	Selling adulterated lemon extract.....	S. W. Traber, Platteville.....	\$25 and costs.
Jan. 21	G. Barkhelz, London.....	Delivering adulterated milk to creamery.	Anthony Donovan, Madison.....	\$25 and costs.
Jan. 22	Ripon Produce Co., Ripon.....	Maintaining creamery premises and utensils in unclean and unsanitary condition.	Fowler, Ripon.....	\$25 and costs.
Jan. 25	Frank B. Knepfel, Hilbert.....	Maintaining cheese factory premises and utensils in unclean and unsanitary condition.	Rothman, Ripon.....	\$25 and costs.
Jan. 27	J. G. Poser, Merrill.....	Selling adulterated pepper.....	M. G. Hoffman, Merrill.....	\$25 and costs.
Jan. 29	John Rhoda, Juneau.....	Delivering adulterated milk to cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
Jan. 29	Ben Coon, Juneau.....	Delivering adulterated milk to cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
Jan. 30	E. C. Hubbard, Elkhorn.....	Selling adulterated pepper.....	Arthur Clohisy, Elkhorn.....	\$25 and costs.
Jan. 31	Henry Schuster, Fillmore.....	Delivering adulterated milk to cheese factory.	C. G. Robinson, West Bend....	\$25 and costs.
Jan. 31	Frank Ponnahac, Fillmore.....	Delivering adulterated milk to cheese factory.	C. G. Robinson, West Bend....	\$25 and costs.
Feb. 1	Wm. Stein, Fillmore.....	Delivering adulterated milk to cheese factory.	C. G. Robinson, West Bend....	\$25 and costs.
Feb. 1	Henry Kraetsch, Fillmore.....	Delivering adulterated milk to cheese factory.	C. G. Robinson, West Bend....	\$25 and costs.
Feb. 1	Fred Goldamer, Fillmore.....	Delivering adulterated milk to cheese factory.	C. G. Robinson, West Bend....	\$25 and costs.
Feb. 1	Gust. Degnitz, Fillmore.....	Delivering adulterated milk to cheese factory.	C. G. Robinson, West Bend....	\$25 and costs.
Feb. 5	Thos. Brooks, Watertown.....	Selling oleomargarine for butter.....	Geo. Grimm, Jefferson.....	\$50 and costs.
Feb. 5	Geo. Gatterdam, Watertown...	Selling oleomargarine for butter.....	Geo. Grimm, Jefferson.....	\$50 and costs.
Feb. 5	J. C. Harrison, Watertown.....	Selling oleomargarine for butter.....	Geo. Grimm, Jefferson.....	\$50 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
Feb. 13	Ripon Produce Co., Ripon.....	Maintaining cheese factory premises in unclean and unsanitary condition.	Fowler, Ripon.....	\$25 and costs.
Feb. 14	Meyer & Nowack, Watertown..	Selling oleomargarine which was in imitation of yellow butter.	Geo. Grimm, Jefferson.....	\$50 and costs. Appealed.
Feb. 21	F. C. Brandt, Monroe.....	Selling lemon extract containing less than 5 per cent. (by vol.) of lemon oil.	Thos. Luchsinger, Monroe.....	\$25 and costs.
Feb. 25	Jess Capper, West Salem.....	Selling adulterated lemon extract	J. Brindley, La Crosse.....	\$25 and costs.
Feb. 28	J. H. Schroeder, Oshkosh.....	Selling unclean and unsanitary milk....	A. H. Goss, Oshkosh.....	\$25 and costs.
Mch. 19	E. Sohneis, Sun Prairie.....	Selling adulterated milk.....	Anthony Donovan, Madison.....	\$25 and costs.
Mch. 21	David A. Hinrichs, Blooming Grove.....	Selling adulterated milk.....	Anthony Donovan, Madison.....	\$25 and costs.
Mch. 26	Jac. Murtens, Fond du Lac....	Selling unclean milk and maintaining unclean premises where milk was sold.	Thos. Watson, Fond du Lac....	\$25 and costs.
Mch. 28	Louis Olson, Superior.....	Selling adulterated butter.....	F. S. Parker, Superior.....	\$25 and costs.
Mch. 28	F. J. Leonard, Oshkosh.....	Selling adulterated milk.....	A. H. Goss, Oshkosh.....	\$25 and costs.
April 1	E. B. Jones, Fond du Lac.....	Selling adulterated milk.....	Thos. Watson, Fond du Lac....	\$25 and costs.
April 2	Fred Baumann, Glenbeulah....	Selling pork sausage containing boric acid or a salt thereof.	D. Mahlsted, Plymouth.....	\$25 and costs.
April 4	Ester Oyster Co., Madison.....	Selling oysters containing boric acid..	Anthony Donovan, Madison.....	\$35 and costs.
April 5	John Keller, Sheboygan.....	Selling adulterated milk.....	D. T. Phalen, Sheboygan.....	\$25 and costs.
April 6	John Keller, Sheboygan.....	Maintaining unclean premises where milk was sold.	D. T. Phalen, Sheboygan.....	\$25 and costs.
April 5	E. A. Woodward, Oxford.....	Selling adulterated lemon extract.....	Thos. Luce, Oxford.....	\$25 and costs.
April 6	Wm. P. Kaeserman, Sheboygan	Selling adulterated milk.....	J. M. Giblin, Sheboygan.....	\$25 and costs.
April 6	Lind & Co., Eau Claire.....	Selling adulterated maple syrup.....	Fred Arnold, Eau Claire.....	\$25 and costs.
April 6	Mike Borowska, Almena.....	Delivering adulterated milk to a cheese factory.	F. B. Kinsley, Barron.....	\$25 and costs.
April 9	Martin Vanderheiden, W. Depere.....	Selling adulterated milk.....	N. J. Monahan, Green Bay.....	\$25 and costs.
April 9	Jos. J. Wendricks, Green Bay..	Selling adulterated skim milk.....	N. J. Monahan, Green Bay.....	\$25 and costs.
April 10	Gustave Ziebell, Oshkosh.....	Selling milk handled with unclean utensils.....	A. H. Goss, Oshkosh.....	\$25 and costs.
April 11	Chas. A. Haeffner, Madison....	Selling oysters containing boric acid or a salt thereof.	Anthony Donovan, Madison.....	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
April 12	Findlay & Co., Madison.....	Selling adulterated maple syrup.....	Anthony Donovan, Madison....	\$25 and costs.
April 16	G. W. Knauer, Plymouth.....	Selling Hamburger steak containing a chemical preservative.	Wm. Chaplin, Plymouth.....	\$25 and costs.
April 16	Peter Haase, Plymouth.....	Selling Hamburger steak containing a chemical preservative.	Wm. Chaplin, Plymouth.....	\$25 and costs.
April 16	Foster Smith, Plymouth.....	Selling Hamburger steak containing a chemical preservative.	Wm. Chaplin, Plymouth.....	\$25 and costs.
April 17	Jos. Fischer, La Crosse.....	Selling sausage containing boric acid or a salt thereof.	J. Brindley, La Crosse.....	\$25 and costs.
April 17	Marking Bros., La Crosse.....	Selling Hamburger steak containing salt of sulphurous acid.	J. Brindley, La Crosse.....	\$25 and costs.
April 17	John Matiak, La Crosse.....	Selling Hamburger steak containing salt of sulphurous acid.	J. Brindley, La Crosse.....	\$25 and costs.
April 18	Waller & Volp, Menomonie....	Selling adulterated maple syrup.....	J. E. Florin, Menomonie.....	\$25 and costs.
April 18	E. A. Feldt, Menomonie.....	Selling adulterated maple syrup.....	J. E. Florin, Menomonie.....	\$25 and costs.
April 19	J. Fieselman, Medford.....	Delivering adulterated milk to cheese factory.	T. G. Jeffers, Medford.....	\$25 and costs.
April 20	C. S. Nelson, Spooner.....	Selling adulterated maple syrup.....	Andrew Ryan, Shell Lake.....	\$25 and costs.
April 22	W. C. Wilharms, Appleton....	Selling milk handled with unclean utensils.	Fred Heineman, Appleton....	\$25 and costs.
April 23	Mrs. Wm. Neu, Rubicon, R. F. D.	Delivering adulterated milk to cheese factory.	Geo. Heinze, Watertown.....	\$25 and costs.
April 25	Milton Hollinger, Hebron, R. F. D.	Delivering adulterated milk to creamery.	John Krebs, Jefferson.....	\$25 and costs.
April 26	F. W. Timms, Barron.....	Selling adulterated maple syrup.....	F. B. Kinsley, Barron.....	\$25 and costs.
April 27	Charlie Engel, Oshkosh.....	Selling meat from a diseased animal.	A. H. Goss, Oshkosh.....	\$25 and costs.
April 30	Jos. Gillis, Edson.....	Selling diseased meat.....	E. H. Coleman, Chippewa Falls	\$25 and costs.
May 4	Ole Torgerson, Menomonie....	Selling adulterated lemon extract.....	J. E. Florin, Menomonie.....	\$25 and costs.
May 7	F. M. Farmer, Brodhead.....	Selling adulterated cream.....	Chas. Skinner, Brodhead.....	\$25 and costs.
May 8	Harlon Bros., Racine.....	Selling canned peas containing a copper compound.	H. G. Smieding, Racine.....	\$25 and costs.
May 18	J. Ludwig, Medford.....	Delivering adulterated milk to cheese factory.	T. G. Jeffers, Medford.....	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
May 21	Lee Bros., Depere.....	Selling lemon extract containing wood alcohol.	N. J. Monahan, Green Bay.....	\$25 and costs.
May 21	Lee Bros., Depere.....	Selling adulterated ground pepper.....	N. J. Monahan, Green Bay.....	\$25 and costs.
May 22	Ludwig Grade, Colgate.....	Delivering adulterated milk to a cheese factory.	C. W. Wallis, Hartford.....	\$25 and costs.
May 21	Herman Bergman, Watertown	Delivering adulterated milk to a cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
May 21	Chas. Rabenhorst, Watertown	Delivering adulterated milk to a cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
May 21	Aug. Walter, Watertown, R. F. D.	Delivering adulterated milk to a cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
May 23	A. E. Schwartz, Exile.....	Maintaining skimming station utensils in unclean condition.	C. Fenton, Ellsworth.....	\$25 and costs.
May 24	Jacob Adami, Colgate.....	Delivering adulterated milk to a cheese factory.	C. E. Armin, Waukesha.....	\$25 and costs.
May 28	Mrs. O. Griner, Theresa.....	Selling adulterated milk.....	W. D. Stacy, Watertown.....	\$25 and costs.
May 28	H. Heinicke, Theresa.....	Selling adulterated milk.....	W. D. Stacy, Watertown.....	\$25 and costs.
May 28	A. Gräpentrog, Theresa.....	Selling adulterated milk.....	W. D. Stacy, Watertown.....	\$25 and costs.
May 28	C. F. Zahn, Theresa.....	Selling adulterated milk.....	W. D. Stacy, Watertown.....	\$25 and costs.
May 31	C. P. Myher, Ellsworth, R. F. D.	Maintaining milk utensils in unclean and unsanitary condition.	C. Fenton, Ellsworth.....	\$25 and costs.
May 31	Joe Ryan, Stanton.....	Delivering adulterated milk to a cheese factory.	O. W. Armquist, Hudson.....	\$25 and costs.
June 4	Nicholas Wagner, Rubicon.....	Delivering adulterated milk to a cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
June 4	Nicholas Schmitz, Rubicon.....	Delivering adulterated milk to a cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
June 4	Henry Van Haren, Marinette..	Selling adulterated milk.....	H. M. Bird, Marinette	\$25 and costs.
June 6	Reinbart Neitzel, Watertown..	Maintaining an unclean and unsanitary cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
June 7	Wm. Averbeck, Rosendale.....	Offering unclean and unsanitary milk to a creamery.	D. F. Blewitt, Fond du Lac.....	\$25 and costs.
June 7	Edw. Wendorf, Rubicon.....	Delivering adulterated milk to a cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
June 7	Phillip Multhauf, Neosho.....	Delivering adulterated milk to a cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
June 7	Gustav Hundt, Neosho.....	Delivering adulterated milk to cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
June 12	Mike Jagodinsky, Manitowoc..	Selling Hamburger steak containing a salt of sulphurous acid.	A. H. Schmidt, Manitowoc.....	\$25 and costs.
June 19	Geo. Gebert, Medford.....	Delivering adulterated milk to cheese factory.	T. G. Jeffers, Medford.....	\$25 and costs.
June 22	Stephen Du Fraine, Fond du Lac	Selling milk handled with unclean utensils.	D. F. Blewitt, Fond du Lac.....	\$25 and costs.
June 22	Wm. Bigalke, Mauston.....	Offering adulterated cream to a creamery.	W. D. Stacy, Watertown.....	\$25 and costs.
June 24	Albert Beulen, Oshkosh.....	Maintaining milk utensils in unclean and unsanitary condition.	A. H. Goss, Oshkosh.....	\$25 and costs.
June 24	Jas. A. Crofoot, Alma.....	Selling adulterated lemon extract.....	Wm. Ulrich, Fountain City.....	\$25 and costs.
June 26	Wm. Abrams, Oshkosh.....	Maintaining milk utensils in unclean and unsanitary condition.	Baird	\$25 and costs.
June 28	Delaney Oil Co., Milwaukee...	Selling turpentine containing mineral oil.	N. B. Neelen, Milwaukee.....	\$50 and costs.
July 5	Herman Zanders, Ripon.....	Offering unclean and unsanitary milk to a creamery.	R. C. Fairbank, Fond du Lac...	\$25 and costs.
July 9	Jacob Streff, Fredonia.....	Delivering adulterated milk to a cheese factory.	N. E. Wilson, Port Washington	\$25 and costs.
July 10	G. W. Kingsley, Kilbourn City, R. 3	Delivering adulterated milk to a cheese factory.	C. L. Purvis, Friendship.....	\$25 and costs.
July 10	Mrs. W. H. Smith, Kilbourn City	Delivering adulterated milk to a cheese factory.	C. L. Purvis, Friendship.....	\$25 and costs.
July 15	Richard Donovan, Waupun....	Offering unclean and unsanitary milk to a creamery.	D. F. Blewitt, Fond du Lac.....	\$25 and costs.
July 16	Henry Dim'er, Neillsville.....	Offering unclean and unsanitary milk to a creamery.	R. M. Campbell, Neillsville.....	\$25 and costs.
July 16	John C. Lange, Neillsville.....	Maintaining creamery premises and utensils in unclean and unsanitary condition.	R. M. Campbell, Neillsville.....	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
July 18	John W. McClusky, Linden....	Maintaining cheese factory in unclean condition.	J. P. Hankins, Mineral Point....	\$25 and costs.
July 22	Chris Lidow, Beaver Dam.....	Delivering adulterated milk to a cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
July 22	Fred Puschart, Beaver Dam..	Delivering adulterated milk to a cheese factory.	W. D. Stacy, Watertown.....	\$25 and costs.
July 24	Geo. Kozima, Stangerville....	Maintaining cheese factory in unclean condition.	Justice Seidl, Kewaunee.....	\$25 and costs.
July 25	Fred Finey, Genesee.....	Maintaining creamery in unclean condition.	C. E. Armin, Waukesha.....	\$25 and costs.
July 27	Alex. Hamilton, Arena.....	Selling adulterated milk.....	R. Lane, Dodgeville.....	\$25 and costs.
July 30	Albert Van der Heuvel, Depere	Offering unclean and unsanitary milk to a creamery.	Weyenberg, Depere	\$25 and costs.
July 30	Phillp Matzke, Depere.....	Offering unclean and unsanitary milk to a creamery.	Weyenberg, Depere	\$25 and costs.
July 31	John Vanstopp'le, Green Bay..	Offering unclean and unsanitary milk to a creamery.	N. J. Monahan, Green Bay.....	\$25 and costs.
July 31	Model Creamery, Madison....	Selling adulterated milk.....	A. Donovan, Madison.....	\$25 and costs.
July 31	Cardinal Creamery, Madison..	Selling adulterated milk.....	A. Donovan, Madison.....	\$25 and costs.
Aug. 2	John Reineck, Elkhart.....	Maintaining in unclean and unsanitary condition utensils and premises where milk was sold.	Justice Reiss	\$25 and costs.
Aug. 2	Wm. Oldenburg, Madison.....	Selling adulterated milk.....	A. Donovan, Madison.....	\$25 and costs.
Aug. 7	Geo. Moquin, No. Fond du Lac	Maintaining in unclean and unsanitary condition utensils and premises where milk was sold.	Justice McFadden	\$25 and costs.
Aug. 7	F. Kufahl, Fredonia.....	Delivering adulterated milk to a cheese factory.	N. E. Wilson, Port Washington	\$25 and costs.
Aug. 9	Jos. Meyer, Random Lake.....	Offering for sale unclean and unsanitary milk.	Justice Carroll, Random Lake....	\$25 and costs.
Aug. 10	F. B. Eycleshymer, Milwaukee	Selling adulterated laudanum.....	N. B. Neelen, Milwaukee.....	\$25 and costs.
Aug. 12	John Tonnar, Mepomonie.....	Selling hamamelis water containing wood alcohol and formaldehyde.	J. E. Florin, Menomonie.....	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
Aug. 12	J. Hesser, Brillion.....	Selling ham containing boric acid or a salt thereof.	.....	\$25 and costs.
Aug. 13	Theo. Larson, Luck.....	Maintaining a creamery in unclean and unsanitary condition.	I. N. Knight, Clear Lake.....	\$30 and costs.
Aug. 15	Edward Goodman, Madison, R. 1	Selling adulterated milk.....	Anthony Donovan, Madison.....	\$25 and costs.
Aug. 16	G. Adolph Schindel, Ontario..	Delivering cream in unclean cans to skimming station.	S. R. Polard, Viroqua.....	\$25 and costs.
Aug. ..	Chas. Beaver, Port Washington	Delivering adulterated milk to a cheese factory.	N. E. Wilson, Port Washington	\$25 and costs.
Aug. ..	Peter Wallenstein, Port Washington.	Delivering adulterated milk to a cheese factory.	N. E. Wilson, Port Washington	\$25 and costs.
Aug. 17	Albert Holak, LaFarge.....	Delivering adulterated milk to a cheese factory.	S. R. Pollard, Viroqua.....	\$25 and costs.
Aug. 21	Fred L. White, Kenosha.....	Maintaining in unclean and unsanitary condition utensils and premises where milk was sold.	G. B. McCarron, Kenosha.....	\$25 and costs.
Aug. 21	Abraham Kraak, Kenosha.....	Maintaining in unclean and unsanitary condition premises and utensils where milk was sold.	G. B. McCarron, Kenosha.....	\$25 and costs.
Aug. 22	H. F. Tower, Beloit.....	Selling adulterated vanilla extract....	C. K. Tenney, Madison.....	\$25 and costs.
Aug. 22	Franc Wodicka, Racine.....	Maintaining premises where milk was sold and utensils in unclean and unsanitary condition.	H. G. Smieding, Racine.....	\$25 and costs.
Aug. 22	John Pfleger, Racine.....	Maintaining premises where milk was sold and utensils in unclean and unsanitary condition.	H. G. Smieding, Racine.....	\$25 and costs.
Aug. 23	Nicholas Fey, Manitowoc.....	Selling milk handled with unclean utensils.	A. H. Schmidt, Manitowoc.....	\$25 and costs.
Aug. 23	Geo. Schneider, Fountain City	Delivering adulterated milk to a cheese factory.	L. Dresendoefer, Fountain City	\$25 and costs.
Aug. 23	Henry Hannchild, Fountain City	Delivering adulterated milk to a cheese factory.	L. Dresendoefer, Fountain City	\$25 and costs.
Aug. 23	Herman Giese, Random Lake..	Delivering adulterated milk to a cheese factory.	D. Mahlsted, Plymouth.....	\$20 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
Aug. 24	John Arndt, Random Lake....	Delivering adulterated milk to a cheese factory.	D. Mahlsted, Plymouth.....	\$25 and costs.
Aug. 24	Mike Bohman, Marinette.....	Selling adulterated milk.....	H. M. Bird, Marinette.....	\$25 and costs.
Aug. 26	John Antosh, Marinette.....	Selling cream containing a chemical preservative.	H. M. Bird, Marinette.....	\$25 and costs.
Aug. 28	Henry Shankey, Merrillan.....	Delivering milk from unclean cans to a cheese factory.	Harry Perry, Black River Falls.	\$25 and costs.
Aug. 29	F. V. Piper, Kenosha.....	Maintaining creamery premises in unclean and unsanitary condition.	G. B. McCarron, Kenosha.....	\$25 and costs.
Aug. 29	A. J. Kelly, Kenosha.....	Offering milk to a creamery from unclean and unsanitary cans.	G. B. McCarron, Kenosha.....	\$25 and costs.
Aug. 30	Andrew Pederson, Ashland....	Maintaining premises where milk was sold and utensils in unclean and unsanitary condition.	Geo. H. McCloud, Ashland.....	\$25 and costs.
Sept. 3	John Helm, Ashland.....	Selling cream containing a chemical preservative.	Geo. H. McCloud, Ashland.....	\$25 and costs.
Sept. 3	G. M. Kenfield, Oshkosh.....	Maintaining premises where milk was sold and utensils in unclean and unsanitary condition.	A. H. Goss, Oshkosh.....	\$25 and costs.
Sept. 4	Peter Fie'a, Arcadia.....	Selling chopped meat preserved with a salt of sulphurous acid.	I. H. Ecker, Whitehall.....	\$25 and costs.
Sept. 10	The A. Spiegel Co., Milwaukee	Selling adulterated tincture of iodine..	N. B. Neelen, Milwaukee.....	\$25 and costs.
Sept. 7	J. J. Brandl, Shawano.....	Maintaining an unclean cheese factory.	Orlin Andrews, Shawano.....	\$25 and costs.
Sept. 11	John Pettygrove, Readstown..	Delivering adulterated milk to a cheese factory.	S. R. Pollard, Viroqua.....	\$25 and costs.
Sept. 12	Bartheaume Bros., Superior..	Selling peas containing a copper compound.	F. S. Parker, Superior.....	\$25 and costs.
Sept. 13	Artie Hursh, Des Moines, Ia..	Selling adulterated cider on Wisconsin State Fair Grounds.	N. B. Neelen, Milwaukee.....	\$25 and costs.
Sept. 13	J. T. Brewer, 5th St., Chicago, Ill.	Selling adulterated cider on Wisconsin State Fair Grounds.	N. B. Neelen, Milwaukee.....	\$25 and costs.
Sept. 13	L. H. Lorch, Milwaukee.....	Selling adulterated cider.....	N. B. Neelen, Milwaukee.....	\$25 and costs.
Sept. 17	J. H. Harter, Waukesha.....	Offering to a creamery unclean and unsanitary milk.	C. E. Armin, Waukesha.....	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
Sept. 17	F. E. Fox, Waukesha.....	Maintaining in unclean and unsanitary condition premises and utensils used in producing cream for sale.	C. E. Armin, Waukesha.....	\$25 and costs.
Sept. 17	Jacob Rhinor, Brodhead.....	Selling adulterated milk.....	C. F. Skinner, Brodhead.....	\$50 and costs.
Sept. 18	M. Kelle, Brodhead.....	Selling adulterated milk.....	C. F. Skinner, Brodhead.....	\$25 and costs.
Sept. 19	G. P. Zimmerman, Brodhead..	Selling adulterated milk.....	C. F. Skinner, Brodhead.....	\$25 and costs.
Sept. 20	Willie Nelson, Readstown.....	Delivering adulterated milk to a cheese factory.	S. R. Pollard, Viroqua.....	\$25 and costs.
Sept. 21	Henry Schreier, Cashton.....	Delivering cream in unclean cans to a creamery.	H. E. Kelley, Sparta.....	\$25 and costs.
Sept. 21	D. Robbins, Eau Claire.....	Having in his possession with intent to sell, adulterated milk.	Jos. W. Singleton, Eau Claire..	\$25 and costs.
Sept. 23	Joe Rutz.....	Delivering milk in unclean cans to a skimming station.	J. Brindley, La Crosse.....	\$25 and costs.
Sept. 23	Grover Green, Readstown.....	Delivering adulterated milk to a cheese factory.	S. R. Pollard, Viroqua.....	\$25 and costs.
Sept. 23	W. Osborn, Readstown.....	Delivering adulterated milk to a cheese factory.	S. R. Pollard, Viroqua.....	\$25 and costs.
Sept. 25	Peter Rasmussen, Racine.....	Selling adulterated cream.....	H. G. Smieding, Racine.....	\$25 and costs.
Sept. 25	Peter Hannan, Loyal.....	Delivering adulterated milk to a cheese factory.	Geo. W. Barker, Loyal.....	\$25 and costs.
Sept. 26	Martin Grabinger, Fredonia...	Offering unclean and unsanitary milk to a cheese factory.	Cigrand	\$25 and costs.
Sept. 27	John Birk, Calumet.....	Maintaining an unclean cheese factory.	Justice Breed, Chilton.....	\$25 and costs.
Sept. 30	Thos. Mulvaney, Wilson.....	Offering to deliver to a creamery milk in unclean cans.	Otto W. Arnquist, Hudson.....	\$25 and costs.
Oct. 3	O. A. Wallin, Union Grove....	Maintaining creamery premises and utensils in an unclean condition.	H. G. Smieding, Racine.....	\$25 and costs.
Oct. 8	Edw. Rasmussen, Brook'yn....	Selling adulterated milk.....	C. F. Skinner, Brodhead.....	\$25 and costs.
Oct. 10	Aug. Maosolf, Cudahy.....	Selling adulterated milk.....	N. B. Neelen, Milwaukee.....	\$25 and costs.
Oct. 10	Frank Kober, Cudahy.....	Selling adulterated milk.....	N. B. Neelen, Milwaukee.....	\$25 and costs.
Oct. 10	R. O. Sell, Cudahy.....	Maintaining utensils in creamery in unclean condition.	F. W. Jenkins, Chippewa Falls..	\$25 and costs.
Oct. 16	Frank Schmelling, Juneau.....	Delivering unclean and unsanitary milk	W. D. Stacy, Watertown.....	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
Oct. 16	Ole Thompson, Valders.....	Maintaining unclean cheese factory....	A. H. Schmidt, Manitowoc.....	\$25 and costs.
Oct. 17	Jas. Rogers, Chippewa Falls....	Selling adulterated milk.....	F. W. Jenkins, Chippewa Falls..	\$25 and costs.
Oct. 17	E. C. Starks, Cedarburg.....	Maintaining creamery premises and utensils in unclean and unsanitary condition.	Justice Wirth	\$25 and costs.
Oct. 17	Frank Laritz, New Franken....	Delivering to a creamery milk from unclean cans.	N. J. Monahan, Green Bay.....	\$25 and costs.
Oct. 22	Andrew Jerovetz, Kewaunee....	Maintaining cheese factory premises and utensils in unclean condition.	Justice Seidl, Kewaunee.....	\$25 and costs.
Oct. 24	Fabian Laurent, Rio Creek...	Maintaining cheese factory utensils and premises in unclean and unsanitary conditions.	Justice Seidl, Kewaunee.....	\$25 and costs.
Oct. 24	Jac. M. Yunk, Kewaunee.....	Maintaining unclean cheese factory....	Justice Seidl, Kewaunee.....	\$25 and costs.
Oct. 25	Frank Haack, Kewaunee.....	Maintaining unclean cheese factory....	Justice Seidl, Kewaunee.....	\$25 and costs.
Oct. 26	Clark A. Paynter, Loyal.....	Maintaining unclean and unsanitary creamery.	R. M. Campbell, Nellisville.....	\$25 and costs.
Oct. 29	Wm. P. Hamm, Allenton.....	Maintaining creamery premises and utensils in unclean and unsanitary condition.	Justice Foss	\$25 and costs.
Oct. 30	Fred Horstman, Two Rivers..	Maintaining in unclean and unsanitary condition utensils from which milk was so'd.	Justice Schmidt	\$25 and costs.
Oct. 30	People's Market, Sheboygan...	Selling chopped meat containing a salt of sulphurous acid.	John M. Giblin, Sheboygan.....	\$25 and costs.
Oct. 30	Frank Hoffman, Sheboygan...	Selling chopped meat containing a salt of sulphurous acid.	John M. Giblin, Sheboygan.....	\$25 and costs.
Oct. 30	F. B. Fritzlaff, Sheboygan.....	Selling sausage containing boric acid...	John M. Giblin, Sheboygan.....	\$25 and costs.
Oct. 30	Herman Degenkolbe, Sheboygan.	Selling chopped meat containing a salt of sulphurous acid.	John M. Giblin, Sheboygan.....	\$25 and costs.
Oct. 31	Martin Wolfe, Allenton.....	Offering and exposing for sale unclean and unsanitary milk.	Justice Wallis, Hartford.....	\$25 and costs.
Oct. 31	Frank Ruprich, Westboro.....	Selling lemon extract containing wood alcohol and artificial coloring.	T. G. Jeffers, Medford.....	\$25 and costs.
Nov. 4	Paul Myer, Milwaukee.....	Selling adulterated milk.....	N. B. Neelen, Milwaukee.....	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
Nov. 4	Frank Chezeke, Milwaukee....	Selling adulterated milk.....	N. B. Neelen, Milwaukee.....	\$25 and costs.
Nov. 12	Thos. White, Milwaukee.....	Selling adulterated milk.....	N. B. Neelen, Milwaukee.....	\$25 and costs.
Nov. 13	F. A. Ford, Berlin, R. 1.....	Maintaining an unclean creamery.....	T. D. Kerwan.....	\$25 and costs.
Nov. 14	G. Peterson, Rockland.....	Delivering adulterated milk to a cheese factory.	J. Brindley, La Crosse.....	\$25 and costs.
Nov. 14	H. Peterson, Rockland.....	Delivering adulterated milk to a cheese factory.	J. Brindley, La Crosse.....	\$25 and costs.
Nov. 15	Otto Kraft, Milwaukee.....	Selling chopped meat containing a salt of sulphurous acid.	J. A. Sheridan, Milwaukee.....	\$25 and costs.
Nov. 15	Helmuth Hoelzer, Milwaukee..	Selling chopped meat containing a salt of sulphurous acid.	J. A. Sheridan, Milwaukee.....	\$25 and costs.
Nov. 15	Chas. Ehlert, Milwaukee.....	Selling chopped meat containing a salt of sulphurous acid.	J. A. Sheridan, Milwaukee.....	\$25 and costs.
Nov. 15	Paul Ludwig, Milwaukee.....	Selling chopped meat containing a salt of sulphurous acid.	J. A. Sheridan, Milwaukee.....	\$25 and costs.
Nov. 15	A. Doerfler, Milwaukee.....	Selling chopped meat containing a salt of sulphurous acid.	J. A. Sheridan, Milwaukee.....	\$25 and costs.
Nov. 15	Henry Spielvogel, Milwaukee..	Selling chopped meat containing a salt of sulphurous acid.	J. A. Sheridan, Milwaukee.....	\$25 and costs.
Nov. 15	Frank Kelling, Berlin.....	Maintaining creamery premises and utensils in unclean and unsanitary condition.	Fred Engelbracht, Berlin.....	\$25 and costs.
Nov. 15	Arthur G. Powell, Loyd.....	Maintaining cheese factory premises and utensils in unclean and unsanitary condition.	Samuel Curtis, Richland Center	\$25 and costs.
Nov. 16	Bennie J. Rego, Cazenovia.....	Maintaining cheese factory premises and utensils in unclean and unsanitary condition.	Samuel Curtis, Richland Center	\$25 and costs.
Nov. 18	Martin Walsh, Richland Center	Delivering adulterated milk to a cheese factory.	S. Curtis, Richland Center.....	\$25 and costs.
Nov. 21	Oie Hanson, So. Wayne.....	Selling adulterated milk.....	S. Clary, Darlington.....	\$25 and costs.
Nov. 22	J. C. Clink, Berlin.....	Selling chopped meat containing a chemical preservative.	Fred Engelbracht, Berlin.....	\$25 and costs.

CONVICTIONS—Continued.

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Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fines or Forfeitures.
1907.				
Nov. 22	Joe Kurkowski, Berlin.....	Selling chopped meat containing a chemical preservative.	Fred Engelbracht, Berlin.....	\$25 and costs.
Nov. 25	Chas. Hoehn, Fall Creek.....	Selling for lemon flavoring a compound containing artificial color and no lemon oil.	Fred Arnold	\$25 and costs.
Nov. 30	Martin Maciejewski, Berlin...	Selling chopped meat containing a chemical preservative.	Fred Engelbracht, Berlin.....	\$25 and costs.
Dec. 3	D. W. Jewell, Rich and Center	Delivering adulterated milk to a cheese factory.	S. Curtis, Richland Center.....	\$25 and costs.
Dec. 5	Louis Larsen, Kenosha.....	Selling chopped meat containing a salt of sulphurous acid.	G. B. McCarron, Kenosha.....	\$25 and costs.
Dec. 7	Gliser Bros, Racine.....	Selling chopped meat containing a salt of sulphurous acid.	H. G. Smieding, Racine.....	\$25 and costs.
Dec. 7	F. Haumersen, Racine.....	Selling chopped meat containing a salt of sulphurous acid.	H. G. Smieding, Racine.....	25 and costs.
Dec. 7	Wm. Christensen, Racine.....	Selling chopped meat containing a salt of sulphurous acid.	H. G. Smieding, Racine.....	\$25 and costs.
Dec. 12	Louis Buhler, Mgr. Cudahy Bros., Racine.....	Selling chopped meat containing a salt of sulphurous acid.	H. G. Smieding, Racine.....	\$25 and costs.
Dec. 12	Hanson & Switzer, Racine...	Selling chopped meat containing a salt of sulphurous acid.	H. G. Smieding, Racine.....	\$25 and costs.
Dec. 12	H. J. Hjort, Luck.....	Maintaining an unclean and unsanitary creamery.	I. N. Knight, Eau Claire.....	\$25 and costs.
Dec. 21	Harry Weatherwax, Clintonville	Delivering adulterated milk to a cheese factory.	Carew, Manawa	\$25 and costs.
Dec. 26	Sam Riegelman, Milwaukee...	Selling for port wine a preparation containing glucose, artificial color, saccharin and salicylic acid.	N. B. Neelen, Milwaukee	\$25 and costs.
Dec. 26	Frank Connelly, Milwaukee....	Selling as port wine a preparation containing glucose, saccharin, artificial color and benzoic acid.	N. B. Neelen, Milwaukee.....	\$25 and costs.
Dec. 31	Robert Peterson, Oshkosh.....	Selling unclean milk.....	A. H. Goss, Oshkosh.....	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fine or Forfeiture.
1908.				
Jan. 23	Jacob Herman, Mgr. Liquor Dept., Boston Store, Milwaukee.	Selling for and as port wine a preparation containing glucose, artificial color and benzoic acid.	N. B. Neelen, Milwaukee	\$25 and costs.
Jan. 27	Chas. Olson, Knapp	Selling adulterated lard	P. P. Clark, Menomonie	\$25 and costs.
Jan. 29	Schuckmann & Seligman, a corporation (Geo. Hatzel, clerk), Milwaukee.	Selling as and for port wine a preparation containing glucose, artificial color and benzoic acid.	N. B. Neelen, Milwaukee	*\$20 and costs.
Jan. 31	John Langhack, Green Bay....	Selling adulterated milk	M. J. Monahan, Green Bay	\$25 and costs.
Feb. 18	Mrs. Mary Puls, Fountain City	Selling adulterated cream	L. Dressendorfer, Fountain City	\$25 and costs.
Feb. 26	Wm. E. Barringer, Baraboo ...	Selling adulterated spirit of nitrous ether.	L. H. Halsted, Baraboo	\$25 and costs.
Feb. 26	Wm. E. Barringer, Baraboo ...	Selling adulterated spirit of camphor..	L. H. Halsted, Baraboo	\$25 and costs.
Feb. 26	Wm. E. Barringer, Baraboo ...	Selling adulterated alcohol	L. H. Halsted, Baraboo	\$25 and costs.
Mar. 4	Henry Lewis, Madison	Selling adulterated alcohol	Anthony Donovan, Madison	\$25 and costs.
Mar. 4	Henry Lewis, Madison	Selling adulterated spirit of camphor..	Anthony Donovan, Madison	\$25 and costs.
Mar. 6	Frank Ahrens, Prairie du Ch'n	Selling adulterated milk	C. C. Chase, Prairie du Chien	\$25 and costs.
Mar. 6	Fenton Wachter, Prairie du Chien.	Selling adulterated milk	John Garrity, Prairie du Chien	\$25 and costs.
Mar. 6	Wm. Swingle, Prairie du Ch'n	Selling adulterated milk	C. C. Chase, Prairie du Chien	\$25 and costs.
Mar. 16	J. D. Hatch, Lancaster	Selling adulterated laudanum	David Schreiner, Lancaster	\$25 and costs.
Mar. 16	J. Hoff, La Crosse	Selling adulterated milk	J. Brindley, La Crosse	\$25 and costs.
Mar. 16	Kasper Zweifel, La Crosse	Selling adulterated cream	J. Brindley, La Crosse	\$25 and costs.
Mar. 16	Chas. Manske, La Crosse	Selling adulterated cream	J. Brindley, La Crosse	\$25 and costs.
Mar. 17	L. Casperson, La Crosse	Selling adulterated cream	J. Brindley, La Crosse	\$25 and costs.
Mar. 17	Mrs. F. McDonald, La Crosse ..	Selling adulterated milk	J. Brindley, La Crosse	\$25 and costs.
Mar. 17	J. V. Swift, Darlington	Selling adulterated tincture of iodine ..	J. H. Clary, Darlington	\$25 and costs.
Mar. 17	Geo. F. Oates, Darlington	Selling adulterated tincture of iodine ..	J. H. Clary, Darlington	\$25 and costs.
Mar. 20	J. A. Messerole and Geo. Horn, Mineral Point.	Selling adulterated tincture of iodine ..	Henry Pitts, Mineral Point	\$25 and costs.
Mar. 21	Sol. Levitan, Madison	Selling catsup containing a chemical preservative.	Anthony Donovan, Madison	\$25 and costs.
Mar. 24	Fred H. Gadsby, Eau Claire ...	Selling adulterated spirit of nitrous ether.	Jos. W. Singleton, Eau Claire	\$25 and costs.

* Minimum fine under statute, \$25.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fine or Forfeiture.
1908.				
Mar. 25	A. A. Pardee, Madison	Selling adulterated spirit of camphor ..	C. K. Tenney, Madison	\$25 and costs.
Mar. 27	Dr. A. R. Nash, Ellsworth	Selling adulterated spirit of nitrous ether.	C. Fenton, Ellsworth	\$25 and costs.
Mar. 28	K. A. Borgen, Eau Claire	Selling adulterated cream	Jos. W. Singleton, Eau Claire	\$25 and costs.
Mar. 28	St. Croix Co-op Co. (Andrew Westerdahl), Hersey.	Selling adulterated spirit of nitrous ether.	O. W. Arnquist, Hudson	\$25 and costs.
Mar. 28	N. W. Heintz, Rice Lake	Selling adulterated laudanum	F. B. Kinsley, Barron	\$25 and costs.
Apr. 1	The Polk Co-op. Co. (Azarie Hatu, Agt.), Amery.	Selling canned peas colored with sulphate of copper.	I. N. Knight, Clear Lake	\$25 and costs.
Apr. 1	John Klauck, Kiel	Selling unclean and unsanitary milk ..	Albert Schmidt, Manitowoc	\$25 and costs.
Apr. 2	J. F. W. Schmidt, Oshkosh	Selling adulterated spirit of camphor ..	A. H. Goss, Oshkosh	\$25 and costs.
Apr. 3	K. O. Knutzen, Manitowoc	Selling adulterated spirit of nitrous ether.	A. H. Schmidt, Manitowoc	\$25 and costs.
Apr. 3	J. E. Barnstein, Manitowoc	Selling adulterated hamamelis water ..	J. E. Fuller, Elkhorn	\$25 and costs.
Apr. 3	Ambrose Heinz, Lyons	Maintaining creamery premises and utensils in unclean and unsanitary condition.	Jos. W. Singleton, Eau Claire	\$25 and costs.
Apr. 6	W. H. Smith, Eau Claire	Selling adulterated cream	T. H. Arthur, Dodgeville	\$25 and costs.
Apr. 8	Dr. Hugh F. McDonald, Hollandale.	Selling adulterated laudanum	Appealed.	
Apr. 10	F. J. Federspiel, Port Washington.	Maintaining in unclean and unsanitary condition premises where milk was sold.	Wm. A. Tholen, Port Washington	\$25 and costs.
Apr. 10	D. H. Pollock, Beloit	Selling hamamelis water containing wood alcohol.	C. D. Rosa, Beloit	\$25 and costs.
Apr. 15	Collette Drug Store, Chippewa Falls.	Selling adulterated spirit of camphor ..	F. W. Jenkins, Chippewa Falls	\$25 and costs.
Apr. 15	C. G. Suits, Medford	Selling adulterated tincture of iodine ..	T. G. Jeffers, Medford	\$25 and costs.
Apr. 15	L. W. Stapleton, Chippewa Falls.	Selling adulterated laudanum	F. W. Jenkins, Chippewa Falls	\$25 and costs.
Apr. 16	Purdy Drug Co. (Evan Hughes, Clerk), Portage	Selling adulterated spirit of camphor ..	A. R. Bunker, Portage	\$25 and costs.
Apr. 16	F. A. Rhyme, Portage	Selling adulterated spirit of camphor ..	A. R. Bunker, Portage	\$25 and costs.
Apr. 16	Dr. Chas. Kossat, Milwaukee ..	Selling spirit of camphor below legal standard in camphor and containing wood alcohol.	N. B. Neelen, Milwaukee	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fine or Forfeiture.
1908.				
Apr. 16	Henry B. Stanz, Milwaukee	Selling adulterated cheese	N. B. Neelen, Milwaukee	\$25 and costs.
Apr. 17	Wm. Steinmeyer Co. (Henry A. Eichfeld, Agt.), Milwaukee.	Selling adulterated cheese	N. B. Neelen, Milwaukee	\$25 and costs.
Apr. 17	Adolf Dernehl, Milwaukee	Selling adulterated cheese	N. B. Neelen, Milwaukee	\$25 and costs.
Apr. 17	Ferd. Latsch, Lake Mills	Delivering adulterated milk to a creamery.	G. F. Krebs, Jefferson	\$25 and costs.
Apr. 17	Aug. Heise, Muskego	Offering adulterated milk to a creamery.	C. E. Armin, Waukesha	\$25 and costs.
Apr. 18	John Loughney, Muskego	Offering adulterated milk to a creamery.	C. E. Armin, Waukesha	\$25 and costs.
Apr. 21	John Kelly, Muskego	Offering adulterated milk to a creamery.	C. E. Armin, Waukesha	\$25 and costs.
Apr. 21	John Spitzner, Sr., Muskego ...	Offering adulterated milk to a creamery.	C. E. Armin, Waukesha	\$25 and costs.
Apr. 24	Wm. Lorentz, Milwaukee	Selling adulterated tincture of iodine..	N. B. Neelen, Milwaukee	\$25 and costs.
Apr. 25	E. M. Worden, Ladysmith	Selling canned peas containing a copper compound.	O. G. Briggs, Bruce	\$25 and costs.
Apr. 28	L. L. Rowe, Madison	Selling a maple syrup mixture unlawfully labeled.	Anthony Donovan, Madison	\$25 and costs. Appealed. (See May 15.)
Apr. 30	P. J. Pauly, Port Washinton ..	Maintaining cheese factory premises and utensils in unclean and unsanitary condition.	N. E. Wilson, Port Washington	\$25 and costs.
May 1	W. C. Wendt, Kaukauna	Selling adulterated spirit of nitrous ether.	T. H. Ryan, Appleton	\$25 and costs.
May 1	Frank Blumenstein, Berlin	Maintaining creamery premises in unclean and unsanitary condition.	Fred Engelbracht, Berlin	\$25 and costs.
May 2	J. B. Esser, Madison	Selling a maple syrup mixture not lawfully labeled.	Anthony Donovan, Madison	\$25 and costs. Appealed. (See May 15.)
May 2	G. W. Campbell, Lake Mills ...	Selling adulterated milk	C. D. Root, Lake Mills	\$25 and costs.
May 5	Frank Pauly, Belgium	Maintaining cheese factory premises and utensils in unclean and unsanitary condition.	Richard Hoffman, Port Washington ...	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fine or Forfeiture.
1908.				
May 6	Chas. Thiex, Oshkosh	Maintaining utensils in unclean and unsanitary condition and premises where milk was sold.	A. H. Goss, Oshkosh	\$25 and costs.
May 7	Carl Sorenson, Fond du Lac	Maintaining creamery premises and utensils in unclean and unsanitary condition.	D. F. Blewitt, Fond du Lac.....	\$25 and costs.
May 8	Wm. Bender, Milwaukee	Selling spirit of camphor below legal standard in camphor and containing wood alcohol.	N. B. Neelen, Milwaukee	\$25 and costs.
May 8	Adolph and Leslie Eckhardt, Milwaukee.	Selling adulterated tincture of iodine...	N. B. Neelen, Milwaukee	\$25 and costs.
May 8	Wm. Teich, Milwaukee	Selling adulterated spirit of camphor..	N. B. Neelen, Milwaukee	\$25 and costs.
May 8	A. E. Kienth, Milwaukee	Selling adulterated spirit of camphor..	N. B. Neelen, Milwaukee	\$25 and costs.
May 8	A. Luethe, Milwaukee	Having in possession with intent to sell unclean and unsanitary milk.	N. B. Neelen, Milwaukee	\$25 and costs.
May 11	Roy Davis, Manitowoc	Selling a maple syrup mixture not lawfully labeled. Appeal from verdict rendered by Judge Donovan, Municipal Court, Madison.	A. H. Schmidt, Manitowoc	\$25 and costs.
May 15	L. L. Rowe, Madison	Selling a maple syrup mixture not lawfully labeled. Appeal from verdict rendered by Judge Donovan, Municipal Court, Madison.	Jas. O'Neill, sitting for E. R. Stevens, Circuit Court, Madison.	\$25 and costs.
May 15	J. B. Esser, Madison	Selling a maple syrup mixture not lawfully labeled. Appeal from verdict rendered by Judge Donovan, Municipal Court, Madison.	Jas. O'Neill, sitting for E. R. Stevens, Circuit Court, Madison.	\$25 and costs.
May 18	John Myrechuck, Plainfield, R. D.	Delivering adulterated milk to a creamery.	R. W. Hubbell, Wautoma	\$25 and costs.
May 18	F. W. Medland, Oshkosh	Selling adulterated spirit of camphor..	A. H. Goss, Oshkosh	\$25 and costs.
May 18	J. H. Schroeder, Oshkosh	Selling adulterated spirit of camphor..	A. H. Goss, Oshkosh	\$25 and costs.
May 19	T. H. Grady, Oregon	Selling a mixture of glucose and refiners' syrup not lawfully labeled.	Anthony Donovan, Madison	\$25 and costs.
May 19	Geo. McDermott, Oregon	Selling a mixture of glucose and refiners' syrup not lawfully labeled.	Anthony Donovan, Madison	Appealed.
May 20	Wm. H. Meier (Meier & Kelly), Madison.	Selling a maple syrup mixture not lawfully labeled.	Anthony Donovan, Madison	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fine or Forfeiture.
1908.				
May 21	S. A. Piper, Madison	Selling canned "Maraschino" cherries containing chemical preservatives and artificial color.	Anthony Donovan, Madison	\$25 and costs.
May 22	A. R. Nitz, Milwaukee	Selling pop containing saccharin.....	N. B. Neelen, Milwaukee	\$25 and costs. Appealed. (See June 29.)
May 23	Nicholas Karls, Malone	Maintaining creamery premises and utensils in unclean and unsanitary condition.	D. F. Blewitt, Fond du Lac.....	\$25 and costs.
June 3	Ira Billings, Allenville	Maintaining cheese factory premises and utensils in unclean and unsanitary condition.	Nels Jenssen, Neenah	\$25 and costs.
June 4	Fred E. Hubbard, McFarland..	Selling a mixture of glucose and maple syrup not lawfully labeled.	Anthony Donovan, Madison	\$25 and costs.
June 4	J. P. Braun, Malone	Maintaining creamery premises in unclean and unsanitary condition.	R. C. Fairbank, Fond du Lac.....	\$25 and costs.
June 12	Albert Ejchhorst, Stevens Pt...	Maintaining in unclean and unsanitary condition utensils used in handling milk for sale.	G. L. Park, Stevens Point	\$25 and costs.
June 16	Geo. Jensen, Melvina	Maintaining creamery utensils in unclean and unsanitary condition.	H. E. Kelley, Sparta	\$25 and costs.
June 16	E. E. Allen, Spooner	Selling a maple syrup mixture not lawfully labeled.	Andrew Ryan, Shell Lake	\$25 and costs.
June 16	Alex. Gorecke, Rosholt	Maintaining creamery premises and utensils in unclean and unsanitary condition.	G. L. Park, Stevens Point	\$25 and costs.
June 16	Frank Nowacke	Offering unclean and unsanitary milk to a creamery.	Edward Harroun, Princeton	\$25 and costs.
June 17	A. J. Humphrey Drug Co. (W. N. White, Agt.), Waterloo.	Selling adulterated spirit of camphor..	A. W. Redemann, Waterloo	\$25 and costs.
June 17	Geo. Souik, Custer	Maintaining creamery premises and utensils in unclean and unsanitary condition.	G. L. Park, Stevens Point	\$25 and costs.

CONVICTIONS—Continued.

Date.	Name and Address of Defendant.	Cause of Action.	Name and Address of Trial Justice.	Fine or Forfeiture.
1908. June 18	Richard Bielke, Brandon	Maintaining creamery premises and utensils in unclean and unsanitary condition.	R. C. Fairbank, Fond du Lac.....	\$25 and costs.
June 24	Geo. Schils, Port Washington..	Maintaining cheese factory premises and utensils in unclean and unsanitary condition.	N. E. Wilson, Port Washington	\$25 and costs.
June 28	Oscar Bartelt, Campbellsport...	Maintaining cheese factory premises and utensils in unclean and unsanitary condition.	R. C. Fairbank, Fond du Lac.....	\$25 and costs.
June 29	Chas. Gartman, Sheboygan	Maintaining cheese factory premises and utensils in unclean and unsanitary condition.	Jacobus DeSchmidt, Sheboygan	\$25 and costs.
June 29	A. R. Nitz, Milwaukee	Selling pop containing saccharin. Appeal from verdict rendered by N. B. Neelen, District Court, Milwaukee.	A. C. Brazer, Municipal Court, Milwaukee.	\$25 and costs.
June 30	David Goldberg, Antigo	Selling unlicensed concentrated feeding stuff.	W. F. White, Antigo	\$25 and costs. Appealed.
June 30	Fred Maiden, Bristol	Maintaining creamery premises and utensils in unclean and unsanitary condition.	G. B. McCarron, Kenosha	\$25 and costs.

DISBURSEMENTS FOR THE YEAR ENDING JUNE 30, 1907.

Emery, J. Q., Commissioner, salary and expenses.....	\$2,636 57
Fischer, Richard, Chemist, salary and expenses.....	1,983 31
Baer, U. S., Assistant Commissioner, salary and expenses..	2,663 17
Moore, J. G., Second Assistant Commissioner, salary and expenses	1,338 95
Buzzell, F. M., Chief Food Inspector, salary and expenses..	1,794 85
Kundert, A. E., Assistant Chemist, salary and expenses....	1,353 90
Carswell, F. E., Cheese Factory, Dairy and Food Inspector, salary and expenses	2,121 79
Aderhold, E. L., Cheese Factory, Dairy and Food Inspector, salary and expenses	2,093 27
Marty, Fred, Cheese Factory, Dairy and Food Inspector, salary and expenses	1,855 18
Cannon, J. D., Cheese Factory, Dairy and Food Inspector, salary and expenses	2,053 21
Corneliuson, T., Creamery, Dairy and Food Inspector, salary and expenses	2,358 74
Larson, H. C., Second Assistant Commissioner from Feb., 1907, Creamery, Dairy and Food Inspector, salary and expenses	2,435 29
Larson, P. A., Creamery, Dairy and Food Inspector, salary and expenses	2,141 10
Thomas, Ethel D., Stenographer and Confidential Clerk, salary	900 00
Tweeden, M. E., Assistant Chemist, salary.....	100 00
Scott, W. F., Food Inspector, salary and expenses.....	1,613 36
McAdam, Will, Creamery, Dairy and Food Inspector, salary and expenses	*2,246 06
VanDuser, Jas., Creamery, Dairy and Food Inspector, salary and expenses	*1,852 49
Klueter, Harry, Assistant Chemist, salary.....	475 00
Eimer & Amend, laboratory supplies.....	9 38
Creamery Package Manufacturing Co., laboratory supplies..	28 90
Menges, A. F., laboratory supplies.....	28 74
Sargent, E. H. Co., laboratory supplies.....	24 98
Hinrichs Dry Goods Co., laboratory supplies.....	4 20
Thomas, Sidney, laboratory supplies.....	4 25
Olin, John M., legal services and expenses.....	594 70

*\$162.00 refunded on account overpayment.

Gettle, L. E., legal services and expenses.....	1,422 65
Clark Engraving Co., half-tones.....	4 05
Jarvis, C. W., drayage.....	6 00
C. & N. W. R'y Co., freight.....	3 63
W. U. Telegraph Co., telegrams.....	13 31
Amer. Express Co., expressage.....	98 75
U. S. Express Co., expressage.....	50 74
Madison Post Office, postage.....	244 80
Wis. Telephone Co., messages.....	60 25
The Democrat Printing Co., printing.....	394 40
The Dane County Telephone Co., messages.....	9 20
Postal Telegraph Co., telegrams.....	90
State insurance fund, premiums.....	6 20

†\$37,076 27

DISBURSEMENTS FOR THE YEAR ENDING JUNE 30, 1903.

Emery, J. Q., Commissioner, salary and expenses.....	\$2,727 25
Baer, U. S., Assistant Commissioner, salary and expenses..	2,542 28
Larson, H. C., Second Assistant Commissioner, salary and expenses	2,754 51
Fischer, Richard, Chemist, salary and expenses.....	2,111 29
Buzzell, F. M., Chief Food Inspector, salary and expenses..	1,772 55
Klueter, Harry, Assistant Chemist, salary and expenses...	1,232 09
Kundert, A. E., Assistant Chemist, salary and expenses....	1,689 38
Carswell, F. E., Cheese Factory, Dairy and Food Inspector, salary and expenses	2,051 50
Aderhold, E. L., Cheese Factory, Dairy and Food Inspector, salary and expenses	2,093 48
Cannon, J. D., Cheese Factory, Dairy and Food Inspector, salary and expenses	2,095 45
Marty, Fred, Cheese Factory, Dairy and Food Inspector, salary and expenses	1,785 37
Corneliuson, T., Creamery, Dairy and Food Inspector, sal- ary and expenses	2,239 68
McAdam, Will, Creamery, Dairy and Food Inspector, salary and expenses	1,883 44
Larson, P. A., Creamery, Dairy and Food Inspector, salary and expenses	2,142 07

† From this total deduct \$324.00 on account of refund. See note *.

VanDuser, Jas., Creamery, Dairy and Food Inspector, salary and expenses	2,053 70
Norton, Florence, Secretary, salary.....	1,200 00
Thomas, Ethel D., Stenographer and Confidential Clerk, salary	900 00
Scott, W. F., Food Inspector, salary and expenses.....	1,620 93
Titus, M. E., Assistant Chemist, salary.....	100 00
Downing, Fred P., Assistant Chemist, salary.....	311 66
Gettle, L. E., special counsel, legal services and expenses..	413 62
Olin, John M., special counsel, legal services and expenses..	543 05
Bancroft, L. H., special counsel, legal services and expenses	15 00
Jenks, Aldro, special counsel, legal services and expenses..	40 00
Postal Telegraph Co., messages.....	25
Democrat Printing Co., printing.....	3,580 03
Wis. Telephone Co., messages.....	71 75
U. S. Express Co., expressage.....	77 48
Madison Post Office, postage and box rent.....	1,611 76
W. U. Telegraph Co., messages.....	6 41
American Express Co., expressage.....	215 29
Hinrichs Dry Goods Co., supplies.....	6 60
Menges, A. F., supplies.....	50 50
Wisconsin Dairy Supply Co., supplies.....	10 30
Spiegel Co., The A., supplies.....	20 00
Jarvis, C. W., drayage.....	9 75
Creamery Package Manufacturing Co., supplies.....	6 00
Moseley, Jas. E., supplies.....	24 75
New Ulm Roller Mills, supplies.....	5 60
Haswell Furniture Co., supplies.....	6 00
Dane County Telephone Co., messages.....	1 05
Cornish, Curtis & Greene Manufacturing Co.....	9 75
Williams, Edward, supplies	3 40
Sumner, Edw., supplies	2 90
C. & N. W. R'y Co., freight.....	1 56
Sargent & Co., E. H., supplies.....	225 44
Conklin & Sons, supplies	18 38
Zehnter Co., Julius, supplies.....	50

 \$44,283 75

THE CHARACTER, EXTENT AND VARIETY OF FOOD ADULTERATION.

The character, extent and variety of food adulteration is so ably and adequately presented by Dr. Richard Fischer, State Chemist, under the various topics of his report, published herewith, that I deem it wholly unnecessary to add anything to his discussion of this subject.

Respectfully submitted,

J. L. Emery.

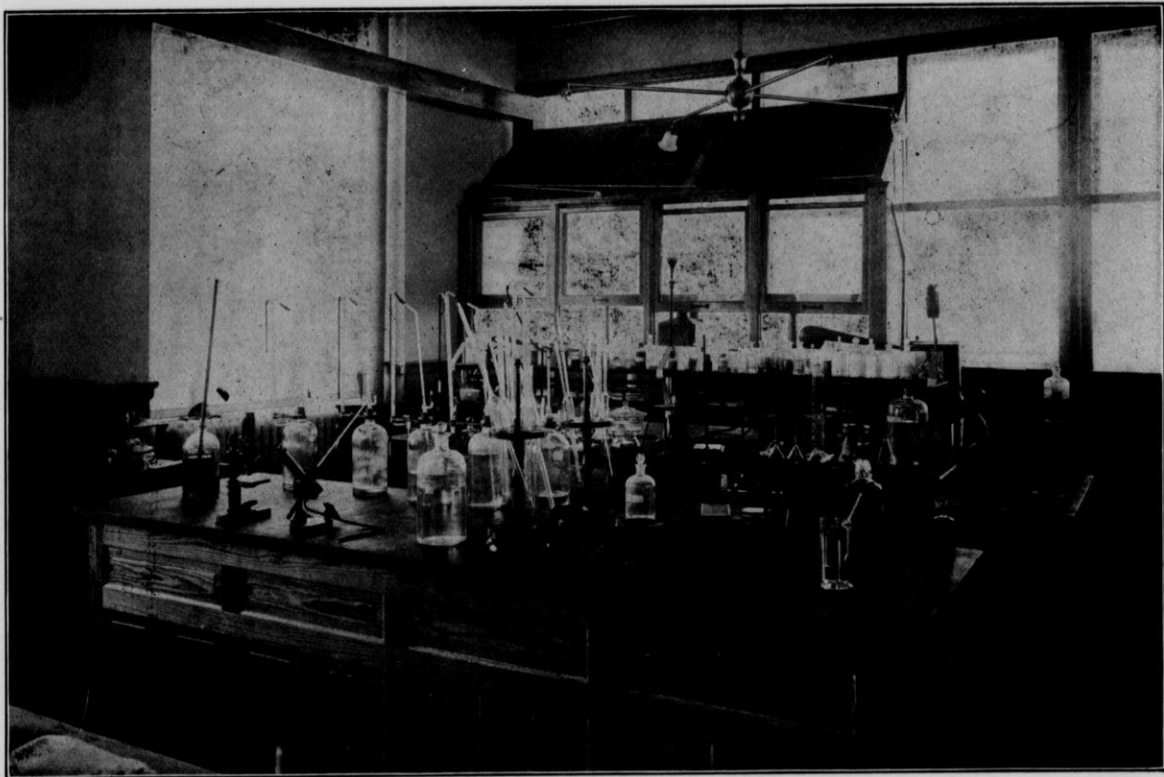
Commissioner.

REPORT OF THE CHEMIST.

HON. J. Q. EMERY,
Dairy and Food Commissioner,
Madison, Wis.

SIR: I herewith submit my report as chemist for the Wisconsin Dairy Commission for the biennial period ending June 30, 1908. During this period 3,882 samples of foods and drugs were analyzed in the laboratory of the commission, of which 1,946 were pronounced not lawful by reason of being adulterated or misbranded. It should be emphasized that the figures which appear in the following summary do not by any means represent the true condition of the Wisconsin market. In most instances only such samples are sent to the laboratory for analysis as are suspected of being adulterated. The complete records of these samples were published in bulletins Nos. 10, 11, 12, and 13 of this commission and will not re-appear in this report, which will be confined to a summary of the results and brief comments on the character and extent of food and drug adulteration in this state.

The legislature of 1907 passed several new food laws and amended others, some of these new statutes going into effect July 1, 1907, while other did not become effective until Oct. 1, 1908. During one half or more of the biennial period, therefore, this commission was working under the old laws with the result that some of the samples passed as lawful previous to July 1, 1907, or Oct. 1, 1907, as the case may be, would now be considered unlawful, while in a few instances samples pronounced unlawful in the first half of the period would have been passed as lawful in the second.



CHEMICAL LABORATORY OF THE WISCONSIN DAIRY AND FOOD COMMISSION.



SUMMARY OF ANALYSES.

Articles.	Number of samples analysed.	Passed as lawful.	Pro-nounced not lawful.	Not classified.
Baking powders	15	.5	10	.....
Beverages	136	27	48	(1
Butter	53	36	17	.....
Candy	3	3	.....	.....
Canned goods	31	6	25	.....
Catsup	21	.....	21	.....
Cheese	57	29	24	4
Codfish	9	5	4	.....
Cream	*200	154	46	.....
Cream of tartar	5	5	.....	.....
Drugs and medicines	1,406	661	833	2
Evaporated milk and cream	6	1	5	.....
Flavoring extracts and essences	271	58	213	.....
Flavoring powders	9	.....	9	.....
Flours	51	39	11	1
Glucose mixtures	44	1	43	.....
Honey	3	3	.....	.....
Ice cream	8	4	4	.....
Jellies, jams and preserves	12	3	9	.....
Linseed oil	9	2	7	.....
Maple sugar	5	4	1	.....
Maple syrup	43	24	19	.....
Meat and meat products	286	175	111	.....
Milk	*760	472	287	1
Miscellaneous	51	17	15	19
Oleomargarine	96	5	91	.....
Oysters	5	3	2	.....
Spices	119	89	30	.....
Syrups other than maple	44	8	36	.....
Vinegar	34	9	25	.....
Totals	3,882	1,848	1,946	88

* This does not include the samples of cream and milk tested by dairy experts in the field or in the dairy laboratory of this commission, more than 10,000 additional samples being thus tested.

Chapter 205 of the laws of 1907 establishes as legal standards in Wisconsin the latest standards of purity for food products established by the United States Secretary of Agriculture, except in cases where other standards are specifically prescribed by the laws of this state. Since the standards promulgated June 26, 1906, in Circular 19 of the U. S. Department of Agriculture are the standards latest promulgated by the U. S. Secretary of Agriculture, these standards have been used since Oct. 1, 1907 in determining the lawful or unlawful character of foods covered in that circular.

Chapter 173 of the laws of 1907 makes the sale of misbranded articles of foods a misdemeanor and defines misbranding. This law has made unlawful many foods hitherto sold under false or deceptive labels, over which this commission has previously had no jurisdiction.

Chapter 557 of the laws of 1907, relating to the sale of syrups, molasses, glucose mixtures and maple syrup mixtures, is essentially a label law, requiring the sale of mixed syrups and glucose mixtures under specific labels. With the exception of glucose mixtures, the provisions of this law are now being generally obeyed, resulting in greater honesty in the sale of these products.

GAS STANDARDS.

Section 5, chapter 459 of the laws of 1905, reads in part as follows:

"The state chemist designated by the state dairy and food commissioner is hereby directed to determine a standard of testing power, evenness of pressure, and as to amount of hot air in all gas and the heating value thereof, which when so determined shall be the state standard until thereafter altered or corrected by such official. He shall thereafter notify the cities and villages of the state of said standard so adopted and the different municipalities are hereby given authority to make standards for testing power, evenness of pressure and as to the amount of hot air in all gas."

In compliance with the provisions of this act I fixed standards of heating value and evenness of pressure of gas, notifying all cities and villages of this state in the following circular letter sent to the mayors and clerks of cities and to the presidents and clerks of village boards:

"To the City of....., Wisconsin.

You are hereby notified that the undersigned, Richard Fischer, being designated State Chemist by the Hon. J. Q. Emery, State Dairy and Food Commissioner, has determined and made in conformity to section 5, chapter 459 of the laws of 1905, standards of heating value and evenness of pressure of all gas for the State of Wisconsin, as follows:

STANDARD OF HEATING VALUE.

One (1) cubic foot of gas measured at sixty (60) degrees Fahrenheit and under a barometric pressure of thirty (30) inches of mercury when saturated with water vapor, shall have a net heating value of not less than six hundred (600) British Thermal Units as determined by means of a standard Junker's Gas Calorimeter.

STANDARD OF EVENNESS OF PRESSURE.

The pressure of the gas at any point fourteen (14) feet above street level shall not be less than that required to support a column of two (2) inches of water at sixty (60) degrees Fahrenheit nor more than that required to support a column of three and one-half (3½) inches of water at sixty (60) degrees Fahrenheit.

Signed,
State Chemist."

BAKING POWDER.

A new law on baking powder which went into effect July 1, 1907, requires that all the ingredients of the powder be printed on the label in specified type and size, "using the name by which each ingredient is commonly known" and provides that, "for the purposes of this act, alum in any form or shape or any aluminum salt shall be designated by the term alum." This legally determines the question for Wisconsin whether baking powders containing anhydrous sodium and aluminum sulphate or aluminum sulphate shall be classed as alum baking powders.

Several baking powders analysed were found very low in leavening power, one sample containing only 2.15% available carbon dioxide, whereas a baking powder of good quality should not contain less than 10%. In all probability these powders were put up of full strength, but had either been kept in a moist place or for too long a time, since some deterioration is bound to take place upon long keeping under ordinary conditions. It would be advisable for merchants to purchase only a few months' supply at a time and not allow themselves to be tempted by a premium or a low price into laying in a stock which they cannot dispose of for several years.

BEVERAGES.

Of 136 beverages analysed, 27 were passed as lawful, 48 pronounced unlawful, while 61 other samples were analysed for city or county officials simply for the purpose of determining their alcoholic content, the question of adulteration or misbranding not being involved. Since the analysis of the latter samples as well as the subsequent testimony in court consumed considerable time, the question of whether this work came within the legal duties of the dairy and food commissioner was submitted to Attorney General Gilbert who, in an opinion dated March 18, 1908, states that the dairy and food commissioner is under no obligation to have analyses of beverages made for citizens of the state or for county, village or town officers for the purpose of determining the alcoholic content and with a view of prosecuting violators of the excise law.

Of the unlawful beverages 21 were pops and other soft drinks containing saccharin, which substance, together with the other

artificial sweetening agents, dulein and glucin, is specifically prohibited as an ingredient of foods in Wisconsin. Aside from the question of deleteriousness of these substances, their substitution for sugar in foods is unquestionably fraudulent, since it replaces an excellent food with a substance having no food value, being eliminated unchanged by the kidneys. The refreshing effect of soft drinks sweetened with sugar is due, not merely to their coolness and palatability, but in large measure must be ascribed to their furnishing the system with a food which is readily assimilated and rapidly furnishes energy to the body.

A number of artificial preparations were sold under names which would infer a fruit origin. Such names as "orange cider" and "raspberry wine" applied to preparations containing not a drop of fruit juice, but made with saccharin, artificial fruit flavor, benzoic acid and coal-tar dye must certainly be regarded as fraudulent. The name "cider" should be restricted to the expressed fruit juices, and the term "wine" to these juices after undergoing alcoholic fermentation. A number of samples purchased for wine and bearing such labels as "Taragona Port" and "Fine Old Sherry Wine, Type" together with the legend "Guaranteed under the food and drugs act of June 30, 1906" were found to be entirely artificial products composed of water, alcohol, glucose, coal-tar dye, saccharin, and salicylic or benzoic acids, with some artificial "wine essence."

All samples of bulk cider examined were heavily preserved with benzoic acid or some benzoate, the equivalent of 0.3% of benzoic acid not being uncommon. This means that each 8 ounce glass of such cider would contain the equivalent of over 11 grains of benzoic acid. In none of these cases was any notice given to the purchaser of the presence of this preservative.

A number of samples of bottled beers were tested for chemical preservatives, but all with negative results.

BUTTER.

"Butter is the clean, non-rancid product made by gathering in any manner the fat of fresh or ripened milk or cream into a mass which also contains a small portion of the other milk constituents, with or without salt, and contains not less than eighty-two and five tenths (82.5) per cent of milk fat. By authority of law, butter may also contain added coloring matter."

Of 53 samples of butter analysed, 36 complied with the above standard. Of the 17 unlawful samples, 10 were oleomargarine

and one was renovated butter sold either as butter or as creamery butter; two contained excessive amounts of moisture; two had some foreign fat incorporated; one contained previously melted butter fat; while one was pronounced unlawful because of its rancidity. The sale of rancid butter for butter seems to come clearly under that provision of our statutes which pronounces a food as adulterated if "it consists, wholly or in part, of a diseased, infected, decomposed, putrid, tainted or rotten animal or vegetable substance or article, whether manufactured or not." One of the samples of butter contained 51% of moisture, a condition made possible by the use of extraneous matter, probably rennet. Although Wisconsin has a law regulating the sale of renovated butter in packages, there exists no law requiring hotel, restaurant or boarding-house keepers to notify their guests when serving renovated butter with meals.

CANDY.

"Candy is a product made from a saccharine substance or substances with or without the addition of harmless coloring, flavoring, or filling materials and contains no terra alba, barytes, talc, chrome yellow, or other mineral substances, or poisonous colors or flavors, or other ingredients deleterious or detrimental to health, or any vinous, malt, or spirituous liquor or compound, or narcotic drug."

Three samples of candy were analysed, all of which complied with the above standard.

CANNED GOODS.

"Canned fruit is the sound product made by sterilizing clean, sound, properly matured and prepared fresh fruit, by heating, with or without sugar (sucrose) and spices, and keeping in suitable, clean, hermetically sealed containers and conforms in name to the fruit used in its preparation."

"Canned vegetables are sound, properly matured and prepared fresh vegetables, with or without salt, sterilized by heat, with or without previous cooking in vessels from which they take up no metallic substance, kept in suitable, clean, hermetically sealed containers, are sound and conform in name to the vegetables used in their preparation."

The laws of Wisconsin prohibit the sale of canned fruits, vegetables, meats, fish and shell fish containing saccharin, formaldehyde, sulphurous acid or sulphites, salicylic acid or salicylates, or any substance, article or ingredient other than sugar, salt, vinegar or spices possessing a preservative character or

action or any copper compound or other artificial coloring or any bleaching compound or any article injurious to health.

Of the 25 samples pronounced unlawful, 16 were samples of colored, or bleached and colored, canned cherries sold as "Maraschino cherries." Eight were canned peas colored with a copper salt, while one was canned asparagus labeled and sold as "Asparagus tips," although containing mostly cut-up stems with but a few tips.

CATSUP.

"Catchup (ketchup, catsup) is the clean, sound product made from the properly prepared pulp of clean, sound, fresh, ripe tomatoes, with spices and with or without sugar and vinegar; mushroom catchup, walnut catchup, et cetera, are catchups made as above described, and conform in name to the substances used in their preparation."

Of 21 samples of catsup pronounced unlawful, 17 contained artificial coloring matter, 3 contained saccharin and several contained benzoic acid or a benzoate without having that fact declared on the label. At the present time the markets of the state have been practically cleared of catsup containing artificial coloring matter or saccharin, and a number of brands are being put up by different manufacturers without benzoic acid or benzoates or other preservative except salt, sugar, vinegar and spices. Some of these latter samples have been kept open in our laboratory at room temperature for several months without showing any sign of decomposition, thus disproving the contention of some manufacturers that benzoate of soda or some similar preservative is absolutely necessary in the manufacture and marketing of catsup. The prohibition of artificial color in catsups has caused an improvement in the quality of the materials used and the appearance of uncolored catsup has to a large extent become a criterion of its quality. Contrary to statements formerly made by manufacturers, catsup of a very pleasing color can be made with the use of fresh ripe tomatoes without artificial color, while poor, raw materials yield inferior looking products.

CHEESE.

"Cheese is the sound, solid, and ripened product made from milk or cream by coagulating the casein thereof with rennet or lactic acid, with or without the addition of ripening ferments and seasoning, and

contains, in the water-free substance, not less than fifty (50) per cent of milk fat. By authority of law, cheese may also contain added coloring matter."

Fifty-seven samples of cheeses were analysed either for chemical preservatives or to determine whether or not they had been prepared from whole milk. Of the hard cheeses only one was found in which the milk fat was less than 50% of the water-free substance, which is the lowest percentage found in cheese made from normal milk; but 23 samples of soft cheeses sold as "cream cheese" or "cheese" and so labeled fell far below that ratio, proving that they have been made from skim-milk and should have been sold as "skim-milk cheese." Thus, while two samples of cream cheese contained 86.7% and 87.0% of milk fat respectively in the water-free substance and were therefore entitled to the name cream cheese, under which they were sold, another sample bearing the same name on the label contained only 30.6% of fat in the dry substance and was clearly a skim-milk cheese. In other instances whole-milk cheeses were fraudulently labeled "cream cheese" while in other cases whole-milk cheeses and skim-milk cheeses were retailed as cream cheeses though merely labeled "cheese." The style of the packages made in imitation of the packages of some well-known brands of true cream cheeses doubtless assisted in the fraud. "Hand-cheese," being always made from skim-milk and generally known to be so made, was not considered to be sold in violation of law when sold under its own name.

The question having arisen whether the use of rennet extract preserved with boric acid would introduce sufficient boric acid into the cheese to render it unlawful, two samples each of brick and cheddar cheese were specially prepared for this commission by the University of Wisconsin dairy school, using rennet extract containing 0.74% and 0.98% of boric acid respectively. The ash from 25 grams of the cheese so made failed to give even a qualitative test for boric acid with very sensitive turmeric paper, showing that the quantity of boric acid in the cheese must be considered a negligible one.

CODFISH.

Three out of nine samples of codfish analysed were preserved with boric acid and, therefore, declared unlawful. Since the

national food and drugs act provides that "when in the preparation of food products for shipment they are preserved by any external application applied in such manner that the preservative is necessarily removed mechanically, or by maceration in water, or otherwise, and directions for the removal of said preservative shall be printed on the covering or the package, the provisions of this act shall be construed as applying only when said products are ready for consumption," experiments were made to determine whether boric acid as used for the preservation of codfish would be removed in the freshening of the fish. Codfish purchased on the market which was found upon analysis to contain 0.71% boric acid was soaked in water for five minutes, the water drained off; again soaked for 30 minutes and drained; then soaked over night, the water drained off and the fish washed once more while teasing the tissues apart, and again draining the wash water. Upon analysis, the codfish so washed was found to still contain 0.148% boric acid, showing that boric acid cannot be removed from codfish by washing, even when extraordinary precautions are taken.

CREAM.

"Cream is that portion of milk, rich in milk fat, which rises to the surface of milk on standing, or is separated from it by centrifugal force, is fresh and clean and contains not less than eighteen (18) per cent of milk fat."

Section 4607, statutes of 1898, as amended by ch. 138, laws of 1905, defines adulterated cream and fixes a minimum standard of 18% of milk fat, which is identical with the standard given above.

Two hundred samples were analysed by the chemists of this commission, 98 being samples delivered by inspectors, purchased by them, for the greater part, from city milk supplies, although a few were samples delivered at creameries by patrons; the other 102 were submitted samples of uncertain origin. Of the inspectors' samples 28 were below legal standard in fat and 5 contained formaldehyde. The large percentage of unlawful samples is accounted for by the fact that inspectors in the field generally make a preliminary test of samples of milk and cream, only submitting suspicious samples to the laboratory for further analysis.

CREAM OF TARTAR.

All samples of cream of tartar analysed were found to be commercially pure. The sale for cream of tartar of cream of tartar substitutes, so-called "C. T. S.," composed of calcium acid phosphate, calcium sulphate and starch, or alum and starch, or mixtures of the two, seems to have been discontinued in Wisconsin.

DRUGS AND MEDICINES.

During the last two years the first systematic attempt was made to determine the quality of drugs as sold by druggists throughout the state. The drugs to which most attention was given were alcohol, ammonia water, hamamelis water (witch-hazel), hydrogen peroxide, white wax, lime water, Fowler's solution, olive oil, sweet spirit of nitre, spirit of camphor, sublimed sulphur, tincture of iodine and laudanum, many of which are manufactured by most druggists and all of which can be readily tested by the competent pharmacist. The results showed deplorable conditions for, out of 1496 samples analysed, 833 were found to be below the standard of the latest, the eighth decennial, revision of the U. S. Pharmacopoeia. The Wisconsin drug law makes the latest current edition of the U. S. Pharmacopoeia the legal standard for drugs official in it. The words "latest current" unfortunately are liable to two interpretations: latest current at the time the sale was made (the eighth), or latest current at the time the law was passed (the seventh revision), and the law should be amended to remove this ambiguity. But in the case of all the drugs mentioned above the standard in both revisions is identical or nearly so, so that the large per cent of adulterated drugs cannot be excused by any change in standards. The causes for the bad condition of the retail drug market with respect to the samples analysed must be ascribed in a few cases to dishonesty, i. e., to intentional adulteration for the sake of increasing profits; in other cases to a low professional standard which leads the druggist to buy second and third grade drugs at correspondingly lower prices; but in the greatest number of cases to carelessness or ignorance in the manufacture and keeping of drugs. The jobber too deserves a large share of the blame for quoting and selling under the same name

with no distinction, except perhaps the numbers 2 and 3 and a difference in price, drugs of varying strength and purity. Thus, jobbers quote White Wax, U. S. P.; No. 2 and No. 3, of which the former alone is pure, the second contains a considerable percentage of adulterant, while the latter perhaps contains no wax at all. Spirit of Nitrous Ether is another illustration: that marked U. S. P. is made of standard quality; No. 2 (F. F. F. F.) contains about 25% and No. 3 (F. F. F.) 50% of added water, which addition causes a rapid deterioration of the product.

Alcohol—Of 112 samples of alcohol examined, all but 5 were up to the standard of the U. S. Pharmacopoeia of 1890, (94% by vol.); but none were up to the requirements of the eighth decennial revision (94.9% by vol.). The remaining five samples were doubtless watered, varying in strength between 78.06% and 88.5% by volume of absolute alcohol.

Ammonia Water—Of 72 samples of ammonia water analysed, 16 or 22% of the total contained between 9% and 11% of ammonia gas. An equal number contained between 7.5% and 9%; 23 or 32% of the total between 5% and 7.5%; while 13 or 18% of the total fell below one-half strength, the lowest being 2.35%. Four samples purchased for ammonia water contained between 21.5% and 27.7% of ammonia gas, which is as much a violation of law as though they were deficient in their active principle.

Hamamelis Water—One hundred and eleven samples were analysed, of which 91 or 82% of the total were passed as lawful. Thirteen were between 7/10 and 8/10 strength in alcohol; one was of $\frac{1}{2}$ strength, and one of only $\frac{1}{4}$ strength. Five of the samples contained either formaldehyde or wood alcohol or both.

Hydrogen Peroxide—Almost all of the 100 samples analysed were of full strength, the lowest containing 2.7% of hydrogen dioxide, while the highest contained 3.78%.

White Wax—Of 88 samples purchased for "best quality white wax," 34 or 39% of the total were found to be adulterated; 1 consisted entirely of stearic acid; the others contained from 20% to 100% of paraffin.

Lime Water—One hundred and six samples of lime water were analysed, of which 49 or 46% of the total came up to the requirements of the Pharmacopoeia. Twenty were between $\frac{3}{4}$ and full strength; 8 between one-half and three-fourths strength; 15 between one-fourth and one-half strength; while 14 or 1 out

of about eight samples fell below one-fourth strength, 6 being practically inert.

Fowler's Solution—Of 94 samples of Fowler's solution analysed, 13 or 14% of the total were passed as lawful, containing the equivalent of 0.95% to 1.05% of arsenious oxide. 30 samples were between 0.9% and 0.95%; 33 samples between 0.75% and 0.90%; 9 samples between 0.50% and 0.75%; while 8 samples or 1 out of every 12 fell below one-half strength, the lowest containing 0.35% of arsenious oxide. One sample was found to be of almost double strength, containing 1.88% of arsenious oxide. All of the samples found to be below one-half strength were analysed for total arsenic, but in no instance was any appreciable amount of arsenic compound found in the "arsenic condition."

Olive Oil—Seventy-four samples were purchased as and for olive oil, of which 10 or 13.5% of the total were found to be adulterated, 8 with cottonseed oil, 1 with lard oil and 1 with sesame oil.

Oil of Turpentine—Nine samples of oil of turpentine were analysed, nearly all of which were submitted by dealers who suspected them of being adulterated. In 8 of the samples adulteration with naphtha oil was found, amounting in one instance to 70%.

Spirit of Nitrous Ether—Of 148 samples of spirit of nitrous ether examined, only 8 or 5.4% of the total were up to the pharmacopoeia requirement of 4% of ethyl nitrite; 26 were between three-fourths and full strength; 54 between one-half and three-fourths strength; 33 between one-fourth and one-half strength; while 27 or 18.2% of the total fell below one-fourth strength, many samples containing not even traces of ethyl nitrite. In practically all of the worst cases a considerable deficiency in alcohol accompanied and doubtless was largely the cause of the deficiency in ethyl nitrite. One of the samples which contained no ethyl nitrite was found to contain only 3.3% of alcohol.

Spirit of Camphor—One hundred ninety-four samples of spirit of camphor were analysed, of which 2 were of double strength in camphor; 6 were of one and one-half strength in camphor; 90 or 46% of the total were of official strength in both camphor and alcohol; 14 were of official strength in camphor, but deficient in alcohol, having probably been made up accord-

ing to the Pharmacopoeia of 1880; 6 were of official strength in alcohol, but slightly deficient in camphor; 37 were between three-fourths and nine-tenths strength in camphor; 27 between one-half and three-fourths strength in camphor; while 9 fell below one-half strength in camphor; the lowest containing only 2 grams of camphor in 100 ccs. Almost all of the samples which fell below three-fourths strength in camphor were also greatly deficient in alcohol. Three of the samples analysed contained wood alcohol, in 2 of the instances denatured alcohol having evidently been used in making the preparation.

To determine the character of the "gum camphor" on the market, 6 samples were purchased, all of which were found to be commercially pure.

Precipitated Sulphur—Of 96 samples of precipitated sulphur analysed, only 11 or about 11.5% of the total complied with the requirements of the Pharmacopoeia. In 8 cases sublimed sulphur and in 1 case washed sulphur were substituted for precipitated sulphur, while in 76 samples the usual adulteration with calcium sulphate was found to have been practiced; the percentage of sulphur in the samples ranging from 30.6% to 78%.

Tincture of Iodin—Only 30 or 17% of the 171 samples analysed complied with the requirements of the eighth decennial revision of the Pharmacopoeia; 8 samples were considerably above legal strength in iodine (in one instance containing 15.19%); 7 samples were of legal strength in iodine but free from or deficient in potassium iodide; 43 samples were between six-sevenths and full strength in iodine; 64 between one-half and six-sevenths strength; while 19 fell below one-half strength, one sample containing only 0.72 gram of iodine per 100 ccs. Almost all of the samples that fell below six-sevenths strength in iodine were found to be free from potassium iodide.

Laudanum—One hundred samples of laudanum were analysed, of which only 14 complied with the requirements of the last revision of the Pharmacopoeia. Eight samples were slightly above the maximum legal strength, the highest containing 1.47 grams of crystallizable morphine per 100 ccs. Thirty-two samples were between five-sixths and full strength; 33 samples between two-thirds and five-sixths strength; 9 samples between one-half and two-thirds strength; while 4 samples fell below one-half strength, the lowest containing only 0.4483 gram of crystallizable morphine in 100 ccs.

EVAPORATED MILKS.

Six samples of unsweetened evaporated milk were sent in by inspectors during the early part of the period bearing the false label "Evaporated cream." Since that time manufacturers have been changing the labels on these products so that at the present time all, or nearly all, of these goods are sold under their true name, "unsweetened evaporated milk." Chapter 247, laws of 1905, requires that condensed milk, both sweetened and unsweetened, shall contain not less than 28 percentum by weight of milk solids, of which not less than one-fourth shall be milk fat. Only one sample analysed fell below this standard, the same containing only 26.1% milk solids.

FLAVORING EXTRACTS.

Since the adoption of standards for flavoring extracts in this and other states, manufacturers have attempted to evade the laws by labeling their adulterated products "flavors" or "flavorings" although they are still being generally retailed as "extracts." Since the average purchaser does not make any distinction between these terms, the terms flavor, flavoring, spirit, essence and tincture as applied to solutions used for flavoring food products have been held to be synonymous with the term "extract." Since the sole object of using artificial color in flavoring extracts is to make the preparations appear better or of greater value than they actually are, their use must be regarded as constituting an adulteration. This is especially true in the case of vanilla extracts or substitutes, where weak extracts are made to appear stronger and substitutes made from artificial coumarin and vanillin and containing nothing obtained from vanilla beans are made to resemble a strong extract of vanilla by the use of caramel or coal-tar dye. Prune juice is also frequently added to vanilla extract or vanilla substitute for the same reason. Lemon peel used in lemon extracts adds to the flavor of the preparation and although incidentally coloring it cannot be regarded as an adulteration. The new pharmacopoeial "Tincture of lemon," made by the extraction of fresh lemon peel with alcohol without the addition of any lemon oil, although containing less terpenes than would correspond to a 5% solution of lemon oil is far superior to the latter in flav-

oring power and quality. Terpeneless lemon extract, made either by shaking out oil of lemon with dilute alcohol, or by dissolving terpeneless oil of lemon in dilute alcohol, may be lawfully sold in Wisconsin if of a strength corresponding to the true extracts, which means that they should contain not less than 0.2% by weight of citral derived from lemon oil with a corresponding proportion of other flavoring constituents. Since it is impossible to dissolve that proportion of citral in dilute alcohol of a lesser strength than about 40%, the use of a weaker alcohol cannot result in a lawful product. Some of the "lemon flavors" analysed contained only 10% of alcohol and were almost without any lemon flavor. Although our legal standard does not specify the alcoholic strength that must be used in making vanilla extract, it prescribes that 100 ccs. of the finished product must contain the soluble flavoring constituents of not less than 10 grams of vanilla beans, which necessitates the use of a dilute alcohol of about 40% by volume strength as a solvent. Much misuse has been made of the terms "double," "triple" and "concentrated" in the labeling of flavoring extracts. These words must be interpreted literally in judging the legality of these preparations under the misbranding law.

Of the 206 samples of flavoring extracts analysed, 10 samples, all of them old stock, were found to contain wood alcohol. This shows great improvement over the previous biennial period, during which 63 samples were found so adulterated. Of 147 samples of lemon extracts analysed during the last two years, 97 were pronounced unlawful, of which 8, representing 6 brands, contained wood alcohol; 28, representing 24 brands, contained no lemon oil; 43, representing 21 brands, were deficient in oil; while 49, representing 30 brands and including some above enumerated, were artificially colored. Some of the samples enumerated as containing no oil of lemon were made with citral or oil of lemon grass; others were made with too dilute an alcohol; still others might have been lawfully salable as terpeneless lemon extract.

One sample contained cottonseed oil as a solvent and was therefore not lawfully salable as a lemon extract. While cottonseed oil can successfully be used as a solvent for lemon oil for some purposes, the uses of such a preparation are limited and its keeping quality said to be inferior to an alcoholic solution.

Ninety-seven samples of vanilla extract and substitutes were analysed, of which 88, representing 65 brands were pronounced not lawful. Most of these contained little vanilla extract but were made with the addition of tonka extract or of prune juice and vanillin, while still others were entirely artificial, being solutions of vanillin, coumarin and caramel. Of 15 other flavoring extracts only one was passed as lawful, two containing wood alcohol while the others were either deficient in strength or artificially colored or both.

FLAVORING POWDERS.

A class of flavoring preparations has recently made its appearance on the Wisconsin market sold under the name of "flavoring powders." They are similar to the class of old-time pharmaceutical preparations known as oleo-saccharates, consisting essentially of 95% or more of powdered cane sugar with a small quantity of an essential oil or other flavoring ingredient. While of undoubted merit as flavoring agents, containing about the same percentages of oil as the corresponding flavoring extracts, they are sold at prices out of all proportion to their real value. The labels, moreover, are in most instances false or misleading and the preparations in many cases adulterated by the use of artificial coloring matter. Thus, the flavoring powder labeled "Vanilla" consisted of 0.52% coumarin, 0.80% vanillin, 98.5% cane sugar and a small amount of caramel, but contained no vanilla, while the powders labeled "Orange" and "Lemon" were artificially colored with turmeric.

FLOURS.

"Flour is the fine, clean, sound product made by bolting wheat meal and contains not more than thirteen and one-half (13.5) per cent of moisture, not less than one and twenty-five hundredths (1.25) per cent of nitrogen, not more than one (1) per cent of ash, and not more than fifty hundredths (0.50) per cent of fiber.

Gluten flour is the clean, sound product made from flour by the removal of starch and contains not less than five and six-tenths (5.6) per cent of nitrogen and not more than ten (10) per cent of moisture."

A great improvement is noticeable in the purity of buckwheat flour on the Wisconsin market for while in former years pure buckwheat flour was the exception, most of the samples containing low grade wheat, rye, or corn flour, comparatively few

cases of adulteration are now met with in this product. The adulteration of wheat flour with other flours is also fortunately rare, but, on the other hand, the practice of chemically bleaching wheat flour has become very prevalent. This chemical bleaching, also falsely called "electrical purification," is generally accomplished by mixing the flour with air containing oxides of nitrogen produced by passing a strong electric spark through air. The oxides of nitrogen cause the destruction of the yellow coloring matter contained in all wheat flour to a greater or less extent, thus producing a very white flour. The miller who bleaches his flour has a great commercial advantage over millers who do not bleach, by increasing the yield per bushel of wheat, of flour which he can sell as "patent" on account of its whiteness, since the average purchaser judges the quality of a flour by its color. The purchaser, on the other hand, is deceived into paying a higher price for the bleached flour than he would pay for the same flour unbleached. Experiments made in our laboratory indicate that flour bleached with oxides of nitrogen yields bread that is inferior both in texture and flavor, while Professor E. F. Ladd of North Dakota concludes as the result of extensive investigations that the bleaching of flour with oxides of nitrogen injures the gluten.

Flour which has been chemically bleached does not comply with the legal standard for flour in this state and, therefore, its sale as "flour" must be considered unlawful. To subject as important a food as wheat flour to any questionable process must be considered a dangerous practice and since deception seems to be the only object in bleaching flour and there is doubt concerning the wholesomeness of such flour, the absolute prohibition of its sale would seem a wise precaution.

GLUCOSE MIXTURES.

Commercial glucose, produced by the action of mineral acids upon starch, is a thick, viscid liquid of about the consistency of honey but colorless and having only a faint sweet taste with no characteristic flavor. Although made in this country exclusively from corn-starch, it can be prepared from any starch and is manufactured in Germany mainly from potato-starch and in England from rice- and sago-starch. Whatever starch is used for its manufacture, the resulting glucose has no flavor

characteristic of its origin nor is there any difference in chemical composition due to the kind of starch employed.

Since glucose is too insipid to be sold by itself for table use, it is mixed with molasses or some syrup to give it flavor, color and additional sweetness, the proportion of glucose in these mixtures generally varying from 85% to 95%. At the present time the uncrystallizable residue left in the refining of raw sugars, generally known as "refiners' syrup" in commerce, is most extensively used as the flavoring agent in these mixtures, although mixtures of 60% glucose with 40% molasses or sorghum are also found on the market. Previous to any specific regulations on the subject, the latter mixtures were frequently fraudulently sold as pure molasses or sorghum, the former under such names as "sugar syrup," "rock candy syrup," "honey drips," "fancy table syrup," etc. Considerable improvement was brought about by the enforcement of chapter 152, laws of 1905, which went into effect Oct. 1, 1905, requiring mixtures containing glucose to be labeled "Glucose Mixture" or "Corn Syrup" with the name and percentum by weight of each ingredient. With few exceptions the mixtures containing a large percentage of molasses or sorghum were labeled "Glucose Mixture" while those containing only a small percentage of flavoring ingredient were labeled "Corn Syrup," although in many instances the proportions of ingredients were incorrectly stated. The name corn syrup was also used as a synonym for glucose in stating percentages of ingredients, thus using the term corn syrup both for the mixed and unmixed glucose and avoiding the name glucose on the label. That the term corn syrup used as a synonym for glucose or glucose mixture is misleading can readily be ascertained by inquiry among consumers, the great majority of whom have no knowledge that the product contains glucose but believe it to be made from the juice of corn stalks as sorghum syrup is made from sorghum. The advertisements of these mixtures tend to confirm such a belief. Since a true corn syrup can be made from the juice of corn stalks, and glucose, even when prepared from corn starch, has no properties characteristic of corn, the name corn syrup applied either to glucose alone or to glucose mixed with a flavoring syrup must certainly be regarded as a misnomer. Chapter 557 of the laws of 1907 which went into effect Oct. 1, 1907, requires among other things that all mixtures containing over 75% of glucose be labeled

"glucose flavored with ————" followed by the name of the flavoring syrup. If in addition the percentages of ingredients are given on the label, which statement is not required by this law, these percentages must be true to fact.

Only one of the 44 samples of glucose mixtures analysed in the laboratory was lawfully labeled. Recently, however, a number of samples came to the laboratory which were not analysed and are, therefore, not reported, which complied with the provisions of ch. 557, laws of 1907, and at the present time, according to the reports of our inspectors, most of the brands sold in Wisconsin are lawfully labeled.

HONEY.

"1. Honey is the nectar and saccharine exudations of plants gathered, modified, and stored in the comb by honey bees (*Apis mellifica* and *A. dorsata*); is laevo-rotatory, contains not more than twenty-five (25) per cent of water, not more than twenty-five hundredths (0.25) per cent of ash, and not more than eight (8) per cent of sucrose.

2. Comb honey is honey contained in the cells of comb.

3. Extracted honey is honey which has been separated from the uncrushed comb by centrifugal force or gravity.

4. Strained honey is honey removed from the crushed comb by straining or other means."

Three samples of honey were analysed, all of which were passed as lawful.

ICE-CREAM.

"1. Ice-cream is a frozen product made from cream and sugar, with or without a natural flavoring, and contains not less than fourteen (14) per cent of milk fat.

2. Fruit ice-cream is a frozen product made from cream, sugar, and sound, clean, mature fruits, and contains not less than twelve (12) per cent of milk fat.

3. Nut ice-cream is a frozen product made from cream, sugar, and sound, non-rancid nuts, and contains not less than twelve (12) per cent of milk fat."

Eight samples of ice-cream were analysed all of which were above the legal standard in milk fat, but one contained gelatin and three contained vegetable gums. While it is claimed by some manufacturers that ice-cream will not "stand up" in shipping when manufactured with gelatin, tragacanth or similar substances, other manufacturers are manufacturing ice-cream in strict compliance with the above standard and shipping it long distances without experiencing any difficulties, provided

the ice-cream is properly packed. The great advantages accruing to manufacturers from the use of so-called "ice-cream thickeners" are in giving to their product the appearance of greater richness and enabling them to incorporate large quantities of air into their products so that the volume can readily be increased 50% and even be doubled. The sale of ice-cream by weight instead of by volume would prevent deception due to this practice. While the sale of ice-cream containing thickeners as and for ice-cream is unlawful in Wisconsin, its sale as "egg-ice-cream," "gelatin-ice-cream," or "gum-ice-cream," as the case may be, may not be in contravention of law.

JELLIES, JAMS AND PRESERVES.

Considerable improvement is noticeable in these foods. The use of artificial coloring has almost been entirely abandoned, preservatives are rarely employed and greater honesty in labeling is practiced. Accompanying this there has been decided improvement in quality, the sale of the cheapest products, composed of glucose and fruit refuse with perhaps a starch filler, having greatly fallen off since deception due to artificial coloring and false labeling has been stopped.

MAPLE PRODUCTS.

Of 5 samples of maple sugar, one was found to be adulterated, while of 43 samples of maple syrup, 19, or 44.2% were not pure maple syrup. This shows a great improvement over the previous biennial period, when 88.6% of all maple sugars and 71% of all maple syrups analysed were found adulterated. At present very few adulterated maple sugars or syrups are found on the Wisconsin market.

MEATS AND MEAT PRODUCTS.

Two hundred and eighty-nine samples of meat and meat products were analysed, of which 113 were pronounced unlawful. Of 103 samples of "hamburger steak," 34 or about one out of every three samples were found to contain sulphites. While this shows a considerable improvement over the previous biennial period, when 45% of the samples of hamburger steak analysed

were found to contain this preservative, the actual condition all over the state is doubtless very much better than these figures indicate since almost all of these samples were purchased in places where no previous meat inspection had been made. Of 178 samples of sausage 21 or 11.8% contained chemical preservatives, 19 containing boric acid or a borate and 2 containing sulphites; whereas 26.5% of the sausages analysed during the previous two years contained chemical preservatives. Only one sample was artificially colored, compared with 14% so adulterated during the preceding period, while in only three instances had the casings been artificially colored, a practice very common a few years ago. In several cases the amount of boric acid present was very small, varying from 0.018 to 0.03%, quantities too small to have much preservative effect. Upon investigating one of these cases it was found that boric acid had been used by the butcher in preserving his meat trimmings which were then mixed with some fresh meat in the making of the sausage, thus reducing the percentage of the preservative, while in another instance a packer was in the habit of incorporating in his sausage, trimmings which he had bought back from his customers, some of whom used preservatives to insure their keeping without the need of refrigeration or cleanliness.

Most of the samples of sausage tested for starch showed the presence of a large quantity of this substance, added either in the form of potato flour, corn or other cereal meal, crackers or bread crumbs. Large quantities of corn meal are being sold to butchers under such names as "bull beef binder," "sausage filler," or under various coined names, the main object of their use, as indicated by the circulars accompanying them, being to incorporate a large amount of water into the sausage. One of the preparations sold for that purpose has the power of "binding" 400% of water, so that the incorporation of 5% of this filler means the additional incorporation of 20% of water, both of which are paid for at the price of sausage.

The claim is made by some packers that cereals are necessary in the making of some kinds of sausages as "frankfurters" or "bologna" to obtain a juicy product, but this claim is refuted by the fact that some of the best sausage-makers are making all these sausages without cereals or other fillers with excellent results when using first class raw materials. The use of cereals makes it possible to use dry meat and to incorporate excessive

amounts of water and still have a marketable product. Under the national meat inspection act, sausage-makers using cereals must label their containers "sausage with cereals," but this information rarely reaches the retail purchaser or consumer.

While some meat products as "panhas" and meat loaf are always made with cereals, this is a matter of common knowledge among consumers, but the average consumer when purchasing "sausage" expects to get a whole meat product, spiced and flavored, and is entitled to the same. The addition of potato flour or cereals or similar substances and water to sausage must be considered an adulteration unless the product is sold under a name indicating its true character.

MILKS.

Section 4607, Statutes of 1898, as amended by ch. 138, laws of 1905. Any person who shall sell or offer for sale, furnish or deliver, or have in his possession with intent to sell or offer for sale or furnish or deliver to any creamery, cheese factory, corporation or person, any adulterated milk or any adulterated cream shall be guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not less than twenty-five dollars nor more than one hundred dollars or be imprisoned in the county jail not less than thirty days nor more than sixty days.

Section 4607a, Statutes of 1898, as amended by ch. 138, laws of 1905. In all prosecutions under the preceding section, or any other section of these statutes, or laws amendatory thereof or supplementary thereto, relating to the sale of adulterated milk or adulterated cream, the term adulterated milk shall mean: Milk containing less than three percentum of milk fat, or milk containing less than eight and one-half percentum of milk solids not fat, or milk drawn from cows within eight days before or four days after parturition or milk from which any part of the cream has been removed, or milk which has been diluted with water or any other fluid, or milk to which has been added or into which has been introduced any coloring matter or chemical or preservative or deleterious or filthy substance or any foreign substance whatsoever, or milk drawn from cows kept in a filthy or unhealthy condition, or milk drawn from any sick or diseased cow or cow having ulcers or other running sores, or milk drawn from cows fed unwholesome food, or milk in any stage of putrefaction, or milk contaminated by being kept in stables containing cattle or other animals. The term adulterated cream shall mean cream containing less than eighteen percentum of milk fat, or cream taken from milk drawn from cows within eight days before or four days after parturition, or cream from milk to which has been added or introduced any coloring matter or chemical or preservative or deleterious or filthy substance or any foreign substance whatsoever, or cream from milk drawn from cows kept in a filthy or unhealthy condition, or cream from milk drawn from any sick or diseased cow or cow having ulcers or other running sores, or cream from milk drawn from cows fed unwholesome food, or cream contaminated by being kept in stables containing cattle or other animals, or cream

to which has been added or into which has been introduced any coloring matter or chemical or preservative or deleterious or filthy substance or any foreign substance whatsoever, or cream in any stage of putrefaction; provided, that nothing in this act shall be construed to prohibit the sale of pasteurized milk or cream to which viscogen or sucrate of lime has been added solely for the purpose of restoring the viscosity, if the same be distinctly labeled in such manner as to advise the purchaser of its true character; and providing that nothing in this act shall be construed as prohibiting the sale of milk commonly known as "skimmed milk," when the same is sold as and for "skimmed milk." Milk drawn from cows within eight days before or four days after parturition, or milk to which has been added or into which has been introduced any coloring matter or chemical or preservative or deleterious or filthy substance or milk drawn from cows kept in a filthy or unclean condition, or milk drawn from any sick or diseased cow or cow having ulcers or other running sores, or milk drawn from cows fed unwholesome food, or milk contaminated by being kept in stables containing cattle or other animals and cream from any such milk, or cream in any stage of putrefaction are hereby declared to be unclean and unsanitary milk or unclean and unsanitary cream, as the case may be.

Fifty-three samples from city milk supplies and 200 samples delivered by patrons to creameries and cheese factories fell below legal standard either in fat or solids not fat or both and were, therefore, unlawful. One other sample from city milk supplies was unlawful because it contained formaldehyde, making a total of 54 unlawful samples from this source out of a total of 797 samples collected by inspectors, or 6.6%. Of 4390 samples collected by inspectors from patrons of cheese factories, 159 or 3.6% were below standard, while of 2457 samples collected at creameries 41 or 1.6% failed to come up to the standard. The smaller percentage of unlawful samples at creameries is doubtless due to the fact that patrons are paid exclusively on the basis of butter-fat delivered, so that there would be no advantage in skimming and but little in watering, the increased amount of skim-milk received in the latter case being perhaps a slight inducement to adulterate. Sometimes, however, patrons will remove some of the fat from their milk in the hope of inducing the butter-maker to overread their test. Unfortunately most cheese factories still pay their patrons by weight of milk delivered, although payment on the basis of fat content would be much more equitable and would remove the incentive for adulteration.

Whenever possible, where samples were found below standard in fat or solids not fat, corresponding herd samples were collected, the samples being milked in the presence of the inspector. In this way it was possible in most cases to determine by com-

parison whether or not the original sample had been skimmed or watered or whether the herd produced milk below standard. In a number of instances, especially in April and May, herd samples were found which fell below 3% in fat or 8.5% in solids not fat, one sample containing only 2.65% of fat and 7.65% solids not fat. This does not mean that the legal standard for Wisconsin is too high, in fact it is lower than the standard of many states, but rather that many dairymen keep no control by test of the individual cows of their herds and that many breeders of dairy cattle have kept in mind only the quantity of milk produced independent of its quality. It makes little difference to the consumer whether potable water is added to milk by the dairyman or whether the milk produced by the cow contains excessive amounts.

In the above figures and percentages of adulteration no account is taken of samples which were adulterated by reason of being unclean and unsanitary, quite a number of samples being reported by inspectors as adulterated on that account. Nor is any account taken of milk drawn from cows affected by tuberculosis, a condition making the milk unlawful in Wisconsin since milk is declared by statute to be adulterated "if drawn from any sick or diseased cow;" however, since no provision is made by law for testing cows for tuberculosis, it is impossible for this commission to determine the lawful or unlawful character of milk in this respect.

OLEOMARGARINE.

Besides 10 samples of artificially colored oleomargarine sold as butter, 91 out of 96 other samples purchased as oleomargarine were pronounced not lawful because they were in imitation of yellow butter, although free from artificial coloring matter. Experiments conducted in our laboratory as well as a thorough investigation of the whole subject disclosed the fact that by the careful selection of fat, using only the yellow fat from grass-fed cattle and old cows, and expressing the largest possible amount of stearin by employing low temperatures, an "oleo oil" could be obtained of such a deep yellow color that when mixed in the proportion of 65% to 20% of colorless neutral lard and 15% of a yellow cotton-seed oil, a product was obtained which could not be distinguished from yellow butter by its color. It is difficult to see why a product so manufactured

should not be considered made in imitation of yellow butter as much as though artificial color was employed.

SPICES.

Of 80 samples of black and white pepper examined, 22 were found adulterated, the most common adulterant being a mixture of ground olive pits with roasted cereals. One sample consisted largely of roasted corn meal with a little cayenne pepper, another contained wild mustard-seed and olive pits, while several samples contained black mustard hulls.

Seven of 39 spices other than pepper were found adulterated. One sample of ground mace consisted of curcuma, corn meal and coal-tar dye with a little nutmeg; another sample of the same spice consisted mainly of the inert Bombay mace with some nutmeg. Several samples sold for ground mustard consisted of ground charlock (Dakota mustard), which has little spice value and, not being recognized by our standards as mustard, must be considered an adulterant.

SYRUPS OTHER THAN MAPLE.

Thirty-six out of 44 samples of syrups other than maple syrup were pronounced unlawful. Most of these were mixtures of maple syrup with sugar syrup which were not labeled in compliance with the special law on that subject or which were misbranded as to the percentages of ingredients. Some of the mixtures labeled "maple and sugar syrup" were found to contain less than 10% of maple syrup, yet were of a deeper color than the average maple syrup, thus proving the presence of added coloring matter.

VINEGAR.

Twenty-five out of 34 samples of vinegar analysed were pronounced not lawful. Of this number, nine were sold as cider vinegar when in fact they either contained no apple product or had been made from unfermented apple juice and spirit vinegar, five were below legal standard in acetic acid while the rest failed to comply with the legal requirements as to stenciling.

Respectfully submitted,

RICHARD FISCHER,

Chemist.

REPORTS OF ASSISTANTS AND INSPECTORS.

REPORT OF ASSISTANT COMMISSIONER.

MADISON, JULY 15, 1908.

HON. J. Q. EMERY,

Dairy and Food Commissioner.

SIR: I herewith submit a report of my work as Assistant Commissioner and Dairy Expert, during the biennial period ending June 30, 1908.

A full, itemized report of each inspection and test made by me has been submitted to you, upon the official form sheets and cards especially prepared for that purpose.

During the entire time specified, I have been actively engaged in the work of the commission as prescribed by law in making personal and careful inspections of cheese factories, creameries, city milk supplies, skimming stations, condensing factories, dairy farms and herds, oleomargarine dealers, grocery stores, restaurants and lunch counters, hotels, drug stores, flouring mills, icehouses and ice-delivery wagons, meat packing houses, sausage manufactories, butcher shops, delicatessen stores, and in the prosecution of violators of the dairy and food laws of the state.

Number of cheese factories inspected.....	135
Number of creameries inspected.....	20
Number of city milk supplies inspected.....	10
Number of skimming stations inspected.....	4
Number of milk-condensing factories inspected.....	4
Number of dairy herds and barns inspected.....	94
Number of grocery stores inspected.....	138
Number of butcher shops inspected.....	43
Number of hotels inspected.....	13
Number of restaurants and lunch counters inspected....	28
Number of drug stores inspected.....	8
Number of flouring mills inspected.....	6
Number of fair concessionists inspected.....	26
Number of barn milk samples inspected.....	23
Number of prosecutions	16
Number of convictions	16

While engaged in the work of inspecting, I have collected and have delivered into the hands of the state chemist 143 samples of food products for analysis.

In connection with the work of farm, factory and city dairy inspection, I have tested several hundred samples of milk and cream

by means of the Babcock test, the lactometer test, the curd test, the acidity test, the formaldehyde test and the borax test.

I have scored approximately three thousand samples of butter and cheese by the official numerical and descriptive score cards for the U. S. Dept. of Agriculture and various interstate, intercounty and county fairs.

During the period covered by this report I have made addresses at several creamery and cheese factory picnics, morning and evening creamery and cheese factory patrons' meetings, farmers' institutes and dairy conventions.

A considerable portion of my time has been taken up in clerical work at the office and laboratory in the mailing of biennial reports, bulletins, pamphlet copies of dairy laws, circular letters and in proof reading.

I have made a number of second inspections of creameries, cheese factories and city dairies with other members of the commission. As a result, in several cases prosecutions and convictions followed work of this character. In this connection I beg to report that some of the prosecutions brought by Mr. Larson, Mr. Aderhold, and Mr. Carswell and reported by them were the result in part of such work performed by me in accordance with your instructions.

During the latter part of August, the month of September and the first half of October, 1907, I visited most all of the dairy boards of trade and wholesale cheese dealers in the state, acquainting them with Chapter 173 of the Laws of 1907, relating to the misbranding of articles of food, which plainly makes a misdemeanor the too high marking of the weight of cheese.

I have tested a large number of samples of cream, milk, butter, and cheese, submitted to the commission from various sources through the mails and express companies and reported same to you on cards especially prepared for such work.

The inspection of the cheese and butter factories had to do principally with the sanitary conditions of the buildings, utensils, surroundings, the quality of milk received into them, and the process of making. A marked change has taken place in factory management. Buildings and utensils are kept more scrupulously clean, and cheesemakers and buttermakers are more generally becoming students of their profession rather than imitators of their predecessors. As a rule they are on the alert to catch any idea which may be of value in securing economy in the manufacture of the product, perfection in caring for it and intelligence in its sale.

The inspection of city dairies included the milk delivery wagons and utensils of same used in the distribution of the product to the consumer, special attention being given to the sanitary conditions of the cattle, feed and farm or dairy barns. The quality of the milk supply of our cities is certainly improving. The dairymen are as a rule taking pride in furnishing their customers with pure milk, and their wagons are generally neat, clean, and nicely arranged. A large percentage of the city dairies inspected were provided with stables, having improved systems of ventilation, light and drainage, thus insuring the health and comfort of the herds.

This line of work carried on by this department during the past two years, coupled with vigorous prosecutions of offenders against the law, has materially reduced the number of milk producers who deliver milk below the legal standard to consumers, creameries and cheese factories. Many cheese factories of the state which had formerly received the milk by the quantity, are now using the Babcock milk test. Although not all are buying by butter fat test, yet they are quite generally equipped so that they may know the quality



CHEESE EXHIBIT, WISCONSIN CHEESE MAKERS' CONVENTION, 1908.



of each patron's milk and are refusing to accept milk that does not come up to the standard as prescribed by law.

There is a general disposition on the part of both wholesale and retail food merchants to comply with the provisions of the food laws of the state. Many of our merchants frankly admit their indebtedness to the commission, since the latter by enforcing the food laws, has eliminated in a very appreciable measure the element of deception and criminal imposition fostered and indulged in by unscrupulous manufacturers of food products.

CHEESE.

The quality of our cheese of all varieties has not only been maintained at the standard of previous years, but in all localities of the state the make of the last two years has been superior in every respect to that of former years. It is certain that there is an established and rapidly growing demand right here at home for the best types of domestic soft cheeses. I would not advise every cheese-maker to attempt to make all the fancy varieties of cheese. However, we have within our borders the intelligence, enterprise, climatic conditions, locations, the grass and water to make all kinds of cheese to perfection. We are fully competent to deal with this question of fancy cheese, and should adopt the making of the different varieties whenever there is a demand for them.

The best and none but the best, fitly expresses our motto. The result is that we have established a good name for our cheese in every market where it is known, a good name justly deserved, because won by merit. There is no filled cheese manufactured in Wisconsin. We have waged an uncompromising war on all fraudulent cheese and have sought to place our product upon the market, whether at home or abroad, for just what it is. The true Wisconsin cheese factory brand is today a guaranty of excellence and genuineness in the best cheese markets of the world.

There are good reasons why cheese-making must always remain a prominent factor in our state. The product of the cheese factory is a finished product. It represents the embodiment of highly skilled labor. It goes to market in a concentrated form. The manufacture of cheese, no matter how intensive a system of agriculture is pursued, leaves the farm no poorer in natural wealth and fertility. As we advance in cheese-making, as we improve our dairy products, our cows and our methods, we extend the market for our cheese. We have not reached the point of over-production. The demand continues to be largely in excess of the supply.

Great as has been the growth of manufacture, mining, trade and transportation in Wisconsin, all of which tend to draw population from dairying, it is gratifying to note that of all the diversified interests of industry and agriculture, none has prospered or afforded us more substantial returns than the cheese business during the past few years.

Cheeses of different varieties have their origin because of the surroundings in which they originated. For instance, in the low, flat meadows of Holland, the Limburger cheese had its birth; and when they came to make Limburger cheese in America, they found the same kind of locations especially fitted for the production of this cheese, that is, low valleys, abundance of rich grass, plenty of water, the same as in Holland.

On the other hand, the Swiss cheese is a product of a higher elevation. It became what it is because of its circumstances and surroundings. With high mountains, no highways, no railroads, it became a necessity, in order to dispose of the milk product, to make

it into a kind of cheese that would bear transportation, have long-keeping qualities,—keep for years in good condition. When they came to establish that industry in America, they found the same surroundings that are not so well fitted for general farming, where the fields are not cultivated or plowed at all, where the hillsides are so steep that the soil will wash away, and where there is plenty of rock near the surface, chiefly limestone rock, and where good springs of water abound, to be especially favorable to the production of fancy Swiss cheese. There are numbers of such places in the States, but the greatest body of such land lies in southwestern Wisconsin. That tract of country never has been covered by the so-called drift formation. The hills rise in great waves and billows, with narrow valleys and underlaid with hundreds of feet of layers of limestone, frail and crumbling, affording the best kind of soil. That is the home of the Swiss cheese industry in America.

Wisconsin people make great quantities of brick cheese, and when they want something excellent for favored customers they send to Dodge county and adjoining counties for it. There is something in the soil, the spring water and the grasses in that particular section that is especially favorable to the making of brick cheese.

Edam and other varieties also require special conditions. Therefore, it is wise, when a certain kind of cheese has been successful in one locality, not to try to change.

It is a good thing for people to devote themselves to the manufacture of the kind of cheese that their natural conditions and their experience favor. For instance, it would be almost impossible to produce a good quality of Swiss cheese in the lake region where we produce such excellent Cheddar cheese. It is a matter of climate, soil, water, kind of milk and other circumstances.

"AMERICAN" CHEDDAR CHEESE.

The "American" or Cheddar types of cheese are manufactured to a greater or less extent in all parts of the state.

The eastern or lake tier of counties embracing Sheboygan, Manitowoc, Calumet, Kewaunee, Door, Fond du Lac, Brown, Outagamie and adjoining counties to the north and west lead in the production of fancy Cheddar cheese so far as quantity is concerned.

Grant, Sauk, Richland, Iowa and adjoining counties constitute the famous southwestern Cheddar cheese territory of Wisconsin.

Cheesemaking is an art most difficult of mastery. When we consider the effect of fermentation and bacterial influences, the unknown conditions of milk as received at the factories, the hidden power of rennet action and the intricate combinations which any or all of these form to effect the final result, any attempt to fully describe and attach the proper importance to all the facts and principles which underlie cheese-making is an undertaking beyond the knowledge and experience of the author of this report.

The recognized peculiar and varied tastes of cheese consumers call for many different characters of cheese; but the cheese that commands the highest price in the markets of today is one of a clean, nutty flavor, flinty and close in texture, with a firm, meaty, solid, rich and buttery body. Cheese of such a character will keep a long time in prime condition, and if cured under the most favorable temperatures will improve in quality up to twelve or more months.

Fancy cheese cannot be made from filthy, sour milk. In the handling of pure, sweet milk, the whole mass collected in the vat is gradually warmed up to 86° F., when the milk is tested (by means of either the rennet test or the acidimeter) for ripeness, and if sufficiently matured, the color and rennet is added at once. If the milk is insuf-

ficiently matured, from one to two per cent starter (commercial pasteurized) is then added, and the milk allowed to stand at this temperature until a sufficient amount of acid has developed so that the curds will show one-eighth of an inch of acid when applied to the hot iron or .20 per cent acid by the acidimeter, within two hours from the time of adding the rennet, at which time the whey should be removed.

None other than harmless or vegetable color should be used and in any case should be thoroughly incorporated with the milk before the addition of the rennet. The latter should be added in sufficient quantities to cause the milk to coagulate ready for the knife in from twenty to twenty-five minutes. It should be diluted with about fifty times its own bulk of cold water that the coagulation will be uniform throughout the whole mass.

When the curd breaks clean across the finger and is sufficiently firm to stand up before the knife, it is ready for cutting. Great care should be taken to secure an "even cut" so that the curd particles will be uniform in size. Every piece of curd in the vat should be warmed alike. The center of each piece should be just as warm as the outside. As curd is a poor conductor of heat, this condition can be secured only by raising the heat slowly and steadily. The effect of heating rapidly is to cook the outside of the larger pieces of curd faster than the inside. This contracts the surfaces and confines the whey in the center. It would be preferable if possible, to heat the inside of the cubes the faster, driving the whey to the surfaces; we do not want to do either. We want an even, uniform cook.

One of the most important steps in the process of cheese-making is to know when a curd is properly cooked or firmed. The real condition can hardly be described in words, but the cheesemaker must learn to recognize it by experience. This is a part of the cheesemaker's art. The curd should not be salvy and soft, but springy and elastic. The most convenient and sure test is to take up a large double handful of the curd and compress it dry of whey. After a minute remove the pressure. If it falls apart readily and the particles resume their former shape and size, it is very good evidence that the curd has been properly firmed.

It should then have one-eighth of an inch acid on the curd (or .20 per cent acidity as shown by the acidimeter) and the whey should then be drawn. When the whey is allowed to remain too long with the curd, excess acid is developed and a dry, mealy cheese is the result. There will also be a greater loss of fat. If the whey is drawn too early, a soft, mushy article will be produced. The necessity of diligence and care in this branch of cheese-making is of vital importance in order that the separation of whey may be the most perfect possible.

From thirty-five to forty-five minutes should be consumed in raising the temperature to 98° or 100° F., as the case may be. To assist the curd in heating evenly and keep it from matting together, it should be stirred from the time it is cut until the heat is shut off. The automatic curd agitators now on the market are preferable to the hand rake commonly in use.

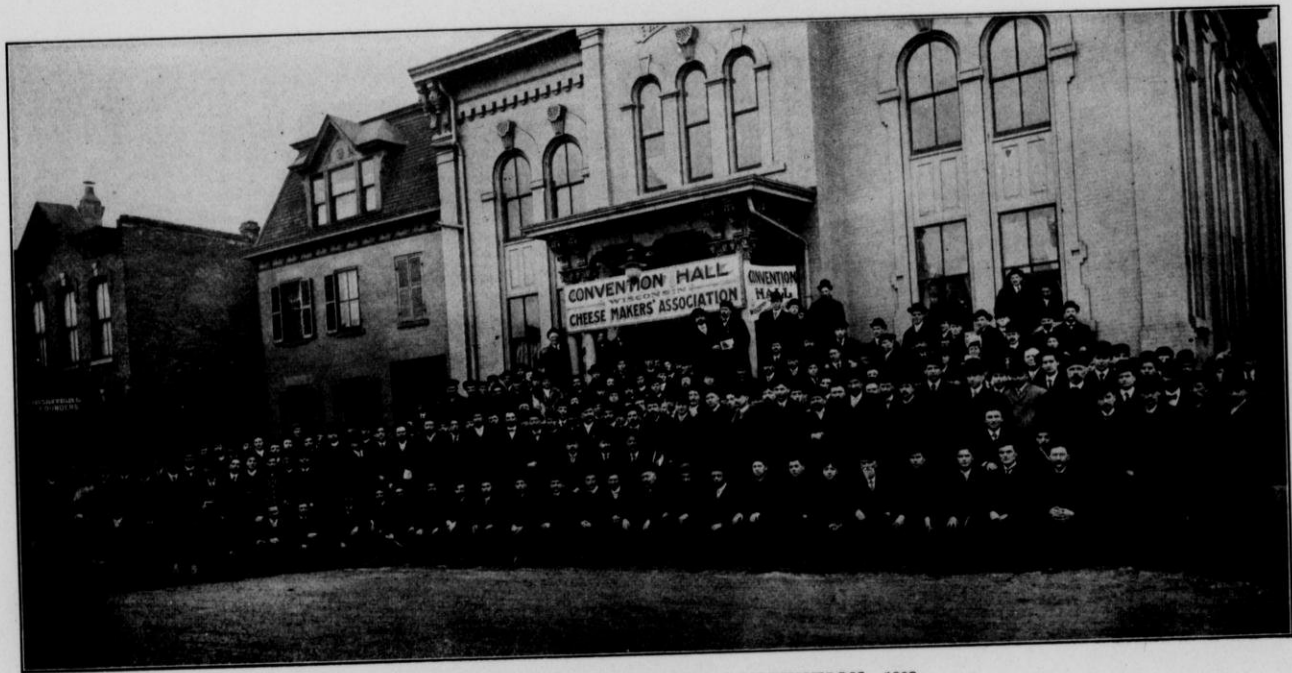
When the required amount of acid has developed in the curd, the whey is drawn, and the curd dipped upon racks where it is left to drain and mat, having uniform depth of about five inches. If the curd has been properly firmed in the whey, it will not require any stirring at the time of racking, for this means an additional loss of fat and solids. As soon as the mass is matted sufficiently to admit of its being turned over without crumbling, it should be cut into blocks of sufficient size for handling and turned over, repeating the process every few minutes, always with a view to perfect drainage. The best-textured, close, firm-bodied cheese is that made from curd that has been piled but very

little, or not at all. If curd is piled, it is important that the outside pieces be folded into the center of the pile each time to insure an even color and uniform temperature of from 96° to 98° F., throughout the mass. When the curd is sufficiently ripened or matured for milling, it becomes stringy or meaty, and when pulled apart splits instead of breaking. In cutting through the mass, the color should be even, with no white spots showing. At this stage of the process, when the curd is in normal condition, it will probably have at least one inch of fine silky threads when applied to the hot iron and will show from .70 to .85 per cent of acid by the acidimeter. The acid should be well developed at this stage of the process, but the amount of acid is not so important as that the curd be meaty in texture. Knife mills ought always to be used as peg mills tend to bruise and tear the curd, injuring the texture and causing unnecessary loss of butter fat.

After the curd is ground, it is kept sufficiently stirred to keep the particles from matting together again. A further maturing of the curd takes place, during which it takes on a peculiar flavor resembling the odor of clean, rich, ripe cream when ready for the churn. It is extremely difficult to convey in words a definite idea of that peculiar condition characteristic of curd when ready for the salt. That is to be gained through experience. However, resort is had to the hot iron test which furnishes two kinds of evidence. If when a portion of curd is applied to the hot iron, it strings nice and silky and if when so applied it emits an odor like nice toasted cheese and does not smell like burnt hair, it is usually ready for salt. The drippings from normal curds at time of salting will usually show from 1 to 1.2 per cent acidity when tested by the acidimeter. Still these tests are not absolutely reliable in all localities and under all circumstances. Another method of gaining the desired information is by the sense of feeling and the condition of the moisture which oozes out between the fingers when the curd is squeezed in the hand. The curd when ready to salt should not feel harsh, but soft and velvety and will exude a moisture of half fat and half whey. When salted, a clear brine should run from the curd. The temperature at time of salting should not exceed 90° F. After the salt is added the curd should be spread out thin, so that it will cool off, and when it is put to press should be at a temperature of from 75° to 85° F. If the curd is put to press too warm, the fat is more easily pressed out and lost.

With the majority of the rank and file of cheese-makers, it is not necessary that much should be said about the hooping and bandaging of cheese. The careful painstaking maker is an artist in a way and takes great pride in turning out a neat appearing cheese, symmetrical in form, neatly bandaged and perfectly closed on its surfaces. Still we often, too often, find makers who are slack in this very important part of the work. They have more or less difficulty in getting their cheese properly closed. This is true of some makers even when the curd is in the most perfect condition for pressing. Through negligence, they permit the press cloths to become stiff and full of whey while the hoops are not always kept scrupulously clean. No amount of pressure will secure a good rind if the press cloths and hoops are not in first class condition. If factory operators were to exercise more care and devote more time and attention to the work of hooping and dressing the cheese, there would not be so many goods upon the curing tables with checked rinds and showing free fat under the bandages.

At the time of turning the bandages all the whey should be rinsed out of the press cloths by dipping them in scalding water and placing them again upon the cheese as hot as possible. In the morning, the cheese ought always to be turned end for end in the hoop. When taken out they should be examined carefully to see that they are per-



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fect in shape, and all defects remedied. Then pour water sufficiently hot to melt all free fat that may have accumulated under the circle cloth and bandage over the cheese again before applying the pressure. This warming of the surfaces aids in the formation of a firm, transparent rind and prevents the cheese from checking. It also improves the appearance of the cheese.

With cheese as with anything else we must try to please the eye. Marketing cheeses that are of unequal height or lopsided from some defect or carelessness in the making is always poor economy. Let us remember that cheese is an article of food, and that it should not only be put up in a neat, attractive form, but also that it should not come in contact with anything having a bad odor.

Recent experiments by Drs. Babcock and Russell of the Wisconsin Agricultural Experiment Station and the Dairy Division of the United States Government, have demonstrated that the quality of cheese was best when cured at temperatures ranging from 35° to 40° F. or thereabouts. Cheese cured at 50° F. were better than those cured at 60° F. Cheese cured at 60° F. were better than those cured at 70° F. This leads us to believe that much lower temperatures than have heretofore been thought advisable in ripening Cheddar cheese may be used with very considerable success. The dipping of cheese in hot paraffin will add to the attractiveness of the goods, and tend to prevent mold growth and excessive shrinkage in storage.

BRICK CHEESE.

Dodge county is the home of the brick cheese industry in the state. Columbia, Washington, portions of Ozaukee, Jefferson and Fond du Lac counties produce large quantities of this popular type of cheese.

Brick cheese is probably so called because it is made in the form of a brick, and bricks are used exclusively for the pressure on the mold. It is purely an American product. Wisconsin leads in its production. It is a sweet, whole milk, rennet cheese. It has a mild flavor, is moist and its convenient shape and size make it a special favorite with the trade. It is a rich, good, wholesome family cheese. It may have a few small holes or eyes in it. It is softer than Swiss but not so soft as Limburger.

Brick cheese is made in a steam heated vat. The curd is cut and the temperature raised for firming, the same as with Cheddar. The rennet is added to the milk at 86° F. Brick cheese is a quick curing cheese, and a little more rennet is used than for Cheddar. The milk is sweeter than for Cheddar and enough rennet is used to coagulate it in twenty minutes. The firming temperature depends on the acidity of the milk. With milk nearly as matured as for Cheddar, 108° F. will do; while from 112° to 120° F. may be required for very sweet milks.

The curd should be dipped from vat into moulds when it has reached a condition almost as firm as that for Cheddar cheese. An over-cook will make the cheese dry and hard, and an under-cook will make it too soft, approaching the Limburger.

The draining table is about 3 feet wide by 8 feet to 12 feet long, inclined toward one end with sides about five inches in height. Draining boards having several rows of one inch holes bored through them, with their ends resting on one-half inch strips, are laid in the draining table and a heavy, coarse-meshed linen cloth is thrown over the draining boards upon which the molds are set side by side. The brick cheese mold is a rectangular box without bottom or top and is thirty inches long by five inches wide and eight inches deep. The cheese from this mold is cut into three bricks ten inches long and five inches wide.

In dipping the curd into the molds, care should be exercised to get the same amount of curd into each so that the cheese will be uniform in size and will weigh close to six lbs. green. One or two bricks are placed on top of the wooden follower in each mold for pressure. In about an hour the mold is turned over and the pressure applied to the other side. This should be done several times during the eighteen to twenty hours that the cheese is in the press or molds.

The salting table is built like the pressing or draining table except that there are no draining boards laid in it. From the molds the cheese is rubbed with salt on all sides of it. The salt dissolves and penetrates to the interior of the cheese, at the same time expelling moisture which runs off from the salting table. The salting usually extends over three days, the cheese being turned each day and salted daily on all sides. They are laid on their broad sides, piled one tier deep at first salting, two to three deep at second and third salting.

From the salting table the cheese is transferred to the curing cellar where it is laid on its broad sides on tiers of wood shelving, ranged along and through the room. After a week or ten days they begin to cure and form a smooth rind, when they may be placed on their edges. Each cheese is washed with clear water, or water into which a little salt has been dissolved, at least twice a week and at first oftener if necessary to keep them moist and free from mold.

In the course of about two weeks the harshness of the cheese begins to disappear and the body will break down in the fingers, and mold like wax, but should not be sold until it is about a month old.

For shipment it is wrapped in a heavy quality of Manilla paper and packed in boxes that hold twenty to twenty-five cheese, the net weight of the cheese in the box ranging from one hundred to one hundred and twenty-five pounds. Of recent years a considerable quantity of this type of cheese has been paraffined when ready for cold storage or for market with very satisfactory results.

LIMBURGER CHEESE.

The southwestern portion of Dane county is especially noted for the quality and quantity of its Limburger cheese. Limburger cheese factories are scattered over Green, Lafayette, Iowa, Grant, Dodge, Columbia, La Crosse, Trempealeau and Buffalo counties.

Limburger cheese is a soft rennet cheese made from whole sweet milk. It is found on the market in blocks or cakes, some five inches square and about two inches thick, wrapped in parchment, manilla paper and tinfoil. It has a soft texture, of a yellowish color when properly ripened. It is perhaps more generally known by its odor than by anything else. While kept cool it does not have such a pronounced odor as when warm. The American Limburger is a very rich, nutritious cheese and is at present very popular with cheese epicures.

A steam vat, curd knives and drain table, like those for the manufacture of brick cheese, are used in the making of Limburger cheese but the molds and subsequent handling are different than for brick.

The milk used may be sweeter than for brick. It should be set at 90° F. Enough rennet should be used to coagulate the milk in twenty to thirty minutes.

The curd is cut when it will break over the finger with a clean fracture. The curd is stirred and the temperature slowly raised to 96° F., the temperature at which it is usually firmed. The curd is dipped when a little softer than in the making of brick cheese. It is dipped into the molds and allowed to settle together, brick pressure being applied. After about half an hour it may be turned over. After resting in this position for thirty or forty minutes the mold is lifted

from the cheese. The long curd sections are divided into six blocks or cakes five inches square just before salting.

The cakes are next transferred to the pressing table. The table is like the brick cheese draining table, with sides, but having no draining boards.

Formerly rows of the cakes were placed along one side of the table and divided by wooden partitions. In this manner several rows were laid down and the last strip held in place by several sticks wedged in between the strip and the opposite side of the table. Now the general practice is to drain in molds containing six cakes each. The cheese get no pressure beyond their own weight. The cakes are turned a number of times to drain them and firm the surfaces. The temperature of the room should be about 65° F. In twenty-four hours they go to the salting table. The edges are rolled over in a box of salt and then salt rubbed on the two broad surfaces. They are laid on the salt-draining table in single layers for the first day. The second day they are salted again in the same way and piled two deep. The third day they are again salted and piled three or four deep. They are salted on the average about three days.

From the salting table the cakes are transferred to the curing boards or shelves where they are set up on end. The temperature of the curing room or cellar should be about 60° F. and have a relative humidity of 90° or above.

The cheese cakes are washed daily to keep them free from mold and to help keep them moist. Under these conditions their surfaces soon begin to soften and change from white to a shiny yellow. This change works its way to the center, changing the harsh curd to a soft, smooth, creamy condition, and requires from four to six weeks after which the cheese cakes are first wrapped in parchment, then manilla paper and tinfoil, packed in boxes 20 inches wide, 5 inches deep and 36 inches long, when ready to market.

SWISS CHEESE.

Green county is the great Swiss cheese county of the state, and is the home of the Swiss cheese industry in America. The district extends over into the eastern border of Lafayette and Iowa counties and a portion of Dane and Rock counties.

Swiss cheese is known in the old country by the name of Emmenthaler. In this country it is made in two forms, the round or drum Swiss and the block Swiss. This cheese is a hard, rennet cheese made from unskimmed cows' milk and has a mild, slightly salty, somewhat sweetish flavor. It should have eyes or holes about a half inch in diameter, evenly distributed through the cheese. These holes should have a glossy surface. In an old cheese a drop of brine may be found in the hole.

Swiss cheese is made from sweet milk. So important does this seem to be that in Wisconsin the milk is in all cases delivered to the factory twice a day and made into cheese as soon as the rennet can be gotten into the milk.

But in Switzerland, Swiss cheese is to a large extent manufactured only once a day. However, the milk is delivered twice a day to the cheese factories. There, each cheese factory is equipped with a milk cooling room with running water, where the night's milk is kept and properly taken care of by the cheesemaker until the following morning, when it is mixed with the morning's milk and manufactured into a Swiss cheese. Experts on Swiss cheese hold the once-a-day system superior to the twice-a-day system, but it can be successful only when the night's milk has all been alike properly cooled and cared for.

Swiss cheesemakers very largely use a home-made rennet, which is made daily by soaking strips of rennet in warm whey from the cheese kettle. It is claimed that commercial rennet extract is not as good as whey rennet, for they do not obtain the eyes in the cheese as well with it. It has, however, been fully demonstrated that the whey used acts as a starter which supplies the necessary acid in the milk to cause the rennet to expel the whey sufficiently and that by the judicious use of a good lactic acid starter and commercial rennet extract, cheese with good development of eyes can be obtained.

All Swiss cheese is made in large copper kettles. There are two kinds, the fire kettle and the steam kettle. The milk is strained into the kettle the same as into a vat for Cheddar cheese. Sufficient rennet is added to the milk at a temperature of 90° to 92° F. to coagulate it in from twenty-five to thirty minutes. A Swiss curd when ready to cut should make a clean break over the finger, though the degree of coagulation should be somewhat less than for other varieties of cheese.

The coagulum is broken into pieces about an inch in diameter by means of the Swiss harp, so called because it is shaped like a harp. It is an iron frame having a long wooden handle with fine wires strung lengthways of it about an inch apart. The curd is then gently stirred for a few minutes to keep it apart while it firms. This stirring of the curd is done with an instrument known as the "wire stirrer" which is a round stick about five feet long, through one end of which a group of wires are fastened into a spherical form. This stirrer reduces the size of the curd cubes to about the size of corn kernels.

The fine breaking down of the curd particles and the high temperature at which the cheese is cooked, largely cause the excessive loss of butter fat in Swiss cheese-making. By using such curd knives as are used in making Cheddar cheese, with change of design adapting them to the shape of the kettle, the curd could at once be brought into proper condition without breaking or jamming it, thus saving much of the fat now lost in Swiss cheese-making.

The kettle is now moved over the fire or steam is applied as the case may be, while the operator stirs it vigorously with the "wire stirrer" until the curd breaks and contracts into particles as fine as wheat kernels. It is stirred until the temperature has reached 130° to 135° Fahrenheit. The stirring is continued until the curd is quite firm, when it is allowed to settle.

As soon as the curd ceases to feel mushy and will break short when squeezed into a roll in the hand, or will squeak between the teeth, it is gathered up from the whey in a lump into a linen strainer cloth for pressing. The curd should be put into the hoop in a lump, and as quickly as possible, so that it will not become cool and brittle.

The curd cloth with the curd in it is put into a hoop made of a band of elm wood, held in circular shape by means of a cord running around it. The hoop rests on a circular press board on a table usually constructed of brick or stone, slightly inclined so that the whey will drain off. For the first few minutes it is pressed lightly, then more pressure is applied, and in half an hour full pressure may be put on. The cheese is turned several times a day. There are two cloths used in the operation, one lying underneath, the other spread over the top and tucked in between the hoop and the cheese. Dry cloths are put on frequently during the pressing period. The pressure is obtained by placing a post between the top cheese board and a heavy beam. The post is close to the fulcrum end of the beam, while the long, heavy end of the beam with weight attached gives the pressure.

After the cheese has been in the press for twenty-four hours it is placed in a salt brine bath, kept cool in the cellar. The brine is made



A TYPICAL WISCONSIN SWISS CHEESE FACTORY—NEW GLARUS, GREEN COUNTY.

by dissolving salt in water until dense enough to float an egg. As the cheese absorbs the salt it is necessary to renew same at frequent intervals. The cheese is immersed in the brine. It should be turned over occasionally as the cheese will float and the top rise above the surface. The cheese is kept in the brine from three to four days. Some makers salt by scattering coarse salt on top of the cheese. The cheese is kept on a shelf in the cellar with a salt hoop around it to keep the cheese from spreading. No more salt should be applied than can be absorbed over night, so that the cheese will be dry next morning. A cheese is salted with dry salt from three to five days. With the brine method the salting is applied more evenly through all parts of the cheese.

From the salting shelf or brine tank the cheese is taken to the cellar curing rooms. The curing covers two stages and two cellars are necessary to secure proper conditions for perfect curing. The first curing cellar should be kept at about 80° to 85° F. At this temperature the gassy fermentations set in and start the eyes. The large round cheese is kept on a round cheese board so that it may be handled easier. The cheese is kept moist and free from mold by frequent washing and scrubbing with cloths and brushes made for the purpose. After the eyes have been well started, the cheese is transferred to the second cellar which is kept at about 60°F. Swiss cheese cures slowly. The process requires a number of months and a fine Swiss cheese should be at least six to ten months old before it is ready for the consumer.

Block Swiss being smaller than drum or round, is more easily handled. It should be washed often enough to keep moist and free from mold but not too moist, or the rind will soften.

Drum Swiss are shipped in large tubs made a little tapering and to fit the diameter of the cheese. Usually five or six cheese are put in a tub with large round scale boards between each cheese and also at top and bottom of tub next to the cheese. Quite often a thousand pounds or more of cheese will be filled into a single tub. Block Swiss is put up in boxes six inches deep, twenty inches wide and three feet long. Six cheese are placed in such a box.

Our people until quite recently have known but little of the great variety of soft cheeses common in the European markets. The local markets have been to a great extent monopolized by hard cheeses, principally of the type of "American" Cheddar. Within the past few years a brisk demand for soft cheese has been developed here at home. This may be attributed partly to the taste acquired by our people who have traveled abroad, and to our increasing foreign population, and to the desire of people of European birth for the types of cheese familiar to them at home as well as to a growing demand and appetite among others who have tried the foreign delicacies.

The soft cheeses with their strong characteristic flavors, give relish to the coarser and less flavored foods and owe their chief popularity to their varied and respective flavors.

The so-called fancy cheese has come in response to a demand for variety from those who use cheese. Most all of our people are now eating cheese but all do not like to use the same kind in the same form for a long time. If nothing else is offered, a difference in the shape or style of the cheese will satisfy the longing or craving for variety. People no more care to eat cheese of the same kind and in the same form for a long time than they care to eat one kind of meat or dessert all the time.

BUTTER.

There is no reason why just as good butter may not be made from "farm" or "hand separator" cream as from any other; but to accomplish this it is necessary that intelligent care and scrupulous cleanliness be conscientiously observed at all times in the production and handling of such cream.

Cream ought to be delivered to the central or union churning station every day, and wherever that is possible, it is to be recommended. However, in some localities the daily delivery of cream would not be practicable, as the transportation expenses would eat up the profits of the business.

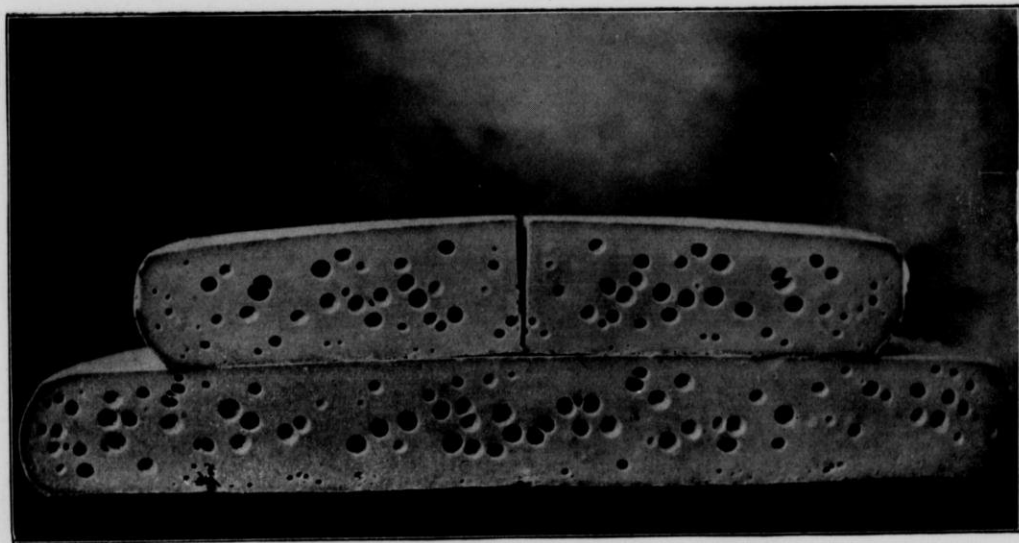
Cream given proper care may be kept in a sweet and wholesome condition for two days. Cream kept longer than two days, even though it is sweet, will lack the quality peculiar to fresh cream, and no amount of pasteurization, starter or any other process will enable the buttermaker to make a first class butter out of old, over-ripe, tainted or gaseous cream, or cream in any stage of putrefaction.

The application of pasteurization and commercial starters to cream handling and ripening is practical and advisable in many cases; but too often, like "charity" is practiced to cover a multitude of sins committed in some instances on the part of the cream-producing patron.

The ripening of cream is the most important step in the entire process of buttermaking. Cream ripening requires skill, training, suitable apparatus for controlling the process and painstaking care on the part of the operator. Under the present "farm separator creamery system," in many instances, this important work is now transferred from the creamery to the farm, for at least a part of the season. If Wisconsin expects to retain her position as a leading butter producing state, this very important work of cream ripening must again be restored to the buttermaker, and that will mean that the cream must be delivered to the churning station in a good, sweet, pure and wholesome condition.

The whole milk or separator creamery is especially suitable for localities having a dense cow population and where the public roads are good. The buttermaker has perfect and complete control of the cream ripening. More accurate testing may be done. There is always more difficulty in securing correct tests of cream than of milk. The defective methods in caring for the cream on the farm, and its infrequent delivery to the factory, makes accurate sampling extremely difficult and often very questionable. Cream of this description will also result in an inferior quality of butter. The whole-milk or separator factory reduces the labor and cost of separating and caring for the cream on the farm. It also reduces the expense for hand-separators to do the creaming as well as the labor of running and washing a separator.

The advantages of the "farm separator system" over the whole-milk factory system are its adaptability to a small cow population, scattered over a considerable territory, where the roads are not suitable for hauling heavy loads of milk. With proper railway facilities there is scarcely any limit to the extension of a creamery's operations. A much wider territory can be covered by the farm separator system than by a whole milk system, and it is well adapted for certain districts but we cannot expect to make as fine a quality of butter by adopting this system. It insures a large quantity of butter of uniform quality, although the quality attained may not be equal to that of whole-milk creamery butter. Its chief advantages are better and higher quality of skim-milk for feeding purposes, reduced cost of



AN ASSOCIATION GOLD MEDAL SWISS CHEESE.

As fine as the finest of Imported Swiss.

Wisconsin is the Home of the Swiss Cheese Industry of America.

transportation, reduced cost of buildings and machinery to manufacture the butter and the opportunity which it affords for the extension of creamery territory.

The combination of a central creamery with a number of skimming stations, where the cream is separated and sent to the central for churning, overcomes the difficulty of long hauls for the milk and skim-milk, and tends to produce a large quantity of butter of a uniform quality.

The whole-milk creamery is more expensive to operate, but is favorable for producing the finest quality of butter, and in the end will pay milk producers best in the thickly settled dairy sections of the state.

The practice of taking in both milk and cream, and mixing the gathered farm cream with the factory separator cream, is fraught with very great danger to the quality of the finished product.

The majority of our buttermakers and cheesemakers understand their business well enough to make a first class article if they get good raw material. Our inspectors are not neglecting the patron. Patrons are made to feel the responsibility of their end of the cooperative system, and that if the milk and cream they supply the maker is not of good quality, he cannot be expected to make a fine quality of cheese or butter therefrom. This is getting at the root of the matter and is bound to work to the general good of the industry. Our inspectors have an oversight also over the factory building and while they have the power to enforce cleanliness by law, this is not generally taken advantage of excepting where other methods are ineffective. By counsel and advice, factory owners are induced to clean up and make needed improvements and thousands of dollars have been expended in this direction during the past two years.

The good offices of the members of the commission are coming more and more in demand amongst the people of the state.

Respectfully submitted,

U. S. BAER,
Assistant Commissioner.

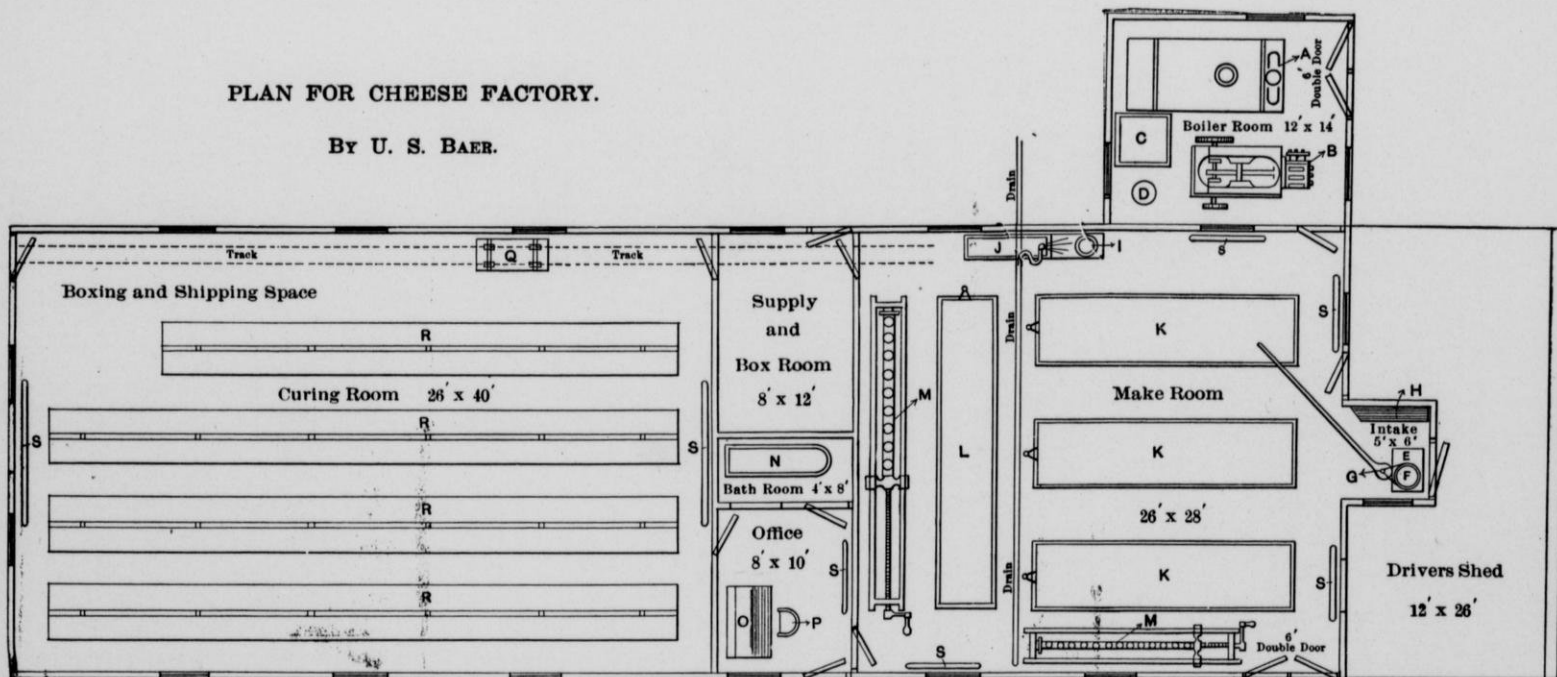
SPECIMEN OUTFIT LIST

For 800 to 1200 Cow Cheese Factory.

- | | |
|---|---|
| 1 12-H. P. Boiler complete with all fittings and stack. | 2 16-oz. Glass Graduates. |
| 1 8-H. P. Horizontal Engine, Complete. | 1 Tinned Cheese Knife. |
| 1 4x6 Deep Well Pump. | 1 Set Months and Dates. |
| 3 Sets Automatic Curd Agitators. | 1 Set Test Instruments with Quevenne's Lactometer. |
| 1 36-bottle Turbine Tester, Complete. | 1 24-bottle Curd Test. |
| 2 Check Pumps. | 12 doz. Composite Milk Jars. |
| 2 900-gal. Whey Tanks. | 6 8-in. Floating Dairy Thermometers. |
| 3 600-gal. Improved Steam Cheese Vats. | 1 Hygrometer. |
| 2 Continuous Pressure Steel Gang Presses. | 1 Shelf Scraper. |
| 1 Curd Sink with Racks and Castors. | 6 Galvanized Iron Pails. |
| 1 Power Knife Curd Mill. | 1 6-in.x $\frac{5}{8}$ -in. Cheese Trier. |
| 1 600-lb. Scale, Double Beam with Wheels. | 2 14-in. Wood-head Mops. |
| 1 240-lb. Tin Scoop Counter Scale. | 4 Floor Brushes. |
| 1 80-gal. Weigh Can. | 6 Heavy Floor Brooms. |
| 1 Conductor Head and 10 feet of Trough. | 6 Scrub Brushes. |
| 50 14 $\frac{1}{2}$ -in.x7-in. Tinned Gang Press Hoops. | 6 Composite Test Jar Brushes. |
| 2 8-in. x 20-in. Horizontal Curd Knives. | 1 Bath Tub. |
| 2 8-in.x20-in. Perpendicular Curd Knives. | 1 Office Desk. |
| 4 Long-Handled Half-gallon Dippers. | 1 Office Chair. |
| 1 Strainer Dipper. | 1 Sterilizing Oven. |
| 3 Half-round Whey Strainers, with Spouts. | 5 4-ft. Cast Iron Radiators. |
| 2 Tin Curd Scoops. | 2 8-ft. Cast Iron Radiators. |
| 2 Flat-sided Curd Pails. | Necessary connection pipe for boiler, engine, pump, wash-sink, tester, vats, radiators, and whey tanks. |
| 1 Marshall Rennet Test. | Necessary check, globe, and angle valves for above connections. |
| | Necessary ells, tees, unions, nipples, reducers, couplings, plugs, etc., for above connections. |
| | Necessary shafting, hangers, wood-split pulleys, and belting for driving curd agitators, curd mill and well pump. |

PLAN FOR CHEESE FACTORY.

By U. S. BAER.



A—Boiler.
B—Engine.
C—Sterilizing Oven.
D—Well Pump.
E—Weigh Can.

F—Scales.
G—Conductor Spout.
H—Bottle Rack.
I—Milk Tester.
J—Wash Sink.

K, K, K—Cheese Vats.
L—Curd Sink.
M, M—Cheese Presses.
N—Bath Tub.
O—Office Desk.

P—Office Chair.
Q—Truck.
R, R, R, R—Curing Tables.
S, S, S, S, S, S—Steam Radiators.



REPORT OF SECOND ASSISTANT COMMISSIONER.

MADISON, WIS., JULY 15, 1908.

HON. J. Q. EMERY,
Dairy and Food Commissioner.

SIR: I herewith submit a report of work performed by me as Creamery, Dairy and Food Inspector for the period beginning July 1, 1906, and ending Feb. 4, 1907, and as Second Assistant Dairy and Food Commissioner for the period beginning Feb. 5, 1907, and ending June 30, 1908.

During the two years as above specified, the work of Inspector and Assistant has covered many lines. I have personally inspected 131 cheese factories and creameries, 117 meat markets, 15 slaughter houses, 237 grocery stores, 468 wholesale and retail oleomargarine dealers, 12 dairy barns and dairies and 1 city milk supply. As opportunity presented, I have inspected a great many milk and cream cans and ice cream cans and tubs at depots, also a number of city milk wagons and cans. In addition, I have collected 1,071 samples of food products suspected of being adulterated and have delivered the same into the hands of the chemist for analysis.

Prosecutions have been brought against 63 dealers as follows:

Creamerymen for operating unclean creameries; cheese factory men for operating unclean cheese factories; butchers for coloring and preserving chopped meats and oysters; dealers for selling the flesh of diseased animals; patent medicine men for selling adulterated extracts; dairymen for delivering milk in unclean cans; druggists for selling adulterated drugs; doctors for selling adulterated drugs; grocery men for selling adulterated food products; oleomargarine dealers for selling "oleo" in imitation of yellow butter.

In each case, except two, a conviction has been secured and fines ranging from \$25 to \$50 have been imposed. My observation is that prosecution of violators of the food law has a decidedly wholesome effect on the food dealers in the entire neighborhood where prosecution has been brought.

The owners and operators of the cheese factories and creameries are realizing the importance of up-to-date factories, equipped with modern machinery, and as a result great improvements are being made. In the main the factories and premises are kept cleaner and in a more sanitary condition than ever before in the history of the dairy business. However, in many cases, the addition of a few more windows to permit of more light in the cheese factories and creameries, and that of screens on the windows and doors to prevent the flies from swarming in, would be a great improvement.

Another much needed improvement among the creameries generally would be the installation of sanitary milk and cream pumps and pipes. The general practice of today is the use of iron pumps and gas pipes. These are said to be steamed out daily, but are always rusty and unsanitary. Should a dairyman drive up to any cheese factory or creamery in the state with a load of milk or cream in cans as rusty as the pumps and pipes used by the creamerymen for conducting the milk and cream through, the same would be rejected as unfit, and properly so.

Another very general practice among creamerymen is the use of the 40% and 50% cream bottles for testing cream. I want to go on record as saying that a test made by using either of the bottles mentioned is guess-work. Then again in many instances, the cream scale weights which are used for weighing the cream samples have been found to be inaccurate. The exacting of conditions of dairymen by the creamerymen, which conditions they are not willing to exact of themselves, or the use of cream bottles with which guess-work tests are made, or the use of inaccurate cream scales, is sure to bring loss of confidence by the patrons and will sooner or later prove disastrous to the creamery; therefore, the creamerymen of their own volition should make the necessary improvements, or legal steps should be taken to force them.

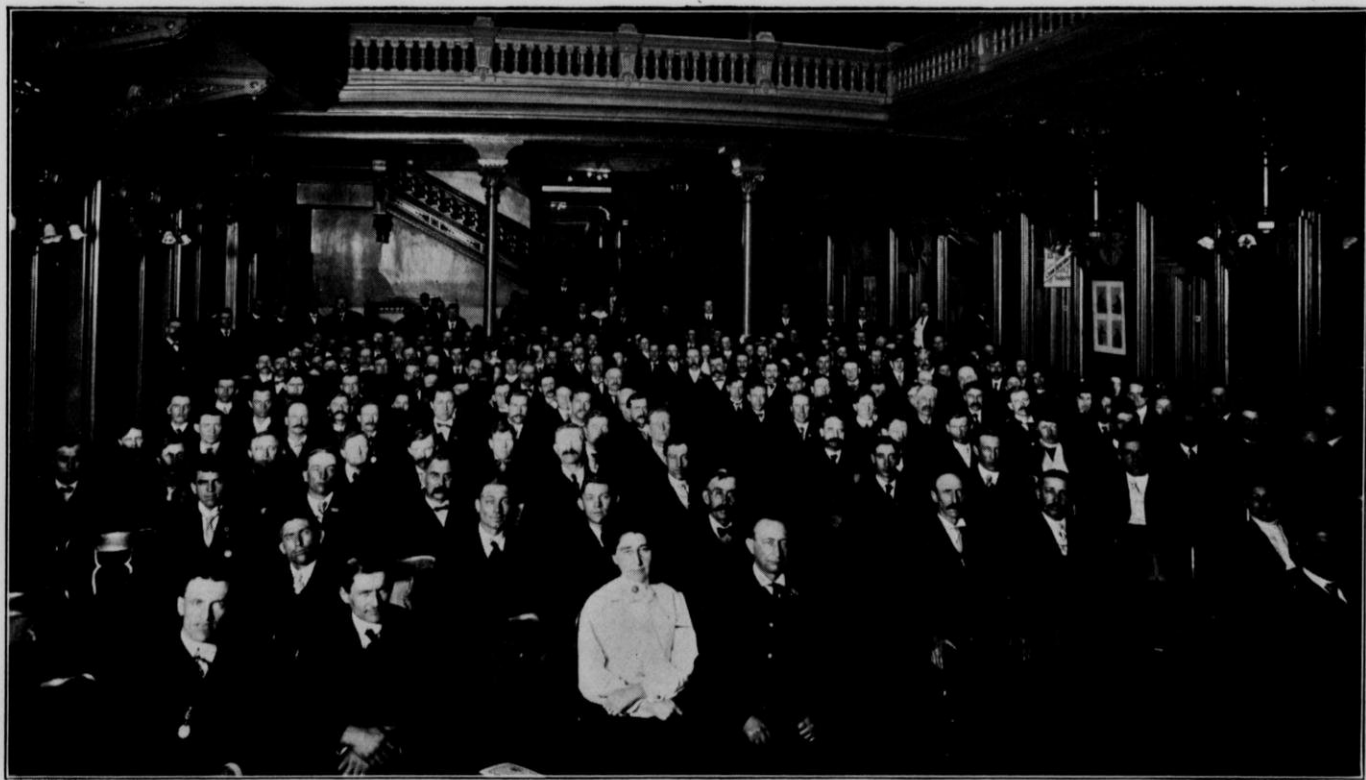
Because of the introduction of the hand cream separator, the larger part of the raw material delivered to Wisconsin creameries is cream. At a great many of the better creameries in the state, the practice is to test each delivery of cream. However, there are a great many that still make composite tests, which practice should be discontinued, as better results are obtained where each delivery of cream is tested.

A still further improvement among our creameries would be the practice of keeping daily records. Such records should consist of the total pounds of milk and cream received daily, the butter fat test, the total pounds of butter fat, the total pounds of butter made, the total fat loss in the skim-milk and buttermilk, the moisture content of the butter and the overrun. This will enable a creameryman to keep a check on his daily work and will be of great assistance to him in locating and overcoming losses that often occur in the course of handling the milk and cream and the manufacture of the butter, which, if left to run until the end of the month would, in many cases, amount to a great deal.

That the quality of milk and cream received at the cheese factories and creameries should be improved, is conceded. In a large degree the improvement of the raw material rests with the cheese maker or butter maker, who is under obligation not to accept any milk or cream that is not fit to be manufactured into cheese or butter, either from the fact of its being unclean or from cans not clean. So long as poor milk or cream, or milk or cream from unclean cans is accepted, improvement cannot be expected; but just as soon as the patron learns that there is no market for such unfit raw material, he will begin to make improvement. A further improvement could be brought about by the enactment of such laws as would give the members of the Dairy and Food Commission full power to inspect the conditions under which the milk and cream are handled at the farm and to enforce clean and sanitary conditions.

Another step in the direction of improving the quality of cream would be the amendment of Sec. 1, chapter 67, laws of 1903, so as to define unclean and unsanitary cream; also the amending of section 2, chapter 67, laws of 1903, by striking out the word "knowingly" and adding the word "cream"; also the amending of section 3, chapter 67, laws of 1903, by striking out the word "knowingly." It would then be up to the patron and factory man to know that the milk and cream were clean and sanitary.

The inspection of meat markets, slaughter houses, fruit and grocery stores, has established in my mind the necessity of the enactment of sanitary laws. The meat markets in many cases have been found to be in a very unclean condition generally; the local slaughter houses likewise. A practice common among fruit and grocery dealers is that of displaying fruit of all kinds, fish, dried meats, etc., in the street, open to dust, dirt, flies and the unclean practices of dogs.



WISCONSIN CREAMERY BUTTERMAKERS' CONVENTION—MILWAUKEE, 1908.

The inspection of oleomargarine dealers disclosed the fact that nearly all of them desired to comply with the law; but the large packers persuaded many local dealers to handle oleomargarine that was in imitation of yellow butter. Oleomargarine dealers were visited and where the oleomargarine handled was found to be in imitation of yellow butter, the dealers were so informed, the law read to them, and a statement made to the effect that if upon another inspection it was found that oleomargarine of the same color was being sold, the state would contest it. The dealers would at once agree to return the yellow oleomargarine to the jobber or manufacturer and thereafter handle only such oleomargarine as was not in imitation of yellow butter. However, following my visit, a representative of the oleomargarine manufacturer would visit each dealer and agree to protect him to the limit if he would continue to handle the oleomargarine which I had claimed was in imitation of yellow butter; thus, in a number of cases the local dealers were persuaded to handle the yellow oleomargarine. Not until a prosecution was brought against a local dealer for selling oleomargarine in imitation of yellow butter and fought through the Supreme Court with the result that the Court held that the Wisconsin law prohibited the sale of oleomargarine which is in imitation of yellow butter and that the selling of oleomargarine that is in resemblance to yellow butter constituted a *prima facie* case, did the oleomargarine manufacturers respect the law. Inspections made after the Supreme Court decision disclosed the fact that the state oleomargarine law was being obeyed, in that the oleomargarine sold in the state was not in imitation of yellow butter.

An inspection of the milk and cream cans at various depots and of the city milk supplies goes to show that a great improvement has taken place. It is an exception to find milk or cream cans not washed before their return over the railroad, and in the main the cans used are in very good repair, free from rust, etc. The cans and wagons used in connection with the city milk supply are in the main in good repair and clean.

The ice cream business in this state is in its infancy, but the future will see great developments, therefore, it should have close attention. The great majority of ice cream dealers do not manufacture their own product, but buy from some large manufacturer who ships the ice cream as per order. When the empty cans are returned to the manufacturer, the retailer, generally speaking, makes no attempt whatever to clean the cans and they are often found on depot platforms in a very rusty, unclean, and bad-smelling condition.

The state law provides that skimmed milk cheese manufactured or sold within this state must be ten inches in diameter and nine inches in height. Last year a certain cheese manufacturer in this state undertook to manufacture skimmed milk cheese. Hoops of the desired measurement and other necessary machinery were provided. As soon as I learned of the undertaking, I made it my first business to inform the manufacturer as to the law on skimmed milk cheese and told him that the state would contest the manufacture or sale of such cheese unless the same complied with the law in every particular. He was desirous, however, of knowing what could be done and experimented for several days. Each day's milk was partly skimmed before making into cheese. In an effort to meet the requirements of the law, great care was exercised during the process of manufacture and in weighing the curd for each cheese. When the cheese were taken from the hoops and placed on the curing shelves they were measured and found to be of the size prescribed by law, but after remaining on the

shelves for a few days they would shrink, both in height and diameter, so much that it proved an impossibility to manufacture skimmed milk cheese in conformity with the terms of the law. The manufacturer in question discontinued the making of skimmed milk cheese after about three or four days experimenting and his lesson was learned to the tune of about \$200, or the cost of machinery and milk that were used to make the cheese. There are so many avenues of fraud coming from the manufacture of skimmed milk cheese that the state is to be congratulated upon having such a good law on the subject and the manner in which the law is obeyed, as I know of no factory in the state manufacturing hard skimmed milk cheese.

BUTTER.

By chapter 205 of the laws of 1907 "the latest standards of purity for food products established by the United States Secretary of Agriculture" are made the legal standards of Wisconsin except in cases where other standards are specifically prescribed by the laws of the state. "The latest standards of purity, for food products established by the United States Secretary of Agriculture" are found in circular No. 19 issued by the United States Secretary of Agriculture, June 26, 1906. Butter is therein defined as follows:

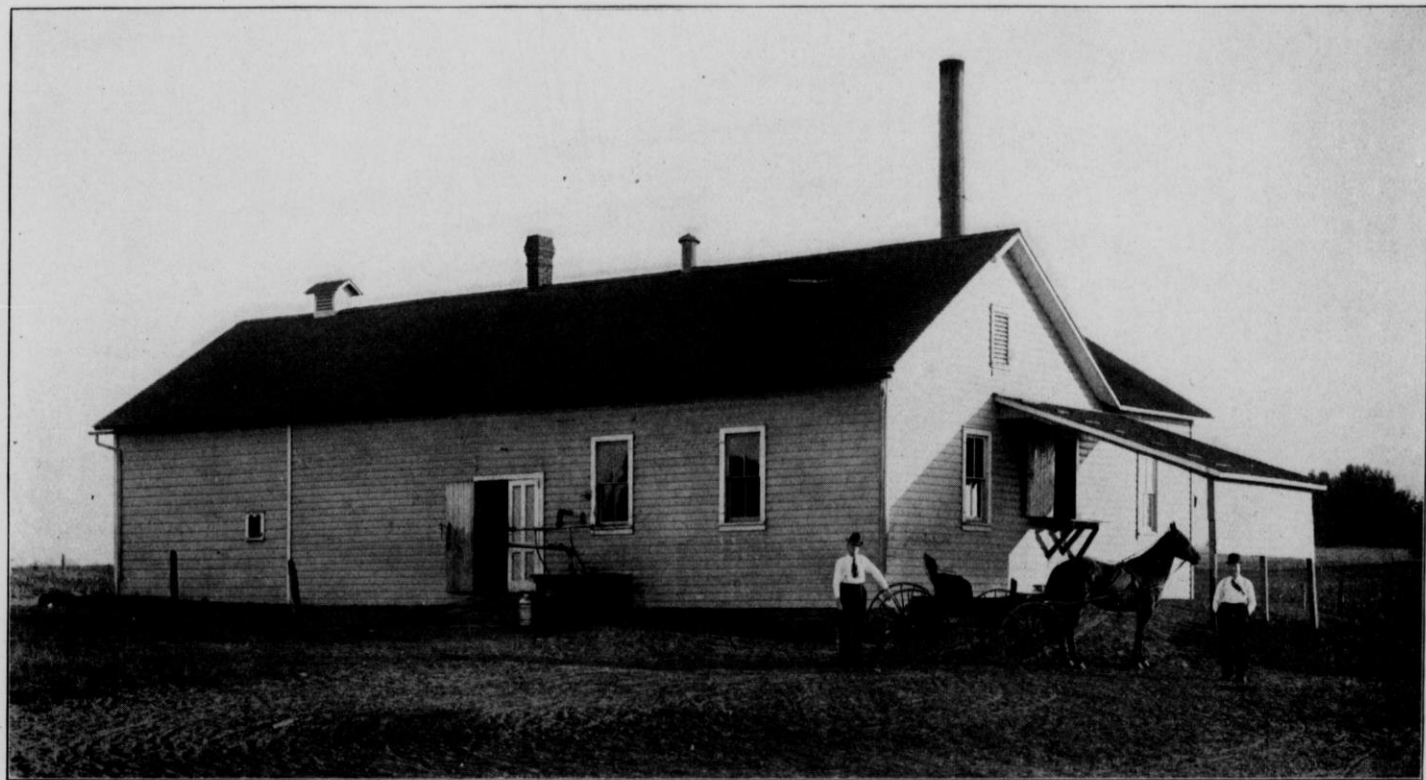
"Butter is the clean, non-rancid product made by gathering in any manner the fat of fresh or ripened milk or cream into a mass, which also contains a small portion of the other milk constituents, with or without salt or added coloring matter, and contains not less than eighty-two and five-tenths (82.5) per cent of milk fat."

That a clear understanding may be had of the definition of butter, it seems best to define the chief products which enter into its manufacture—namely, milk and cream, which under the same provisions of law are as follows:

"Milk is the fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within eight days before and four days after calving, and contains not less than eight and one-half (8.5) per cent of solids not fat, and not less than three (3) per cent of milk fat."

"Cream is that portion of milk, rich in milk fat, which rises to the surface of milk on standing, or is separated from it by centrifugal force, is fresh and clean, and contains not less than eighteen (18) per cent of milk fat."

Experience among dairymen has convinced us that there exists among them a wide difference of opinion as to the necessity of furnishing to the creamery absolutely good and clean milk or cream for the purpose of buttermaking. This, I think, has been brought about in a large measure by the failure of the creamery managers or buttermakers to insist at all times that the patrons furnish them with good clean milk and cream. The patrons having been permitted to continue day after day delivering to a creamery milk or cream which had not been properly cared for, or was old and stale, or delivered in cans that were rusty, opened seamed or unclean, without objection being made has caused too many of them to believe that no matter how poor or unclean the milk or cream might be, it was good enough to be made into butter. This is not the case, as butter that will conform to the standard above quoted can not be manufactured from poor or unclean milk or cream. Let it be remembered that butter that will pass muster under the definition the legislature has put



WEST DEPERE CREAMERY

upon it, and that will continue to bring the highest market price will of necessity have to be manufactured from milk and cream produced under the most healthful and sanitary conditions. Investigation goes to show that fully fifty per cent of the butter manufactured today will score below 90 points. Butter to score below 90 must have some decidedly old or unclean flavor or some bad defects in workmanship. This, to me, is an alarming condition and goes to show the extent of unclean and careless practices. Such conditions have caused the industry great loss, and it will suffer even greater losses unless discontinued. As I said before, I believe that the managers or buttermakers are to a great extent responsible for the unclean practices among dairymen in the handling of milk and cream, and as such they are the most logical parties to bring about the reform so much needed. So long as the patrons' poor or unfit milk or cream is accepted at the creamery, as is too often the case, there is not much hope for improvement; but just as soon as there is no market for such milk or cream, will improvement be made. When we look at the great dairy industry from all sides, we should be most deeply concerned in the production of the best quality of milk and cream, that from it may be manufactured the best quality of butter, because we know such butter will bring the largest and best returns to the individual dairyman and to the state. Therefore, it is not my purpose to try to tell how to make the best butter out of a product not worthy of the name milk or cream, which has been produced possibly from sick cows, poorly fed and kept, milked in unclean utensils, under unclean and filthy conditions, because that can not be done. Such products are not recognized as milk or cream in the state law, nor should they be delivered to a creamery, to say nothing about a creameryman receiving and manufacturing them into an article of food. Of course such products, in which may be found all manner of unclean and unhealthful bacteria, may be given some special treatment such as pasteurization, etc., and in this way kill off some of the bacteria and render inactive others; but each will have done its work and left its bad influence, and the product made from it will never be as good as it would have been had the bad bacteria never found their way into it. I am convinced that too much time has been spent in an effort to discover methods whereby the best butter may be manufactured out of poor and unfit milk and cream, rather than to locate and remove the cause which renders the milk and cream poor and unfit. What I am trying to do is to point out certain fundamental principles in the production of milk and cream and in the manufacture of butter, which, if observed, will insure "extra" butter every time.

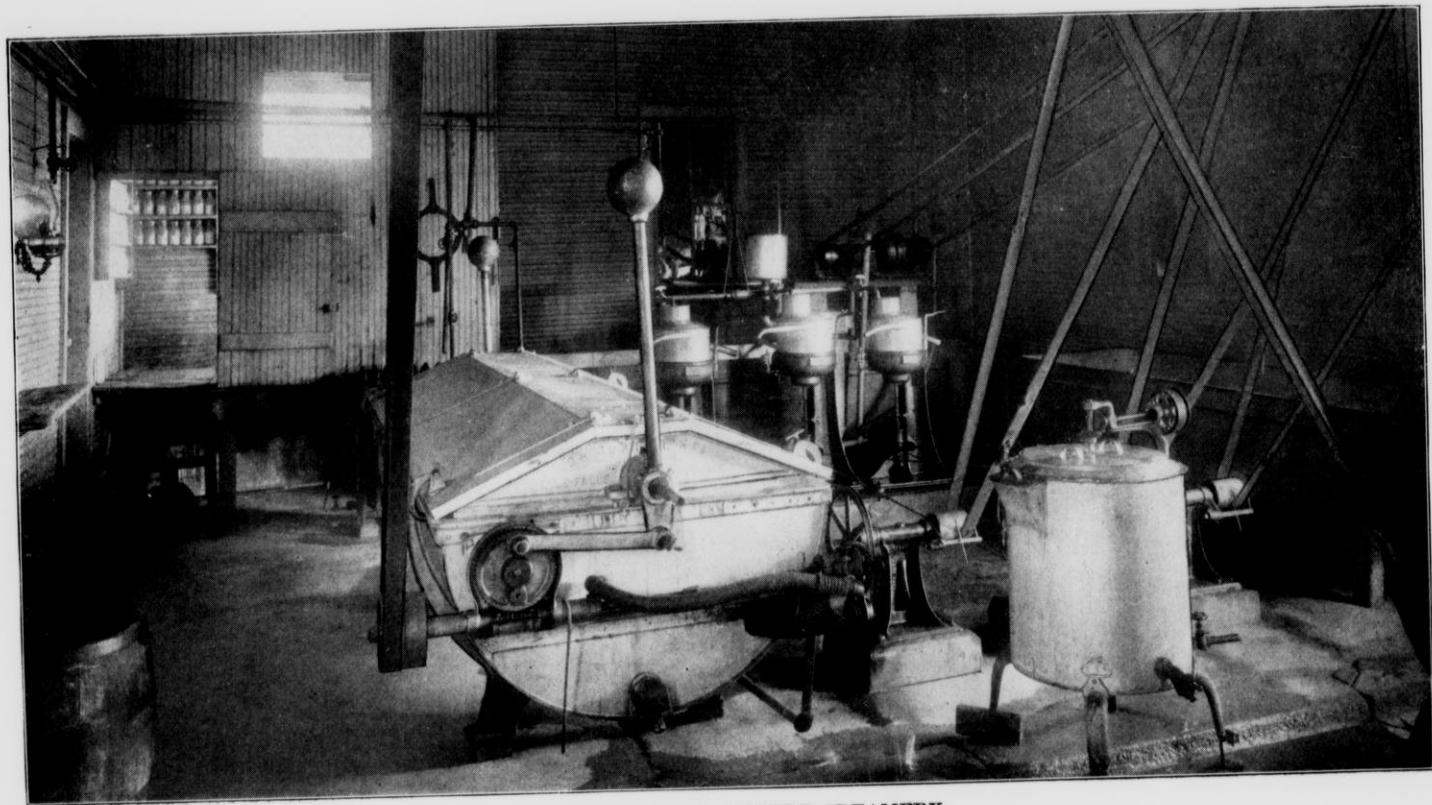
To begin with, the cows from which milk is furnished for butter-making should be healthy. They should be kept clean and have plenty of good wholesome feed and water. When kept in barns, said barns should be kept clean, well-lighted and well-ventilated. A barn having four square feet of light for every cow and the King system of ventilation, or one square foot of air circulation area for every six cows is considered as having A, No. 1 light and ventilation. The milking should be done by clean milkers with dry hands and only clean, well-tinned milking utensils used. After milking, the milk should be promptly removed from the barn. To insure the removal of any unclean substance or of hair that may have fallen into the milk during the milking, it should be strained through several thicknesses of clean cloth and immediately cooled to 50 degrees F. or lower. Where the milk is separated at the farm it should not be cooled before separating, but should be removed at once to the separating room, which should be clean and free from foul and noxious odors, and carefully strained

as above stated. After separation by a separator which had been thoroughly washed and scalded after previous use, the cream should be immediately cooled to 50 degrees F. or lower. Both milk and cream should be held as near that temperature as is possible in a clean place free from foul and noxious odors until delivered to the creamery. Deliver the milk and cream to the creamery fresh and clean and the foundation for the manufacture of "extra" butter has been well laid.

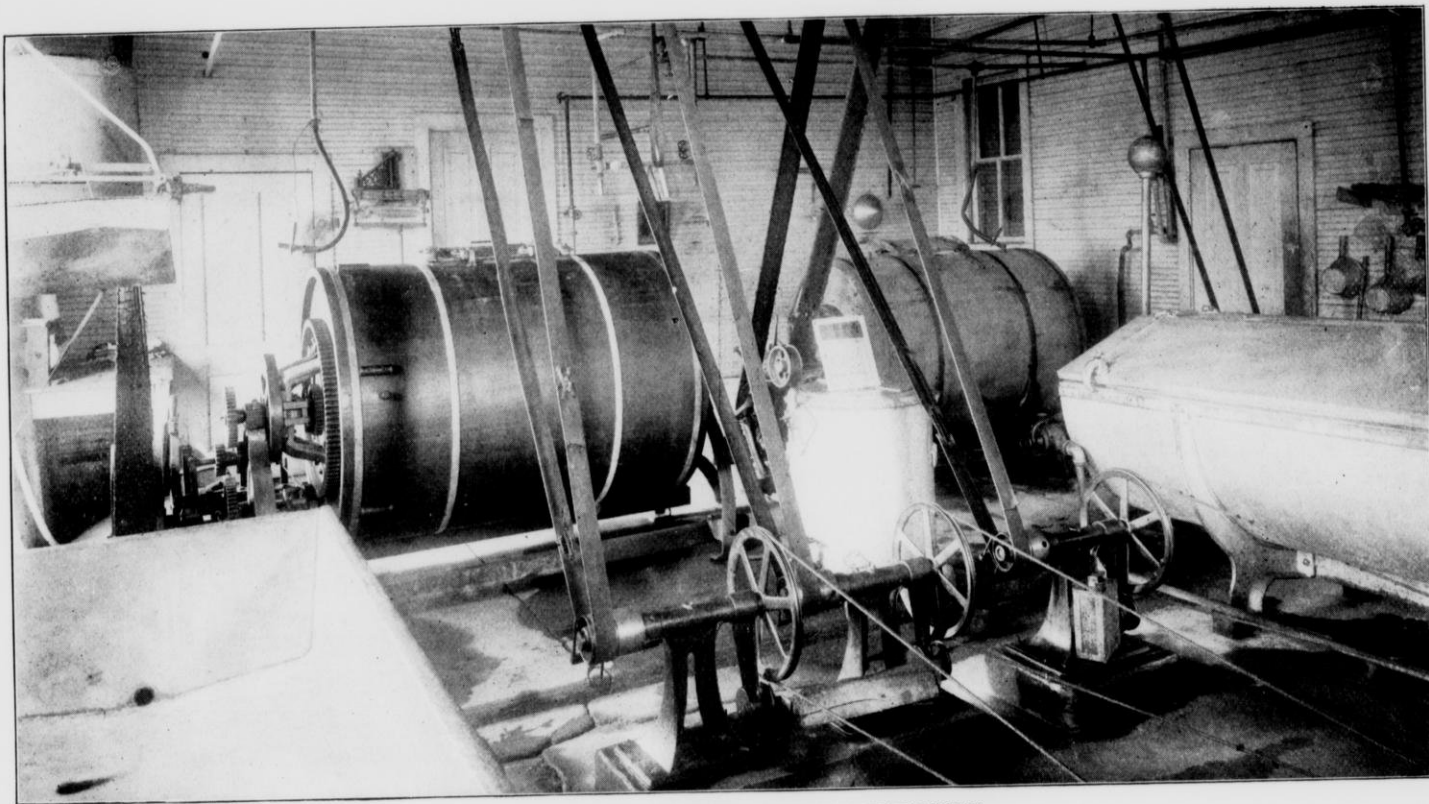
The buttermaker at the creamery receiving the milk or cream produced in the manner above stated should be thoroughly competent in the operation and care of the creamery and of all necessary up-to-date creamery machinery and apparatus, with which he should be provided. The creamery and all apparatus should at all times be kept in a scrupulously clean and sanitary condition.

Where milk and hand separated cream is received at a creamery, the cream from the milk and the hand separator cream can be mixed with good results. Cream to give the best results in butter-making should have a density of about 30 to 35 per cent of milk fat.

Lactic acid bacteria have the qualities of producing the fine delicate flavor and aroma necessary in the production of the best butter. Therefore, 15 to 20 per cent of good commercial lactic acid starter should be added to the cream at the beginning of the ripening process. To get the best results from the use of a starter it should contain about .55 to .6 per cent acidity. As lactic acid develops most rapidly at a temperature of about 65° to 70° F., it is necessary to have the cream at that temperature during the time required for ripening. To insure uniform ripening, the cream should be agitated frequently until it has developed .45 to .5 per cent acidity. At this point it should be immediately cooled to 48° or 50° F., but under no circumstances should this be done by the direct introduction of ice into the cream. The cream should be held at about this temperature for about eight to ten hours or until the next morning so as to thoroughly chill the fat globules which will insure a good firm-bodied butter. It will be found that cream held as above stated will contain about .55 to .6 per cent acidity which is about right for churning. The acidity of the starter and of the cream can be determined by the use of either the Mann's acid test or the Farrington alkaline tablet test. When the cream is placed in the churn in the condition above described, the churning should take about forty-five to fifty minutes. This will insure an exhaustive churning and will leave the butter in a condition in which it can be handled without easily injuring the texture. The churn should be stopped when the butter granules are about the size of wheat kernels, when they will separate nicely from the buttermilk. If additional color is desired, a harmless vegetable color should be added to the cream before starting to churn. After the churning is completed and the buttermilk drawn off, a sufficient amount of clean water of about the same temperature as that of the buttermilk should be added to the butter and the churn revolved five or ten times in fast gear. This water should be drawn off and the operation repeated, if necessary, to insure a clear brine. Sufficient moisture should be left in the butter to insure thorough dissolving of the salt. According to market demands, dry salt ranging from one-half to one and one-half ounces per pound should be added at about the same temperature as that of the butter. During the working of the butter, the churn should be run on the slow gear and the working continued until the salt is evenly distributed and thoroughly incorporated, which will prevent mottles. The butter is now ready to be packed into tubs or printed. It should be firmly packed in the packages in which it is placed upon the market and the packages should be uniform, clean and neat in appearance. But-



INTERIOR—WEST DEPERE CREAMERY.



INTERIOR—WEST DEPERE CREAMERY.

ter manufactured according to the methods set forth should have a rich, clean creamy flavor and contain about 14 to 14.5 per cent of moisture and not much, if any, in excess of 82.5 per cent of milk fat. The body should be firm and when broken have the fine granular appearance presented by broken steel.

The churning temperatures given refer particularly to spring and summer conditions when milk contains a larger proportion of soft fats. During the fall and winter when the cows are fed principally on dry feed, the milk will contain a larger proportion of harder fats, consequently a somewhat higher churning temperature is necessary during that time.

While the progress that Wisconsin has made along all lines over which the Dairy and Food Commission has jurisdiction is very gratifying, yet with the continued hearty cooperation of those who have the state's best interest at heart, we hope to see greater progress in the future.

Respectfully submitted,

H. C. LARSON,
2nd Assistant Commissioner.

REPORTS OF CHEESE FACTORY, DAIRY AND FOOD INSPECTORS.

RICHLAND CENTER, Wis., July 15, 1908.

HON. J. Q. EMERY,

Dairy and Food Commissioner.

SIR: I herewith submit my report as Cheese Factory, Dairy and Food Inspector for the two years commencing July 1, 1906, and ending June 30, 1908.

During the time specified, I have been engaged in making inspections of cheese factories, creameries, city milk supplies, dairy barns, farm separators, dairy utensils and oleomargarine.

A portion of my time has been taken up with prosecution of cases for the violation of dairy laws, and in answering calls from numerous factories that have had various troubles, such as poor tests, poor cheese, bad drainage, pinhole curds, tainted milk, diseased cows, bad cans and dirty milk.

CHEESE FACTORIES.

My work in the cheese factories has covered territory in the eastern part of the state, where the cheese manufactured was of the foreign type and the milk was purchased by the 100 lbs.; also territory in the southwestern part of the state where nearly all of the milk is paid for by the Babcock test system.

The cheese factories in the eastern part of the state have undergone many improvements in the last two years. Cement floors have taken the place of old wood floors in making-rooms; cellar bottoms have been cemented, side walls cleaned and whitewashed, buildings repainted inside and out, drains repaired and put in sanitary condition, and in many instances, new drains have been put in. New boiler rooms have been built and boilers taken out of the making-

rooms, thus removing smoke and coal soot. Whey tanks have been taken out of the ground and either placed on the surface or elevated so that they can be readily cleaned; mud-holes and unsanitary pools around the factories have been filled in, screens put on doors and windows to keep out the flies and general conditions and surroundings greatly improved.

The system of buying milk by the 100 lbs., regardless of test, still in vogue in several of the eastern counties of the state, is erroneous in principle and leads to many abuses in practice. This has necessarily called for a large amount of testing of the milk at the factories and the finding of a good many cases of adulteration either by skimming or watering, followed by the prompt prosecution of the same. This system should be replaced by the Babcock test system, paying each patron according to the value of the milk delivered, thereby removing the incentive to deliver adulterated milk and awakening in said patrons a desire to improve the quality of the milk they furnish by keeping and breeding better cows. The system of working for quantity regardless of quality has led to the development of herds that, in some seasons of the year, will not produce milk containing 3% butter fat, a standard required by our state law.

The majority of the cheesemakers are keeping their factories cleaner and taking more interest in making a first class cheese, than they were before inspectors visited them. They are seeing that the farmers deliver cleaner and more wholesome milk to the factories and are working for a better and more marketable product than heretofore.

There are exceptions to this class which sometimes require us to use the severe measure of prosecution, but fortunately these cheesemakers are fast improving or going out of the business entirely.

Nevertheless it is quite essential that all factories be visited and reported at least once a year and at a time when the inspection is not expected by the maker. Many factories can be greatly improved by painting making-rooms, enlarging weigh rooms, providing cooler curing rooms, putting in new whey tanks and grading and filling in all low places around the factories.

In the southwestern part of the state, the factories manufacture mostly American types of cheese and the milk is paid for by the Babcock test system. In over one thousand samples of milk tested this season, I found but one case of watered milk, and it is not uncommon to find an average factory test of 4% butter fat per 100 lbs. when the cows are on full feed during the summer months. This is quite a contrast to counties in which I have worked where the test system is not used.

The factories in this part of the state are mostly in good condition and kept clean. There are a few exceptions where the drainage is not as good as it should be and the makers are sometimes careless, but the owners, upon notification, have usually been prompt in putting in new sewers and in many instances they have repaired the buildings and put in new vats and machinery.

The worst evil makers have to contend with is gassy and tainted milk, caused by cows wading in stagnant water, which is found in sloughs and pools in all of the many creek bottoms in this section of the state. The live bacilli, that are in the stagnant water, are carried in the dust on the cows to the milk pail, causing open pinholey curds that produce an inferior grade of cheese. This can be overcome only by the farmers employing more cleanly methods in milking. Much tainted milk is caused by the farmers depending too much on aeration and not cooling the night's milk sufficiently (to 70° or lower), thus allowing putrefaction to develop in the milk during the excessively hot nights which they have in these valleys.

These evils I have been trying to overcome as much as possible by talking with the farmers at the weigh room window of the best methods of caring for the nights' milk and of the necessity of keeping the milk absolutely clean at all times.

Another source of much of the polluted milk has been the use of rusty, open-seamed cans. These we have had replaced with good new cans by tagging the old ones as unsanitary. There is still need of a large amount of inspection of milk at the factories and education of the farmers as to the necessity of keeping all milk and utensils perfectly clean, before we can get a first class cheese product during hot weather.

I have been called to several factories where the testing has been unsatisfactory and have usually found some of the essential requirements of good testing not complied with by the maker—as an illustration, using warm acid on warm samples of milk.

CREAMERIES.

The creameries in the southwestern part of the state are gradually becoming gathered cream plants and, owing to less labor and less running expense, they can pay higher prices for butter fat, but do not make as uniformly high grade product as the whole-milk creameries.

A large amount of this gathered cream is kept too long by the farmers before delivery and is sour and overripe when received at the factory. The action of large centralizing plants from outside of the state in purchasing from the farmers cream of any age they may ship them, has had a very demoralizing effect and has made it necessary for the local creamery, in many instances, to accept unsuitable cream for making fancy butter or else lose their customers.

The creameries are nearly all in first class condition and the buttermakers are working hard to keep them clean and make a marketable article from the raw material, such as it is. The buttermakers will have to insist on all cream being delivered sweet at the creamery and visit occasionally the source of supply before they will get a high grade, uniform article.

The enforcement of the production and delivery of first class gathered cream to our creameries and shipping stations is one of our most difficult problems for future work, as the hand separator is managed by so many thousands of patrons whose different degrees of knowledge about handling both machinery and cream, are "too numerous to mention."

BARN INSPECTION.

My work of barn inspection the past winter was the first I had done to any extent, and was confined to dairies that were delivering milk to city and village trade in southwestern Wisconsin.

In a large majority of cases, I found the barns kept reasonably clean and with few exceptions the cows were clean, but the light and ventilation of the barns was poor and insufficient and many of them had poor floors and stanchions. A very small per cent of the cows had been tuberculin-tested and many of the herds were poorly fed owing to the scarcity and high price of feed. In nearly all cases feed and water were wholesome and of good quality. Utensils were, in most cases, clean and properly cared for.

There was but one city where I found adulterated milk, in which case I prosecuted three offenders. The milk averaged of high grade in both test and cleanliness in all other cities visited. Nearly all the dealers have adopted the plan of selling all milk in glass bottles,

which I consider the most desirable method of handling same. It insures cleaner and better sanitary conditions than the old way of dipping and measuring the milk from tin cans that became rusty, battered and open-seamed, and were in many cases unfit to contain food products for man.

The inspection of the dairymen's barns seemed to awaken an interest in many of them to improve their barns and surrounding conditions and I know of several that have whitewashed barns since inspection that never had been whitewashed before.

OLEOMARGARINE.

During the winter of 1906 and 1907 I was traveling from city to city inspecting the oleomargarine that was being sold by the retail trade. The oleomargarine business at that time was far from satisfactory. Dealers were urged by Chicago manufacturers to sell an article that, in the opinion of the Commissioner, was a violation of the state oleomargarine law. Not having at that time any Wisconsin court decisions on the subject, it was impossible to keep off of the market all goods that were deemed an imitation of yellow butter, but through the untiring efforts of the Commissioner and his assistants, we now have both Supreme and Circuit Court decisions that will make it an easier matter in the future to keep the market clear of oleomargarine that is in imitation of yellow butter.

From June 30, 1906, to July 1, 1908, I inspected about 250 cheese factories and creameries, and inspected the milk of about 1,500 patrons, inspected milk in 15 cities and made an inspection of the barns of the patrons furnishing milk to the same. I visited 500 grocery stores where oleomargarine was sold. I prosecuted 25 cases for sale of adulterated milk, 2 cheesemakers for unclean factories, 2 cases for selling or delivering unclean milk, and 3 cases for selling colored oleomargarine for creamery butter. I tagged over 100 cans as unsanitary and required 20 factories to improve their sanitary conditions.

RESULTS.

As far as I can learn, the work done has been of benefit to the makers, a large majority of the factory owners and patrons, and is considered of much value by the consuming public. The ever increasing number of calls I receive undoubtedly attests that the work is giving general satisfaction.

Very respectfully submitted,

F. E. CARSWELL,

Cheese Factory, Dairy and Food Inspector.

Report of Wisconsin Dairy and Food Commissioner. 141

NEENAH, WIS., JULY 15, 1908.

HON. J. Q. EMERY,

Dairy and Food Commissioner.

SIR: Following is a report of the work done by me as cheese factory, dairy and food inspector for the biennial term ending June 30th, 1908:

Number cheese factory inspections.....	287
Number creamery inspections.....	81
Number skimming station inspections.....	9
Number city milk plant inspections.....	28
Number city milk wagon with utensil inspections.....	361
Number samples city milk purchased and tested.....	190
Number farm separator dairies inspected.....	70
Number dairy barns inspected.....	815
Number patrons' milk cans inspected.....	5,815
Number meetings called and addressed.....	42
Number conventions addressed.....	4
Number city councils addressed.....	4
Number farm institutes addressed.....	30

During the two years covered by this report, progress has been made in my territory in all the features of the dairy industry, the most striking improvements being noticeable in dairy barns with especial reference to floors, ventilation and lighting. However, the proportion of cows that are filthy during winter months is, as yet, very large.

Improvement in the character and cleanliness of milk cans used for delivering milk to cheese factories and creameries is noticeable in sections where milk inspections were made, especially where factory managers have the backbone to insist that the advice of the inspector be lived up to.

Unfortunately there are factorymen who are ready to accept anything a patron has to offer, no matter how dirty the milk or how unfit the can. For instance, one cheesemaker, in my presence one morning rejected thirty cans of milk because of unclean cans, the rejected milk constituting forty per cent of the total offerings. Yet the milk was not any dirtier than usual and it had always been accepted as satisfactory and put into the same vat with the clean milk delivered by other patrons and made into food for people to eat.

Instead of protecting these farmers who took pains to get their milk to the factory in a clean condition, this cheesemaker abused them by mixing dirty milk with it at the factory, thereby also trampling on the rights of the consumer. In carrying on said practice, he violated the law daily.

I do not know by what system of mismanagement factorymen could place themselves in a more contemptible position than that of the aforesaid cheesemaker, and while such practices can still be found, they are growing less common.

In cheese factories and creameries improvements have been going on steadily especially with regard to drainage and surroundings. Yet I regret to report that it has not been difficult to find creamerymen who pumped the farmers' clean milk through filthy pipes and the skim-milk through another set of filthy pipes.

I am compelled to report that I found numerous cheese factories in an abominably dirty condition, this fact necessitating a large number of prosecutions.

There are men engaged in operating cheese factories and creameries who have missed their calling, being too untidy and slovenly,

and it is unfortunate that the state has made no provisions for compelling such men to change their occupation.

I have done considerable work along the line of inspecting city milk supplies and find that much recklessness prevails among milk dealers where they have been given a loose rein. Experience compels me to believe that without inspections and prosecutions unclean utensils could be found daily on fully sixty per cent of the milk wagons, due in part to the use of defective cans.

At a few cities where several inspections have been made it is now difficult to find unclean cans.

Wherever inspection has been extended to the farms where milk is produced for the city trade, great improvements have been made in the dairy barns and cows are being kept cleaner.

THE CITY MILK SUPPLY AND ITS REGULATION.

The trend of the times is to regulate traffic in food products with reference to purity and wholesomeness.

Many foods are used only after being cooked, whereas milk is used largely uncooked and it forms an important part in the daily diet of infants.

Impurities, aside from being offensive in foods, may create poison in milk, and as infants and young children cannot stand much poison in their systems it appears that the necessity of purity in our city milk supply needs no argument.

An Eastern authority says "The Lord's will be done" has been piously repeated over a deceased infant in scores of bereaved households when the draining of a stagnant pool, the removal of filth about the dairy or the application of a low temperature to milk would have allowed the child to grow to maturity."

Dr. Whalen, formerly Health Commissioner of the city of Chicago, in a circular of information on the milk supply of said city, says: "Every one knows how milk looks and how it tastes and that it comes from cows or other domesticated animals and yet very few really know what milk is or how it is made by animals or how dangerous it can be when it gets dirty.

"In spite of the value of milk as an article of diet, many persons on account of their knowledge of the careless way that most milk is produced use as little of it as possible.

"Milk differs from most foods in that its quality cannot be judged by its appearance. The detection of adulteration and contamination is quite impossible in the kitchen. Milk containing bacteria dangerous from their number and variety does not differ in appearance from the pure article."

During the past two years I have spent considerable time inspecting city milks and the dairies supplying the same and among the rather common criticisms I have had to report with reference to stable conditions are: Dark, foul-smelling stables; rotten, saturated plank floors; floors that leak and hide a mass of filth underneath; and filthy cows.

With reference to milk dealers' premises, the following conditions, among others, have been found: musty floors; musty odor; room swarming with flies; employees or operators making a practice of spitting tobacco juice on floors; cigar stubs lying around and premises untidy generally. I have also found premises into which sewer gas came through defective drains.

In those cities where there has been little or no inspection one can find unclean cans on fully sixty per cent of the milk wagons, due in part to carelessness in washing, but often to the use of unsuitable

cans. I found strainers that did not strain; cooling tanks that were foul; etc.

I have seen milk sold in bottles that had blotches of milk solids fastened on the glass. I have seen milk cans, from which milk was being sold, that were so filthy that when they were emptied and covered for a few minutes they would stink. I have seen churns and other utensils in milk dealers' premises from which one could scrape off putrid stuff by the ounce.

I have seen milk vendors feed their cows on mouldy or rotten feeds. I found one vendor whose cows were obliged to drink leechings from a filthy barn yard; another vendor used horse manure from a livery barn exclusively as bedding for his cows. I have seen milk vendors collect unclean bottles from some customer, refill them with milk on the delivery wagon and deliver the said bottles of milk to other customers. I know one farmer who offered a can full of cream and maggots to a milk dealer and he made a great "holler" because the dealer refused to accept it. I know of epidemics of typhoid and of scarlet fever that were caused by the distribution of milk from farms where those diseases were prevalent.

In a Wisconsin city, two months ago, within two hours after their milk man had left the usual supply of milk and cream at their house, the husband, wife and two children were under the care of a physician. It was a clear case of ptomaine poisoning caused by the milk or cream.

A month ago thirty-six tuberculous cows were found on two farms that were supplying milk to the city of Oshkosh. The tuberculous cows that supply milk to most of our cities have not yet been weeded out.

In order to cover up the effects of carelessness many of our biggest dealers resort to pasteurization, using all milks that will "stand up" through said process. That raises the question as to whether the bacteria shall be consumed alive or dead, and whether the human stomach shall constitute an aquarium or a cemetery. I inquired of one dealer what he meant by "stand up". He answered "any milk that is not too sour, no matter if it is dirty."

Quoting again from Dr. Whalen: "When milk is once spoiled, it can by no known process be made good milk. Pasteurization is merely a method for its preservation and its necessity proves a contamination which might have been avoided. Pasteurization is not an ideal method of dealing with the present day milk and is resorted to as a necessary evil, and nothing more.

"The ideal pure milk supply would be to have milk uncooked, free from disease germs and dirt, and undrugged with chemical preservatives. These conditions involve clean, healthy cows, grass-fed in summer and properly fed in winter; sanitary buildings; clean milking; prompt and thorough cooling and distribution in sealed bottles or cans."

We have state laws which forbid the abuses above mentioned but the force of inspectors is too small to properly cover the ground, aside from their other duties, and if they could cover it they could not secure safe protection to the consumers without assistance from the municipality.

The public may presume that if a penalty is provided for the sale of milk which ought not to be sold and inspectors are on hand to prosecute offenders, that proper regulation will result. Such conclusion, however, may be erroneous and I will cite several instances to show why.

One vendor whose utensils were repeatedly found to be unclean was finally prosecuted, after which, on several inspections, blotches of put-

rid matter were found on the inside of his cans, yet he persistently declared the cans were properly washed and were clean.

Another vendor after the third warning was prosecuted. Two weeks later liberal patches of a putrid coating were found in his cans. This man washed the cans personally yet he was ignorant of their condition, until we called his attention thereto.

In these cases enforcement of the law brought no regulation.

Milk can be so impure as to be dangerous to use, yet no evidence may be obtainable that would justify prosecution.

The untidy person may make some changes merely with a view of escaping prosecution, which simply means that he will be as dirty as he dares be; therefore, in my opinion, his milk would not be safe to use as a food product.

In the production and vending of pure milk, intelligence and tidiness are a necessity. Some people don't possess these requisites. We cannot legislate intelligence into them, neither can the inspector scare ignorance out of them and so long as such people have a hand in supplying cities with milk, adequate protection to consumers will be almost impossible.

It must not be supposed that the ignorant furnish all the low grade milk used in cities. Far from it. Some of it is furnished by intelligent men, who have become indifferent or perhaps even reckless, because the consuming public is indifferent and does not appreciate cleanliness in milk.

As a matter of fact some producers who deliver milk direct to the consumers have attempted to put a superior article on the market. This entailed a slight increase in expenditures and, as a compensation, they asked the modest advance of one cent per quart over the ruling (usually the lowest) price and in nearly all cases were turned down by the consumers.

I have interviewed retailers who were buying their milk supply from farmers and found that most of these were buying and using milk in their business which was unsatisfactory but they could not get anything better for the price the market allowed them to pay and the situation, in this respect, became more acute on account of the prevailing high prices for cheese and butter, which furnished an inducement to farmers to sell their milk at factories.

Dr. Whalen says: "The public will not pay a fraction of a cent more per quart for that milk produced under sanitary conditions than that from the foulest surroundings.

"If the public is indifferent and cannot be educated, what will be the attitude of the producer toward an education from which he can see no direct benefit, but only increased trouble and expense. Can we expect him to employ extra help in order to secure perfect cleanliness; to improve the ventilation and drainage of his barn; to remove the manure daily to a place apart from the barn; to sterilize the pails; to use ice for rapid cooling; and to take other precautions merely to send a clean milk to the market for which neither the middleman nor the consumer will pay a cent more per can than his slovenly neighbor receives?

"The question can be simplified by the elimination of the public, which does not care and must be saved in spite of itself. We therefore have to deal with the producer beyond the city and the retailer or vendor within. Licensing of dealers has done much good.

"Revoking licenses on the ground of unsanitary conditions is a wholesome practice which educates by example."

Here we have the key to the situation. Here is where the municipality should take a hand by licensing every person who sells milk within its borders. The license fee should be very small, or may, per-

haps, be omitted but a penalty should be provided for selling without such license.

People will differ as to the regulations a city should prescribe. My opinion is that the ordinance should require with respect to cows, stables, milk premises, utensils and dairy products, all that our state dairy laws require; also that stables be whitewashed at stated intervals; that cows be kept clean; that cows be tuberculin-tested; that milk utensils be sterilized daily; that milk shall be promptly cooled when drawn from the cows and shall not be delivered above a given temperature (50 or 55 degrees) to city dealers nor offered for sale within the city. The ordinance should also cover such cases where milk producers or dealers are blamable for the spread of contagious diseases through the milk supply.

All producers and dealers should be supplied with copies of the state laws and of the city ordinance bearing on this question and should be given a reasonable length of time to prepare for a compliance with said regulations.

After the ordinance is in effect, an offender should be given notice as to the nature of his shortcomings, and if he offends after a second notice his license should be promptly revoked.

The producer outside the city can be controlled through the dealer within, in this way: If the producer's stable, cows or milk falls short of the requirements, the retailer is forbidden to use his milk, under pain of having his license revoked.

The local commissioner of health should have charge of the enforcement of the ordinance and much depends on his fidelity to this trust. He may make inspections in person, or he may be given the services, as he needs them, of a man who is competent. The inspector should be young enough to have good eye-sight.

The city of Marinette has used some method of control and its milk supply is far superior, in point of purity, to the average.

The enforcement of these measures at Marinette involved no hardships or undue expenditures to milk producers, the necessary improvements consisting only of such things which every cow owner should have and would be benefited by, whether his milk goes to the city or elsewhere, and, incidentally, it furnished the conscientious producer the protection he reserved against competition from his slovenly, reckless neighbor. However, I deem it but fair to state that by comparing the present cost of milk production with the retail price, and by considering the high value of milk for cheese and butter purposes, we need not expect material improvement in the purity of our city milk supply without some advance in the price, which the public should cheerfully pay, because clean milk will be inexpensive food at that.

What the public ought to know:

That milk is not clean unless some pains have been taken to prevent it from getting dirty.

That dirty milk may be the direct cause of disease and death.

That there is a direct relation between the cleanliness of the cow and the cleanliness of the milk.

That there is a direct relation between the odor in the stable and the purity of the milk.

That disease germs multiply rapidly in milk and that infected milk may spread contagious disease.

That milk once impure, cannot be made pure.

That pasteurization tends to preserve, rather than purify, milk.

That in practically all dairy sections tuberculosis exists in some herds.

That this disease may be transmitted from the cow to the human being.

That a milk producer from the standpoint of economy cannot afford to keep tuberculous cattle.

That a milk producer should be prepared to furnish his customer with proof that his herd is free from this disease.

That some milk cans, from their style of construction, are almost impossible to clean, therefore unfit to use.

That some people are so untidy, or ignorant, that they ought not to be permitted to produce or handle milk intended for direct consumption.

That in the absence of properly enforced measures, there will be more or less milk marketed that is a menace to health.

That prosecution is expensive, uncertain of desired results and if relied upon entirely, is bound to fail in securing sufficient protection to the public.

That furnishing the public with milk which is clean, uncontaminated and properly cooled involves no hardships on the producer or the dealer.

That those who furnish such milk should by a system of licensing be protected from competition by dirty or reckless people.

That dirty milk is dear at any price.

That clean milk even at an advanced price, will be inexpensive in comparison with other foods.

That the dairyman who has a sanitary barn, properly ventilated and free from objectionable odors, and who keeps his cows clean is a public benefactor and deserves ten times the appreciation accorded him by the consumer.

E. L. ADERHOLD,

Cheese Factory, Dairy and Food Inspector.

NEW LONDON, Wis., July 15, 1908.

Hon. J. Q. EMERY,

Dairy and Food Commissioner,

SIR: I herewith submit my report of the work performed by me as cheese factory, dairy and food inspector, beginning July 1, 1906 and ending June 30, 1908.

During that time I inspected as follows:

- 354 cheese factories, creameries and skimming stations,
- 73 cream separators used by farmers,
- 350 dairy barns,
- 30 milk depots in different cities,
- 104 oleomargarine sellers.

I made 785 fat tests; 376 cream tests; collected 205 city milk samples and tested same; also collected 18 herd samples and expressed same to state chemist, Madison; inspected the milk wagons and their utensils of 28 different cities; judged 900 cheeses at Madison, State Fair Park, Milwaukee, and at cheesemakers' conventions, Milwaukee; and made 32 prosecutions.

The inspection of these two years differed somewhat from the inspection of the preceding years in that it was more thorough. During the first years as cheese factory, dairy and food inspector, my duty was especially to visit the cheese factories and creameries and give the necessary advice, and acquaint the cheesemakers and creamery men with the dairy laws and the penalties for not obeying the

same. My later inspection consisted in visiting the cheese factories and creameries in order to ascertain if they were conducted according to the dairy laws, and in seven cases I was compelled to start prosecution against parties for maintaining unclean and unsanitary cheese factories.

Will say that in general great improvements have been made in cheese factories and creameries in my territory since my first visits. In most all cases where new floors were put in, cement was the material used. Factories were painted and whitewashed inside. Basement curing rooms were cleaned and a coat of whitewash applied which added greatly to their appearance, and the drainage was also improved. When inspecting creameries and cheese factories, I also inspected patrons' milk cans. Where a can was found rusty, unclean, open-seamed, and badly battered, we attached a tag to same, stating that it was unfit for use. This tag has printed on it the dairy laws and the penalty for delivering milk in such cans. It has also printed on it the instructions for the care of milk. Have come in contact in several cases with cans which have been used for delivering milk from fifteen to twenty years, and in a few cases have found cans that were completely covered with rust. In some cases prosecution was brought against parties where cans were found very unclean.

INSPECTION OF HAND SEPARATORS.

In the inspection of cream separators, I found them in all sorts of conditions. About one-half of the number I inspected were located in barns. In some cases they were situated in the midst of the herd, and in such cases the separators were found very unclean. When such conditions existed, I always advised the immediate removal of separator to some clean place. In some other cases I found separators located in dwelling houses which were also found very unclean. When unclean separators were found, I advised parties not to offer any more cream for sale until they could comply with the dairy laws.

INSPECTION OF DAIRY BARNs.

In the inspection of dairy barns, I found about one-third the number inspected to be in poor condition. They were poorly lighted and poorly ventilated and had earth floors. The cows were tied with ropes and chains and allowed to become very filthy. In these cases I always advised the putting in of cement floors and constructing the same so as to keep the cows clean.

INSPECTION OF MILK DEPOTS IN CITIES.

In the inspection of city milk depots, I found a few cases where conditions were very unclean. Cream separators and utensils were coated with putrid milk; also found the apparatus used for making hand cheese very unclean. In those cases it was necessary to prosecute in order that conditions might be changed.

The city milk wagons were inspected along the same line and prosecutions were brought where utensils used were found unclean. Samples of milk and cream were collected from all city milk dealers. Those samples were tested for milk fat and solids not fat and in eleven cases the milk was found to be adulterated. Those cases were prosecuted.

MILK AND CREAM TESTING IN CHEESE FACTORIES AND CREAMERIES.

This work was brought about by special requests sent to Commissioner Emery from operators and patrons of cheese factories and creameries to have an official test made of their milk and cream. These requests were usually made where dissatisfaction existed between operators and patrons. I found, when attending those special calls, that dissatisfaction often arose through carelessness or lack of knowledge of the operator in preparing samples for testing, and, on the other hand, the fault sometimes was with patrons expecting a higher test than they deserved.

OLEOMARGARINE.

My work during the beginning of the year 1908 was devoted to the visiting of one hundred and four oleomargarine dealers in different parts of the state. This was for the purpose of ascertaining whether the dealers were complying with the law in regard to the sale of oleomargarine. In some cases I found dealers who were selling oleomargarine which was slightly colored in imitation of yellow butter, and also in some cases the dealers failed to have their places properly placarded as the law required. In those cases the law was carefully explained to the dealers, and in each case they willingly promised to discontinue the sale of the unlawful goods and return same to the manufacturer.

Respectfully submitted,

J. D. CANNON,
Cheese Factory, Dairy and Food Inspector.

MONROE, Wis., July 15, 1908.

Hon. J. Q. EMERY,

Dairy and Food Commissioner.

SIR: In compliance with your request, I herewith submit my report as cheese factory, dairy and food inspector for the period from July 1, 1906, to June 30, 1908.

I have made inspections as follows:

- 402 cheese factories,
- 23 creameries,
- 46 dairy barns and herds.
- 10 city milk supplies,
- 2 condensing factories,
- 2 skimming stations,

making a total of 485 inspections.

While engaged in the work of inspecting cheese factories and city milk supplies, I collected and tested by means of the Babcock test, the lactometer and the Wisconsin curd tests, 1151 samples of milk and cream. Of these 1151 samples, I delivered to the state chemist for analysis 70 samples of milk and cream. In addition, 14 samples of lemon and vanilla extracts and spices were sent by me to the chemist for analysis.

To clear up suspected adulterated milk delivered to cheese factories or creameries or furnished by city milk dealers, I procured about twenty-five samples of milk at the barns of the corresponding herds.

The inspection of cheese factories and creameries had mostly to do with the sanitary conditions existing in the process of the manufacture of cheese and butter, the utensils of the patrons in which the milk was delivered to the cheese factory or creamery, and sanitary conditions surrounding such premises.

The inspection of city milk supplies was chiefly to ascertain the quality and purity of the milk and cream delivered. The Babcock test and lactometer tests were applied to determine the per cent of milk fat and solids not fat in the milk. The Wisconsin curd test was applied to determine the purity and cleanliness of the milk, and when in either case the milk was found to be abnormal in milk fat or solids not fat, or apparently produced under unclean conditions, a barn inspection was made. The suspected sample of milk or cream was sent under seal to the state chemist for analysis and when found below legal standard, a barn inspection of said herd was made to ascertain if the milk at the barn, drawn from the cows in the presence of the inspector, was also below legal standard. If not, prosecution was made.

I preferred seventeen charges and secured fifteen convictions—fourteen against parties selling adulterated milk, one against a party selling unlawful lemon extract, one against a party for conducting an unclean and unsanitary cheese factory.

In a number of cases where samples from different patrons' milk were found at the factory below legal standard in milk fat, also below standard in solids not fat, corresponding samples were procured at the barn of these herds and were found to be actually below standard in milk fat and also below standard in solids not fat. In such cases it was apparent that much effort was put forth by the owner of said herd to increase the quantity of milk regardless of quality. The state of Wisconsin has provided standards for milk, and it should, therefore, be a matter to be thoughtfully considered by the producers and sellers of such milk.

The system known as the "pooling system" is still in vogue and is largely responsible for the numerous complaints of adulteration that are made to the commissioner. By the "pooling system" is meant the buying of milk by the hundred pounds, irrespective of the quality. The cheesemakers are yet to a large extent without milk testing apparatus or even a knowledge of these appliances.

I also inspected over a hundred milk and cream cans at different depots in which milk and cream are transported or shipped to either creameries or ice cream manufacturing plants. In case dirty, rusty, battered or open-seamed cans were found, suitable action was taken in each case.

In the month of February, 1908, I was engaged in taking a cow census of forty herds in the county of Green. The purpose of this cow census was an educational one, showing the possibilities of profitable and unprofitable dairying. The results were reported at the 36th annual convention of the Wisconsin Dairymen's Association, which was held at Monroe, March 11 to 13, 1908. Among other important facts, it was shown that the difference of net average gain per cow of the lowest and highest herds per year varied from \$6.33 to \$55.94 per cow, or a total return from factory:

	Highest	Lowest
	\$91.49	\$31.12
Deducting cost of feed.....	35.55	24.79
Actual gain per cow.....	\$55.94	\$6.33

The calf is not credited to the cow in either of the above specified herds.

IMPROVEMENTS.

Milk producers have greatly improved in the use of more suitable utensils for both milking and delivering milk to cheese factories. They are becoming aware that the sale of unclean milk and the use of unclean utensils are punishable offenses.

Cheese factories have been much improved, especially in the construction of cement floors and drainage.

Improvements have been made by the installation of separators for the manufacturing of whey butter, thus doing away with the old gravity system of raising cream in tanks, sometimes called the "fly system".

Whey barrels that were used for the purpose of assuring each patron his share of whey are rapidly being replaced by a check pump and large tanks. This greatly improves the sanitary conditions of a cheese factory.

Cheese factory operators find it less difficult to keep their factories and premises in clean condition since good cement floors and good drainage have been provided. Then, a remarkable improvement is noticed in the atmosphere surrounding the cheese factory. The utensils, as a rule, are found in a clean condition. There is occasionally one who does not seem to believe in cleanliness, but, as reported, such cases have been prosecuted and convicted.

MORE IMPROVEMENTS AND PRECAUTIONS NEEDED.

Whey barrels that are still used for the purpose of distributing whey at the cheese factories should be done away with. Many of the disturbances in the manufacture of cheese have been found to be directly due to the use of unclean whey barrels.

A properly equipped milk house should be found on every dairy farm. It is as essential as a dairy barn. It is only too frequent that we find milk housed in the cow stable during winter time. Milk cans are too often found stored away for the day as well as night on a stand joining the cow stables, or in immediate proximity.

Every cheese factory in this section of the state should be equipped with a Babcock milk tester, a lactometer and the Wisconsin curd test. Every cheesemaker should be compelled to possess practical knowledge of this milk testing apparatus. The application of these tests would much reduce the temptation to adulterate.

Many improvements are still needed in the proper construction of a Swiss cheese factory. Cheese curing rooms are not what they should be. In many cases they consist only of one room. Better cheese curing rooms should be provided. To control the fermentation processes of a Swiss cheese, three curing rooms should be provided—one room for the salt brine tank and young salt cheese, a second fermentation room with controllable temperature, and, third, a storage room of somewhat lower temperature. This would be greatly appreciated by the skillful Swiss cheesemaker. Whereas in the present construction of a Swiss cheese factory of only one room, or perhaps two, for curing purposes, the cheesemaker and the cheese are at the mercy of the surrounding temperature. For under ordinary conditions, the fermentation of a Swiss cheese varies greatly and can only be controlled when placed under different temperatures.

As to some of the peculiar ideas held to and methods used by the Swiss cheesemaker, such as not straining the milk, he should not be condemned outright for his convictions. The object of not straining the milk at the barn is to necessitate the production of the milk so

clean that no dirt of any kind can be detected by the cheesemaker, or any other substances that may be traceable to udder diseases. It is simply meant to enforce clean milking, which rule is strictly enforced by each cheesemaker in Switzerland who has proper control of his patrons and whose orders are carried out with fidelity. Had the old method of not straining milk at the barn, which has also been introduced in this country by the Swiss cheesemaker, been enforced as strictly as in the old country, it would certainly have compelled cleaner milking.

But our cheesemakers have not attained such a high plane as their fellow cheesemakers are enjoying in the old country. There they are looked upon as their patron's leading star. Only too often do we find them here considered as a "mere hireling" by their patrons, who willingly adopt their "orders" not to strain the milk, and when once our makers find the heart to call the patrons' attention to unclean milk, they shield themselves behind the "orders", saying that they were told not to strain the milk. Consequently the evil has been introduced and the maker has seemingly lost his prestige. But this trouble may be overcome through rigid state inspection.

Respectfully submitted,

F. MARTY.

Cheese Factory, Dairy and Food Inspector.

REPORTS OF CREAMERY, DAIRY AND FOOD INSPECTORS.

EAU CLAIRE, July 15th, 1908.

The Honorable J. Q. EMERY,

Dairy and Food Commissioner for Wisconsin.

SIR: In compliance with your request, I herewith submit a report of my work as creamery, dairy, and food inspector, from July 1, 1906 to June 30, 1908, inclusive.

During this period I have inspected six hundred fifty-nine creameries and cheese factories, one hundred fifty dairy farms furnishing milk or cream to creameries, and forty-nine dairy farms furnishing milk or cream for household use in cities or towns. I have also, together with Mr. P. A. Larson, inspected the milk supply of the cities of La Crosse and Eau Claire. I have tested a large number of samples of milk or cream, a number of samples of butter, and have attended a number of farmers' meetings at which I spoke on dairy topics. Since May, 1907, I have also served as one of the judges in the monthly butter scorings conducted at the Dairy School, University of Wisconsin, and have there, up to the time covered by this report, scored sixteen hundred and seventy-nine samples of butter.

The conditions of the creameries and cheese factories inspected, were in many instances satisfactory, while in other instances they were found to be lacking in cleanness. Whenever these latter conditions were found, they were remedied, generally without recourse to law. If one will contrast the conditions of the factories today with the conditions existing in them a few years ago, it will be apparent, I think, that substantial progress has been made. Some of the worst factories—those of unsanitary construction—have been repaired and

put in good condition. Formerly, it was not uncommon to find the Babcock tester placed on a weak, shaky foundation; the glassware unclean and inaccurate; the balance used for weighing the test samples of the cream, unclean, rusty, and lacking in sensitiveness; the floors defective and unsanitary; and the surroundings of the factory disagreeable. Today, nearly all the creameries have placed their Babcock tester on a firm foundation; have procured accurate and sensitive cream balances; have sound floors; and have, at least, reasonably clean surroundings.

Among the factories, strong competition with one another for patronage exists, which together with a total absence of any classification, or even pretence of classification, of the raw material is a barrier to improvement in the quality of it. This cannot, in my opinion, be overcome until the finished products are more properly classified in the markets than is now the case, and the price obtainable for first class products are in proportion to the cost of producing them as compared with the cost of producing second or third class products.

The conditions on the farms furnishing cream to the factories were in many instances far from being satisfactory. Few farms had proper facilities for caring for the cream while it remained in their possession. And many people habitually used unclean separators. The conditions on the farms furnishing milk or cream for household use in cities or towns, were on the whole better than the conditions on the farms that dispose of their products to the creameries. Yet on many of these farms primitive methods also prevailed.

Besides the things already mentioned as influencing the further progress of the dairy industry in Wisconsin, there are many others, but I shall mention only a few: It is apparent that in many instances there is needed realization of and awakening to the fact that dairy products are human food; that milk and cream become tainted whenever exposed to foreign odors; that milk and cream are highly perishable products when left at warm temperatures; that cream several days or a week old is no longer fresh cream; and that the dairy farmer is more vitally interested in having dairy products produced of a high quality than any other person, for he, in the final analysis, is the chief gainer or loser as the case may be.

Respectfully submitted,

THOMAS CORNELIUSON,
Creamery, Dairy and Food Inspector.

ONALASKA, July 15, 1908.

Hon. J. Q. EMERY,

Dairy and Food Commissioner.

SIR: Complying with your request, I submit this report of work done by me for the biennial period ending June 30, 1908.

My work during that period has been to inspect creameries, cheese factories, city milk supplies and dairies. It is my practice to be at the creameries and cheese factories when the milk and cream are being received and to inspect the same as received. At some creameries, however, haulers are employed to weigh and sample the cream on the premises of the patron. The cream is then put into twenty or thirty gallon cans and taken to the creamery. In some cases I have found it necessary to accompany the hauler on his cream gathering trip. This has proven to be profitable work, for while at such patrons' homes, not only would the cream be looked after, but the place

where it was kept and the utensils such as the separator, cans and pails would be inspected and instructions given as to how to care for them and for the cream so as to get the best results.

During the winter of 1907-8 considerable time was spent inspecting city milk supplies. The milk on the wagons was not only looked after, but the sources of supply were ascertained and an inspection was made of the dairies where the milk was produced. Most of these dairies were found in a fairly good condition, but a few were found where the barns were unclean, dark and damp and the cows dirty. These producers were given instructions to clean up and get their barns into sanitary condition. These instructions were usually agreed to and followed, although a few preferred to quit business rather than comply with the law. Some stated they were too old to reform. The public was probably better served by their quitting business.

Two years ago a number of creameries and cheese factories had poor drainage, some also had poor buildings. In such cases new buildings have been put up or repairs made to old ones, cement floors have replaced the old, wooden ones, suitable drainage has been supplied and in a few instances factories have been moved in order to get proper drainage.

The milk and cream received at the factories are generally improving in quality, although a large field is still open for improvement along this line, as with the introduction of the farm separator the shipping of cream has been made possible. As some centralizers seem not to be particular as to what kind of cream they get, it has made it more difficult for the local creameryman to be critical. This, with the placing of farm separators in barns and other unsuitable places and neglecting to properly clean the separators, is the worst problem the creameries have to meet at the present.

I have inspected:

535 creameries, cheese factories and skimming stations.

13 city milk supplies.

333 dairies.

I have prosecuted 22 cases as follows:

For selling adulterated cream and milk..... 14

For selling or delivering unclean milk and cream.... 5

For maintaining unclean creameries and skimming
stations 3

Respectfully submitted,

P. A. LARSON,

Creamery, Dairy and Food Inspector.

HEBRON, WIS., JULY 15, 1908.

HON. J. Q. EMERY,

Dairy and Food Commissioner.

SIR: In compliance with your request, I herewith submit my report as creamery, dairy and food inspector, for the period July 1, 1906 to June 30, 1908.

I have been engaged in creamery, dairy, cheese factory, barn and city milk inspection, besides making a number of second inspections with Inspector Wm. McAdam. Assistant Commissioner Larson and myself have also made a number of second inspections in my territory. These inspections were in cases where on my first visit I found the factory in an unsanitary condition and resulted in the conviction of three operators and the closing for repairs of two creameries.

During part of this period I have been engaged in city milk inspection; have taken samples in all the towns and cities in my territory and have worked with Assistant Commissioner Baer in the sampling of city milks. The samples were bought of the dealer, a determination of fat being made, lactometer readings taken and Wisconsin curd test made. During part of last winter and during the early spring the work of barn inspection was carried on. This work consisted of a thorough inspection of the barn as to light, ventilation, cleanliness, location of separator, care of cream, etc. This work was done in conjunction with city milk sampling.

I have also done considerable work on cream routes, visiting the farm with the cream hauler for the purposes of inspecting the premises as to cleanliness of the cows, care of separator and method of caring for the cream. As the hand separator is coming into more general use, this phase of the work will require a good share of the inspector's time in the future. In this work we were very cordially received by the farmers, most of them being anxious to improve their methods where shown to be wrong. I have noted a marked improvement on visiting the second time.

In my work among the creameries, I have noticed a decided improvement as to cleanliness, better sanitary methods being in use. New cement floors are taking the place of the wooden floors. Galvanized iron tanks for skim milk and buttermilk are in general use. Improved machinery is being installed and more competent butter-makers and cheesemakers are being employed. In a few factories they are still using the 50% test bottles. These should be done away with as they are very unreliable.

Following is the number of creameries, cheese factories and skim stations visited, number of convictions, number of samples of milk tested, number of cream patrons visited, barns inspected, etc.:

- 374 creameries and cheese factories inspected.
- 100 barns inspected.
- 200 cream patrons visited.
- 2,619 samples of milk tested.
- 14 town and city milk supplies inspected.
- 3 convictions for unsanitary methods.
- 15 convictions for adulteration.

Respectfully submitted,

JAMES VANDUSER,
Creamery, Dairy and Food Inspector.

REPORTS OF FOOD INSPECTORS.

CHIPPEWA FALLS, July 15, 1908.

HON. J. Q. EMERY,
Dairy and Food Commissioner,
Madison, Wisconsin.

SIR: I have the honor to herewith submit this, my biennial report as Chief Food Inspector in the Dairy and Food Commission, from July 1, 1906 to June 30, 1908, of work done during this period.

I would respectfully state that in a general way I have devoted my time to the inspection of grocery stores, drug stores, meat markets and places where food products were sold in the north half and central part of the state.

In pursuing this work, I have collected several hundred samples of foods, drugs and beverages and forwarded to the state chemist for analysis. There have been many requests from jobbers, retail dealers and others, requiring special work that has taken much time and attention. The investigation of such complaints has brought forth good results.

During the period from January 22 to February 24 of this year I was given special work inspecting oleomargarine, with instructions to call on all dealers selling this product in the following counties: Barron, Bayfield, Chippewa, Clark, Douglas, Dunn, Eau Claire, Iron, Price, Pierce, Polk, Sawyer, St. Croix, Trempealeau and Washburn, making daily reports of such inspection to your office; also collecting and forwarding to the state chemist many samples for analysis. The results of this work proved quite satisfactory and of much benefit to the cause.

PROSECUTIONS.

I am pleased to report that I have not had as many prosecutions during this period as in my former biennial report to you, and as the work progresses it is to be hoped the number of prosecutions for the violation of our food laws will continue to decrease.

WORK ACCOMPLISHED.

A great deal has been accomplished in the last two years in bettering the conditions in the markets of the state as well as in the quality of the food products sold. There has been a cleaning up of old goods by the jobbing houses, retail dealers, grocery and drug houses, brought about by the passage of the national food laws and the constant and effective work of the state food department, bringing about a better condition in the food supply.

SANITARY CONDITIONS.

I am pleased to note some improvement in the sanitary conditions of grocery stores and meat markets. There are, however, many dirty, ill-kept grocery stores and markets in the state. The total disregard of cleanliness displayed by some dealers is to be deplored. It seems to me that there should be some effective legislation along these lines. It is also to be hoped that, and I predict the day will soon come when, all open package goods and all receptacles containing foods, fruits and

vegetables will cease to be, as now, displayed outside of groceries and markets, exposed to filth and dirt from streets and walks. This can be accomplished if the consumer is kept constantly awake to such conditions and will insist on having his foods clean as well as pure.

I am also of the opinion that measures should be taken to put a stop to the frauds in short weight packages and short measure bottle goods. The percentage of this class of goods now being sold is quite large.

I am also obliged to report the matter of complaints brought to my notice of the killing of diseased animals for food purposes. My investigations of these complaints convince me that such conditions exist; that animals are being slaughtered, sold locally and shipped to the markets of the cities, that would be condemned if an inspection of the animal was had before slaughter, as is now required of all packing houses in the land. Such a condition is a menace to the consuming public, and a matter for serious consideration.

I have secured the conviction of one farmer for slaughtering and selling a diseased cow for food purposes. In another case, now pending, in an adjoining county, an ex-butcher engaged in buying stock and shipping to Chicago markets is charged with having bought an animal infected with an abscess under its jaws, had it slaughtered and put on sale in one market in the village for his neighbors to eat. It is reasonable to suppose that there are many cases of this kind that no one has any knowledge of except those engaged in this line of work.

The total number of samples taken and shipped to chemist	744
Total number of prosecutions	19
Total number of convictions	19

Respectfully submitted,

F. M. BUZZELL,
Chief Food Inspector.

MADISON, WIS., July 15, 1908.

HON. J. Q. EMERY,
Dairy and Food Commissioner.

SIR: In compliance with your request, I herewith submit my report as food inspector covering the biennial period beginning July 1, 1906, and ending June 30, 1908.

The work of inspection has included groceries, meat markets, drug stores, pop manufacturers, wine merchants, oyster dealers, oil dealers, ice wagons, slaughter houses, etc.

I have collected 1,106 samples, which have been submitted to the chemist.

Prosecutions were brought as follows:

- 20 grocers, for the sale of adulterated foods.
- 20 butchers, for the sale of adulterated sausage and chopped meat.
- 19 druggists, for sale of adulterated drugs (adulteration including, in some cases, wood alcohol).
- 4 wine dealers, for sale of adulterated wine.
- 3 milk dealers, for sale of milk below legal standard.
- 1 pop manufacturer, for the sale of pop containing saccharin.
- 1 butter agent, for the sale of oleomargarine for butter.
- 1 oyster dealer, for the sale of oysters containing preservatives.
- 1 wholesale oil dealer, for the sale of turpentine containing mineral oil.
- 1 proprietor of state fair stand, for the sale of adulterated cider.

This makes a total of 71 prosecutions. Of this number there were 70 convictions.

In my inspection of groceries and other places where food and drink were sold, I found conditions constantly improving and, in most cases, the retailer anxious to comply with the food laws. But will say that there are manufacturers and jobbers outside of the state who do not hesitate to sell adulterated goods to unsuspecting retailers.

The sanitary condition of groceries, meat markets and other places where food and drink are prepared, and especially in large cities, calls for improvement. I am of the opinion that a law should be passed with a view to bringing about better sanitary conditions.

Respectfully submitted,

W. F. SCOTT,
Food Inspector.

CHEESE FACTORIES, CREAMERIES, SKIMMING STATIONS AND CONDENSERIES.

A Complete List of the Cheese Factories, Creameries, Skimming Stations and Condenseries in the State of Wisconsin, by Counties.

ADAMS COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Big Spring	Kilbourn, R. F. D. 2	Bert Jenks.
Easton Dy. Prod. Ass'n.	Easton	W. I. Colby.
Riverside	Quincy	J.R.Godfrey Sons Co., O. Milwaukee.
Creameries:		
Plainville	Plainville	J.R.Godfrey Sons Co., O. Milwaukee.
Davis Corners	Kilbourn, R. F. D. 4	J.R.Godfrey Sons Co., O. Milwaukee.
Big Spring	Kilbourn, R. F. D. 2	Wm. Blumenstein Co., O.
Westfield	Arkdale	J.R.Godfrey Sons Co., O. Milwaukee.
Jonesville	Oxford, R. F. D. 1	Kerbaugh & Pierson, O.
Grand Marsh Cry. Ass'n.	Grand Marsh	L. Patrick, M.
Badger Valley	Kilbourn, R. F. D. 4	J.R.Godfrey Sons Co., O. Milwaukee.
Adams Center	Adams Center	A. L. Wetlaufer, O.
Skimming Stations:		
New Haven	Endeavor, R. F. D. 1	Wm. Blumenstein Co., O.
Friendship	Friendship	J.R.Godfrey Sons Co., O. Milwaukee.
Leola	Plainfield, R. F. D. 1	John Indermuehle, O.
Point Bluff	Point Bluff	J.R.Godfrey Sons Co., O. Milwaukee.
Quincy	Quincy	J.R.Godfrey Sons Co., O. Milwaukee.

ASHLAND COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Butternut Brick	Butternut	Yankee Bros.
Sanborn	Sanborn	Anton Vierocker.
Glidden Dairy Co.	Glidden	J. J. Stolz.
Butternut	Butternut	Graf Bros.
Creameries:		
Dhooge Cry. Co.	Ashland	F. S. Dhooge.
Butternut Cry. Co.	Butternut	J. Hayden

BARRON COUNTY.

Cheese Factories:		
Fairdale	New Auburn, R. F. D. 1 ..	Milton Dairy Co., M., St. Paul.
Pioneer	Turtle Lake, R. F. D. 2 ..	Joe Leisz, M.
Maple Leaf	Clayton, R. F. D. 2	Chris. Bigler, O.
Crescent	Clayton, R. F. D. 2	Peter Thiel, O.
Star	Cumberland	Swan Alberg, M.
Clark Pioneer Swiss Ch. Co.	Rice Lake, R. F. D. 3	Ed. Liebly.
Campia Butter & Ch. Co.	Rice Lake, R. F. D. 1	J. J. Doyle, M.
Bailey Butter & Ch. Co.	Rice Lake, R. F. D. 3	John Plenty.
Good Hope	Rice Lake, R. F. D. 2	Joe Schleiss, M.
Central Ch. & Butter Co.	Rice Lake, R. F. D. 1	T. T. Hazelberg.
Clover Leaf Equity	Rice Lake, R. F. D. 2	Wm. Weillip, M.
Besteler Co-op	Cumberland	J. Nelson, M.
Cedar Lake	Rice Lake	W. Germain, M.
Creameries:		
Barron Co-op	Barron	J. E. Bowen, M.
Turtle Lake	Turtle Lake	Gerland & Schell, O.
Arland	Clayton, R. F. D. 2	E. F. Moenke, O.
Comstock Co-op	Comstock	Wm. Modersbach, M.
Baronett Co-op	Baronett	G. W. Hatch, M.
Cumberland	Cumberland	Oscar Otterson, O.
Almena	Almena	Chas. Kaemmer, O.
Hillsdale	Hillsdale	Minneapolis Milk Co., Minneapolis, Minn.
Dallas, Co-op	Dallas	H. Borgen, M.
Prairie Farm Co-op	Prairie Farm	J. M. Rassback, M.
Rice Lake	Rice Lake	C. Gerland, O.
Moose Ear	Chetek, R. F. D. 2	M. B. Mattson, O.
Brill Co-op	Brill	C. W. Kittlesen, M.
Bear Lake Co-op	Haugen	Chas. Fliegel, M.
Cameron	Cameron	J. A. Breitenback, O.
Chetek	Chetek	E. J. Morrison, O.
Spring Hill	Chetek, R. F. D. 3	Burghard & Kynsberg, M.
Poskin Lake	Poskin Lake	J. T. DeCoster.

BAYFIELD COUNTY.

Name.	P. O. Address.	Owner or Manager.
Creameries:		
Iron River Cry. Ass'n....	Iron River	Gustav Mollenhoff, O.
Port Wing Co-op.....	Port Wing	

BROWN COUNTY.

Cheese Factories:		
So. Lawrence Comb. B. & C. Co.	Wrightstown	Chas. Davis, M.
Falck	DePere, R. F. D. 1	Dan. Falck, O.
Lusha	W. DePere	Wis. B. & C. Co.
Wis. B. & C. Co.....	Wrightstown	Harris Bros., O.
Dobestein	DePere, R. F. D. 2	Emil Dobestein, O.
Schroeder	DePere, R. F. D. 2	W. F. Schroeder.
Ledgeville Co-op. Ch. Co.	DePere, R. F. D. 2	Jos. Clancy.
E. Wrightstown	Greenleaf, R. F. D. 3	F. Hadler, O.
Schroeder	Greenleaf, Star Route, 2	H. Schroeder.
L. Falck	Morrison	L. Falck, O.
Brown Co. C. & B. Co....	Rose Lawn, R. F. D. 2	Wm. Clausen.
Rockland Comb. B. & C. Co.	West DePere	Thos. Dillon, O.
Greenleaf Comb. C. & B.	Greenleaf	L. L. Clark, O.
Chas. Went & Co.....	Morrison	Chas. Went.
Radder	Reedsville, R. F. D. 1	Wm. Radder.
Wayside	Wayside	Albert Borchardt.
Natzke	Wayside	Mrs. O. Natzke, O.
F. C. Saenger	Lark	F. C. Saenger.
Shirley	Shirley	W. C. Falck.
East Holland	Greenleaf, R. F. D. 2	C. J. Junker.
Fox	Greenleaf, R. F. D. 1	J. J. Holzschun, O.
White Clover Ch. Co....	Holland	Sylvester Aigner.
Cronk	DePere, R. F. D. 1	J. S. Peterson.
Glenmore	Green Bay, R. F. D. 5	A. Maternowski, O.
Hoffman & Sons	Hebel	Hoffman & Sons.
Denmark	Denmark	Enz Bros., O.
Sindzinski	Langs	F. Sindzinski, O.
Jensen Bros.....	Pine Grove	Jensen Bros., O.
Pittsfield Co-op.....	Pulaski, R. F. D. 1	Sam Brown, R. F. D. 8, Green Bay.
Flintville	Flintville	
Hendrickson Bros.....	Green Bay, R. F. D. 4	Hendrickson Bros., O.
Fontenoy	Denmark, R. F. D. 2	D. Benecke, O.
New Denmark	Fontenoy	W. B. Monk.
Pulaski Comb. B. & C..	Pulaski	J. B. Linzmeyer, O.
Pasch	Green Bay, R. F. D. 8	Otto Tieb, O.
Buckman	Buckman	F. N. Buckman, O.
Riverside Cheese Co....	Suamico	O. C. Giese.
Big Suamico.....	Suamico	O. C. Giese.
L. M. Schoen	Green Bay, R. F. D. 3	L. M. Schoen.
Maloney	Greenfield, R. F. D. 1	F. Maloney, M.
Pittsfield	Pittsfield	Valentine Bros.
Hebel	Denmark	Joe Trembl.

BROWN COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Langes	Denmark	F. Sindzinski, O.
W. J. Meyers	DePere, R. F. D. 2	W. J. Meyers.
Askeaton	Askeaton	Joe Enhl, O.
Maple Park	Denmark	Hendrickson Bros., O.
Stark	Lark, R. F. D. 1	J. H. Smith, O.
Poznowski	New Franken, R. F. D. 2 ..	Joe Poznowski.
Creameries:		
Wegnoick Co-op.....	Green Bay, R. F. D. 1	G. Van Lannen.
Wrightstown	Wrightstown	Scott Key, M.
E. R. V. Cry. Co.....	DePere, R. F. D. 1	James Smith, M.
W. DePere Cry. Co.....	West DePere	J. Klipstine, M.
Fox Riv. Valley Cry. Co.	West DePere, R. F. D. 1 ..	T. F. Turritt, M.
Howard Co-op. Co.....	Green Bay, R. F. D. 9	Alex Hussin, M.
Oneida	Oneida	Rev. F. W. Merrill, M.
Bellevue	Green Bay, R. F. D. 4	Anton Pastorski, M.
Anderson & Wenrick....	Green Bay	Anderson & Wenrick, O.
Green Bay Pure Milk Co.	Green Bay	H. B. Huber, M.
Summit Cry. Co.....	Green Bay, R. F. D. 2	Richard Schoen.
New Century Co-op.....	New Franken	A. L. Greiling, M.
Pulaski Comb. C. & B. Co.	Pulaski	J. B. Linzmeyer, O.
Rockland Comb. C. & B. Co.	West DePere	Thos. Dillon, M.
Wisconsin B. & C. Co...	Wrightstown	Harris Bros., O.
So. Lawrence B. & C. Co.	Wrightstown	Chas. Davis, M.
Greenleaf Comb. C. & B.	Greenleaf	L. L. Clark.
Skimming Stations:		
New Century Co-op.....	Luxemburg, R. F. D. 3 ...	A. L. Greiling, M.

BUFFALO COUNTY.

Cheese Factories:		
Cream	Cream	Otto Olson.
Gross	Alma, R. F. D. 2	Sanner & Marty, Chicago.
Castelberg Bros.....	Alma, R. F. D. 2	Castelberg Bros.
Mill Creek	Alma, R. F. D. 2	John Froelich.
Tell	Alma, R. F. D. 2	John Accola.
Winger Creek	Tell	Sanner & Marty, Chicago.
Trout Creek	Alma, R. F. D. 2	J. Froelich.
Hutchinson Creek	Tell, R. F. D.	Sanner & Marty, Chicago.
Griffin	Gilmanton	Sanner & Marty, Chicago.
Gilmanton	Gilmanton, R. F. D.	Sanner & Marty, Chicago.
Pine Creek	Tell, R. F. D. 1	P. Accola.
Merritt Co-op.....	Mondovi	L. A. Merritt.
Rose Valley	Cochrane	W. J. Enison, La Crosse.
Iron Creek	Alma, R. F. D. 2	C. Meyer.
Island	Tell	G. Muehleisen.

BUFFALO COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Praag	Alma, R. F. D. 2	Sanner & Marty, Chicago.
C. D. Loomis Comb. B. & C.	Gilmanton	C. D. Loomis.
Gilman Valley Ass'n.....	Mondovi, R. F. D. 2	A. Moser.
Creameries:		
Garden Valley	Waumandee	C. W. Senty, M.
Gilmanton	Gilmanton	P. J. Hutchinson, M.
Modena Co-op.....	Modena	J. B. Myer, M.
Mondovi D'ymen's Ass'n	Mondovi	James T. Brownlee, M.
Mondovi Farmers' Co-op.	Mondovi	Andrew Rohrscheib, M.
Fountain City Co-op. C. Ass'n.	Fountain City	A. E. Gerlach, M.
Nelson	Nelson	T. E. Armstrong, O.
Cochrane Co-op.....	Cochrane	R. G. Stirn, M.
Burnside Co-op.....	Durand, R. F. D. 4	H. N. Hallock, M.
C. D. Loomis Comb. C. & B.	Gilmanton	C. D. Loomis, O.
Skimming Stations:		
Bear Creek, No. 2.....	Durand, R. F. D. 3	E. J. Ryan.

BURNETT COUNTY.

Creameries:		
Webster, Co-op	Webster	J. J. Becht, Siren, M.
Falun, Co-op	Falun	Nils Wicklund, M.
Wood River, Co-op	Grantsburg, R. F. D.	Aug. Cassel, M.
Grantsburg, Co-op	Grantsburg	Levi Anderson, M.
Trade Lake, Co-op	Trade Lake	Andrew Anderson, M.
Wood River No. 2	Grantsburg, R. F. D.	Aug. Cassel, M.

CALUMET COUNTY.

Cheese Factories:		
St. Patricks	Hilbert	A. Schwalenberg, O.
Brant	Chilton, R. F. D. 4	Wm. Sohrweide.
Burton Brook	Hilbert, R. F. D. 4	Walter Kremer, O.
Lindow	Forest Junction	F. W. Lindow, O.
Settlement	Chilton, R. F. D. 1	Alpha Cry. Co., O.
Jericho	Chilton, R. F. D. 5	A. Roegner, O.
Townline	Chilton, R. F. D. 2	John Birk, O.
Star	Chilton, R. F. D. 4	Wm. Sohrweide, O.
Hill	New Holstein	Wm. J. Moeller, O.
Seven Corners	New Holstein	J. Pfingsten, O.
Robt. Manke	Brillion, R. F. D. 2	Robt. Manke, O.

CALUMET COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Bastian & Zick	Brillion	Bastian & Zick, O.
Killsnake	Hilbert, R. F. D. 5	F. J. Harder, O.
H. A. Sonnabend	Sherwood	H. A. Sonnabend, O.
F. B. Knepfel	Chilton, R. F. D. 4	F. B. Knepfel, O.
Loos	Hilbert, R. F. D. 4	Henry Loos, O.
Hernke	Hilbert, R. F. D. 2	J. A. Hernke, O.
Luelloff	Hilbert, R. F. D. 2	Wm. Luelloff, O.
Runge	Hilbert, R. F. D. 3	Wm. Runge, O.
St. John	Hilbert, R. F. D. 3	A. Loehr, O.
Sherwood	Sherwood	J. J. Derfus, O.
Bloy	Hilbert, R. F. D. 2	Henry Bloy, O.
Dundas	Dundas	Mrs. August Schley, O.
South Kaukauna	S. Kaukauna, R. F. D. 15.	S. Kaukauna Ch. Co., O.
Muellenbach	New Holstein	Peter Muellenbach, O.
Harrison	Hilbert, R. F. D. 3	Wm. Heisdorf, O.
Riedel	Hilbert, R. F. D. 5	F. W. Riedel, O.
Freund	Hilbert, R. F. D. 5	Otto Freund, O.
Zahn	Hayton, R. F. D. 1	G. D. Voss, O.
Thiel	Potters	John H. Thiel, O.
Beilke	Brillion, R. F. D. 3	Albert Beilke, O.
Brillion	Brillion	
Lau	Brillion, R. F. D. 1	A. E. Lau.
Wolfmeyer	Brillion, R. F. D. 1	J. M. Wolfmeyer, O.
Maede	Forest Junction	W. Maede, O.
Knoespel	Forest Jct., R. F. D. 1 ..	Wm. Knoespel, O.
Piper	Chilton, R. F. D. 4	J. W. Piper, O.
Steffes	Chilton, R. F. D. 2	Jacob Hertel, O.
Peot	Hilbert, R. F. D. 1	Joseph Peot, O.
Heisdorf	Hilbert, R. F. D. 3	Wm. Heisdorf, O.
Bennin	Chilton	W. F. Bennin, O.
Sohrweide, No. 2	Chilton, R. F. D. 3	Wm. Sohrweide, O.
Charlesburg	New Holstein, R. F. D. 2 ..	Karls Bros., O.
Valley	New Holstein	N. E. Possley, O.
Burg	New Holstein, R. F. D. 2 ..	Wendel Burg, O.
Hillside	New Holstein, R. F. D. 3 ..	C. A. Bahr, O.
Weber	New Holstein, R. F. D. 1 ..	Emil Weber, O.
Kloton	Chilton, R. F. D. 3	Jno. Achter, O.
St. Anna	New Holstein, R. F. D. 3 ..	Ed. Groos, O.
Birkenmeyer	Hilbert, R. F. D. 4	J. G. Birkenmeyer, O.
Hayton Comb. B. & C... ..	Hayton	Hayton Co-op. Cry. Co.
Chilton Comb. B. & C... ..	Chilton	F. Albert Dairy Co.
St. Anna Comb. B. & C... ..	New Holstein, R. F. D. 3 ..	P. Meyer.
New Holstein Comb. B. & C.	New Holstein	Erwin Schaefer.
Creameries:		
New Holstein	New Holstein	Erwin Schaefer, O.
Stockbridge	Stockbridge	Fish & Lenox, O.
Brothertown	Chilton, R. F. D. 2	O. E. Heller, O.
Calumet Dairy Co.	Chilton	Calumet Dairy Co., O.
Hayton Comb. C. & B... ..	Hayton	Hayton Cry. Co.
Chilton Comb. C. & B... ..	Chilton	F. Albert Dairy Co.
St. Anna Comb. C. & B... ..	New Holstein, R. F. D. 3 ..	P. Meyer.

CHIPPEWA COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Anson	Chippewa Falls, R. F. D. 5	W. A. Hall, M.
Drywood	Cadott, R. F. D. 2	Frank Goodman, M.
Crescent	Cadott, R. F. D. 2	Windsor Fedler.
Dietrich's	Cadott, R. F. D. 1	Dietrich's Cheese Co., O
North Star	Edson	Louis Orth, O.
Deerbrook	Stanley, R. F. D. 1	Ed Maedke, O.
Pine Grove	Stanley, R. F. D. 1	A. P. Geiger, O.
Seidling	Boyd, R. F. D. 1	Louis Orth, O.
Stanley	Stanley, R. F. D. 1	J. & N. Fagan, O.
Creameries:		
Jim Falls, Co-op.....	Jim Falls	J. W. Thomas, M.
Cornell, Co-op.....	Cornell	Wm. A. Grahn.
Chippewa Falls	Chippewa Falls	G. Spiers, M.
Monroe	Cadott	F. L. Monroe, O.
Cadott	Cadott	Eau Claire Cry. Co., O.
Boyd	Boyd	E. Korb, O.
Wheaton, Co-op.....	Chippewa Falls, R. F. D. 6	H. A. Town, M. (Closed.)
Town Line, Co-op.....	Chippewa Falls, R. F. D. 2	L. Ellis, M.
Tilden, Co-op.....	Chippewa Falls, R. F. D. 8	Geo. Hartman, M.
Eagleton, Co-op.....	Chippewa Falls, R. F. D. 8	Chas. Liehe, M.
Eagle Point	Chippewa Falls, R. F. D. 8	J. H. Kelley, O.
Farmers' Store Co.....	New Auburn	Wm. Larson, M., Bloomer.
Farmers' Creamery Co...	Bloomer	John Crisman, M.
Taylor's Corner, Co-op....	Bloomer, R. F. D. 1	P. Weiner, M.
Trout Creek	Bloomer, R. F. D. 2	Jacob Wirth.
Vale	Bloomer, R. F. D. 3	M. J. Prince, M.
Lafayette, Co-op.....	Chippewa Falls, R. F. D. 1	R. G. Bennett, M.
New Auburn Farmers.....	New Auburn	J. Stenehjen, M.
Stanley, Co-op.....	Stanley	Wm. Hazen, M.
Albertville	Albertville	G. Hammer, O., Colfax.
Skimming Stations:		
Cook's Valley	Bloomer, R. F. D. 2	Wm. Larson, M.

CLARK COUNTY.

Cheese Factories:		
North Star	Loyal	M. Fitzgerald, M.
Humbird	Humbird	Fred Thieler, M.
Green Grove	Colby, R. F. D. 5	G. C. Sampe, O.
Welsch's	Unity, R. F. D. 1	H. J. Welsch, O.
Curtiss Comb. C. & B....	Curtiss	Curtiss Dairy Co., O.
Mayville	Dorchester, R. F. D. 2	M. A. Nachtwey, O.
Steinwand Comb. C. & B.	Colby, R. F. D. 2	A. M. Steinwand, O.
Reseberg	Thorpe, R. F. D. 1	A. & O. Sommers.
Clover Leaf	Stanley, R. F. D. 2	Frank Pritzl, O.
J. F. Steinwand's Comb. C. & B.	Colby, R. F. D. 2	J. F. Steinwand, O.

CLARK COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Big Four Ch. & Butter Co.	Unity, R. F. D. 1	Chas. Duvall, M.
Sherman	Spencer, R. F. D. 2	E. H. Knickle, O.
Curtiss Dairy Co.	Curtiss	Curtiss Dairy Co., O.
Clark Co. Central.	Greenwood, R. F. D. 2	Wm. Vollrath, M.
Coates Comb. C. & B.	Neillsville, R. F. D. 4	E. Coates, O.
Chili Comb. C. & B.	Chili	O. F. Sampe, O.
Heithfield	Granton, R. F. D.	J. B. Daughette, O.
Columbia	Columbia	Fred Bohnoff.
Town Line	Spencer	Herman Seefeld, O.
County Farm	Neillsville, R. F. D. 4	F. J. Zeikert, M.
Spokeyville Comb. C. & B.	Spencer, R. F. D. 2	C. Voigt, O.
Greenwood	Greenwood	C. H. Lohmann, O.
Town of Warren.	Greenwood, R. F. D. 2	Farmers' Ch. Co., O.
Granton Comb. Ch. & B..	Granton	C. A. Guth, O.
South York	Granton, R. F. D. 1	E. H. Tucker, O.
Levis Cry. Assn.	Neillsville, R. F. D. 2	T. Glombowski, M.
Maple Grove	Unity, R. F. D. 1	H. Schneider, O.
Martens, Comb. C. & B..	Spencer, R. F. D. 1	E. W. Marten, O.
Beaver	Loyal, R. F. D. 1	J. Joss, O.
Dodgeville	Loyal	Waterstreet & Smith, O.
Pleasant Ridge	Neillsville, R. F. D. 1	Fred Schwanter, O.
York, Comb. B. & C.	Granton, R. F. D. 1	J. B. Daughette, O.
Enterprise Butter & Ch..	Granton, R. F. D. 2	O. W. Becker, O.
Dells Dam	Neillsville, R. F. D. 2	Carl Guse, M.
Roger Creek	Stanley, R. F. D. 2	W. Fero, O.
West Side	Greenwood, R. F. D. 2	Zetsche & Schlenzog, O.
Banner Comb. C. & B.	Granton, R. F. D. 2	Harry Eide, O.
Fisher	Spencer, R. F. D. 2	Geo. Fisher, Jr., O.
Longwood, Comb. B. & C.	Withee, R. F. D. 1	Longwood Dairy Co., O.
Guth	Granton	Chas. Guth, O.
Riverside	Chili	Harry Eide, O.
Mechelkes	Dorchester	E. J. Mechelkes, O.
Star	Granton, R. F. D. 2	Peter Jensen, O.
Day Cry. Co., Comb. B. & C.	Neillsville, R. F. D. 2	Day Cry. Co.
Creameries:		
Pleasant Ridge	Neillsville, R. F. D. 1	A. A. Huchstead.
Shortville	Neillsville, R. F. D. 1	A. Short.
Abbotsford	Abbotsford	
Withee	Withee	Geo. E. Peterson.
Pleasant View	Withee, R. F. D. 1	C. E. Eckerle.
Longwood	Withee, R. F. D. 1	Merryfield & Roder.
Curtiss	Curtiss	Laabs Bros.
Thorp	Thorp	F. Albert Dairy Co.
Maple Grove	Spencer, R. F. D. 2	R. H. Sleyster & Son.
Crystal	Greenwood, R. F. D. 1	Sch. Bros.
Loyal	Loyal	Dodge Cry. Co.
North Star	Granton, R. F. D. 3	Dodge Cry. Co.
Greenwood	Greenwood	Eau Claire Cry. Co.
Banner	Granton, R. F. D. 2	Harry Eide.
Zetsche & Schlenzog.	Greenwood, R. F. D. 2	Zetsche & Schlenzog.

CLARK COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries: (cont.)		
Day Cry. Co., Comb. B. & C.	Neillsville, R. F. D. 2	C. W. Dewey.
Granton	Granton	C. A. Guth.
Humbird	Humbird	Fred Theller, M.
Globe	Neillsville, R. F. D. 3	Mike Prock.
Neillsville	Neillsville	H. B. J. Andrus.
Levis Cry. Assn.	Neillsville, R. F. D. 2	Theo. Glombowsky.
Hewitt	Neillsville	F. Merryfield.
Clover Belt Cry. Co.	Owen	A. T. McAdams.
Hemlock Co-op. Assn.	Greenwood, R. F. D. 4	M. J. Anderson.
Acme	Neillsville	A. C. Ispen.
Bright	Bright	H. A. Bright.
Dorchester	Dorchester	Dodge Dairy Co.
Christie	Neillsville, R. F. D. 3	O. Robinson.
Pine Valley Cry. Assn.	Neillsville, R. F. D. 3	O. M. Orvold.
Farmers' Progressive	Greenwood	John Wueth.
Eaton	Greenwood	V. R. Toogood.
H. J. Grell	Neillsville	H. J. Grell Butter & Eggs Co.
Big Four B. & C. Co.	Unity, R. F. D. 1	Chas. Duvall.
Pine Valley Butter Co.	Neillsville	G. E. Grothers.
Thorp Dairy Co.	Thorp	Rudolph Vergweysy.
Curtiss Comb. B. & C.	Curtiss	Curtiss Dairy Co., O.
Steinwand Comb. C. & B.	Colby, R. F. D. 2	J. F. Steinwand, O.
Coates Comb. C. & B.	Neillsville, R. F. D. 4	E. Coates, O.
Chili Comb. C. & B.	Chili	O. F. Sampe, O.
Spokeville Comb. C. & B.	Spencer, R. F. D. 2	C. Voight, O.
Granton Comb. B. & C.	Granton	C. A. Guth.
Enterprise Comb. C. & B.	Granton, R. F. D. 2	O. W. Becker, O.
Banner Comb. C. & B.	Granton, R. F. D. 2	Henry Eide, O.
Longwood Comb. C. & B.	Withee, R. F. D. 1	Longwood Dairy Co.
Marten's Comb. B. & C.	Spencer, R. F. D. 1	E. W. Marten, O.
York Comb. C. & B.	Granton, R. F. D. 1	J. B. Daughette, O.
Steinwand Comb. C. & B.	Colby	A. M. Steinwand.
Skimming Stations:		
Peterson	Withee	Geo. E. Peterson, O.
Pine Valley	Neillsville, R. F. D. 3	Mike Prock, M.
Seife	Globe	Mike Prock, M.
Peltzdorf	Loyal, R. F. D. 2	Seitz Bros., O.
Spokeville	Loyal, R. F. D. 2	Dodge Cry. Co.
Christie	Neillsville, R. F. D. 3	Eau Claire Cry. Co., O.
Catlin	Loyal, R. F. D. 1	Dodge Cry. Co., O.
Withee	Withee	C. E. Eckert, M.
Guth's	Granton	C. A. Guth, O.

COLUMBIA COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Courtland	Cambria	F. C. Westphal, M.
Courtland	Randolph, R. F. D. 1	F. C. Westphal, M.
Centerville	Cambria, R. F. D. 1	F. C. Westphal, M.
Main St.	Cambria, R. F. D. 2	R. A. Cebell, M.
Randolph Center	Randolph	R. A. Cebell, M.
Stone School	Cambria, R. F. D. 2	R. A. Cebell, M.
So. Caledonia	Merrimac, R. F. D. 1	A. F. Westphal, M.
W. Columbus	Columbus, R. F. D. 1	F. C. Westphal, M.
Centerville	Cambria	F. C. Westphal, M.
East Bristol	Sunprairie	Fred Luder, O., Mt. Horeb.
Arlington Comb. B. & C.	Arlington	C. C. Graack, O.
Creameries:		
Arlington B. & Ch. Co...	Arlington	C. C. Graack, O.
Fall River	Fall River	Heimerl Bros.
Cambria	Cambria	Fred Friday, O.
Englewood	Fall River, R. F. D. 2	H. H. Whiting, O.
Doylestown	Doylestown	Wurthrick Bros., O.
Lost Lake	Randolph, R. F. D. 3	F. C. Westphal, O.
Rio	Rio	F. R. Robinson, O.
Marcellon	Pardeeville, R. F. D. 2	Ed Hill, M.
Kehlet & Knack	Portage	Knack Bros., O.
Fort Winnebago	Fort Winnebago	J. Laufenberg, M.
Poynette	Poynette	A. Westphal, O.
Lodi	Lodi	Mr. Tucker.
Lodi	Lodi	C. W. Chrisler, M.
West Point	Morrisonville, R. F. D. 1	Haman Bros., Lodi.
Empire	Columbus	Jahnke Bros., Watertown.
Columbus	Columbus	

CRAWFORD COUNTY.

Cheese Factories:		
Maple Hill	Boscobel	H. E. Austin, O.
Springville	Boscobel	Wm. Watson, O.
Mt. Zion	Boscobel, R. F. D. 3	A. L. Hulbert, O.
Harmony Hill	Boscobel	H. E. Austin, O.
Boydton	Wauzeka	G. W. Rice, O.
Marietta	Boscobel	Price & Galloway, O.
Creameries:		
West Fork	Excelsior	F. E. Remington, M.
Soldiers Grove	Soldiers Grove	H. C. Berkhof, O.
Seneca Dairy Assn.	Seneca	G. Nickerson, M.
Eastman Butter Co.	Eastman	J. P. Pier, M.
Eastman Ch. & B. Co.	Eastman	C. E. Campbell, M.
Kickapoo Val. Cry. Co.	Stuben	F. A. Chandler, O.
Wauzeka Butter Co.	Wauzeka	W. E. Hazelwood, O.
Nelson & Puerner	Gays Mills	Nelson & Puerner, O.
Prairie du Chien	Prairie du Chien	C. R. McMillan, O.
Star Valley	Soldiers Grove, R. F. D. 4	O. P. Olson, M.

DANE COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Norway Grove	Fitchburg	C. O. Johnson.
Greenwald	De Forest, R. F. D. 1	K. T. Kettleson, O.
Fitchburg Cheese Co.	Mt. Horeb	Fitchburg Ch. Co.
Riverside Cheese Co.	Verona	John Covie, O.
Holstein Cheese Co.	Belleville	G. Ham.
Dolfen	Middleton	Jos. Kassnich, M.
Hyslop	Dane, R. F. D.	J. J. Becker.
Vienna	De Forest	S. Dally, M.
Keliher	Blue Mounds	Mike Dacey, O.
Amble's	Black Earth	Amble Bros., M.
Oak Grove	Mount Horeb	Theo. Scheiss.
Standard	Mount Horeb	Sever Skuldt, O.
Domhold	Belleville, R. F. D. 2	Ole Holman, O.
Miller Hollow	Mt. Vernon	Nels Huster, O.
Rudy Wild	Belleville	R. Wild, O.
Zweifel	Belleville	Jac. Zweifel, O.
John Fritz	Belleville	John Fritz, O.
Lyle	Belleville, R. F. D. 1	John Lyle.
Malloy	Verona	Mike Malloy, O.
Basco	Basco	John Meyers, O.
Central	Basco	John E. Millke, O.
Stone Hill	Belleville, R. F. D.	Jacob Zweifel, O.
Erb	Belleville	Christ. Erb, O.
Peerless	Belleville, R. F. D. 1	G. H. Bowers, O.
Myrland	Mt. Horeb, R. F. D. 6	David England.
Oak Grove	Mt. Horeb, R. F. D. 6	N. Byrge, O.
Green Prairie	Blanchardville, R. F. D. 3	Geo. Fyeldstad.
Eugen	Mt. Horeb, R. F. D. 3	D. Gyeswold.
Joe Hefty	Mt. Vernon	Joe Hefty, O.
Daescher	Mt. Horeb, R. F. D. 6	Werner Daescher, O.
Rock Hill	Mt. Vernon	C. L. England, O.
Malone	Mt. Horeb	Louis Dahl, O.
Schneider	Mt. Horeb	John Schneider, O.
Lukken	Mt. Horeb, R. F. D. 4	Ole Lukken, O.
German Village	Mt. Horeb, R. F. D. 4	Frank Henser.
South Blue Mount	Blue Mounds, R. F. D. 75	John Thousand, O.
North Perry	Blue Mounds, R. F. D. 75	Christian Nelson, O.
Blue Rock	Blue Mounds, R. F. D. 75	John Kahl.
Blue Valley	Mt. Horeb, R. F. D. 4	Andrew Lywent, O.
Elm Grove	Mt. Horeb, R. F. D. 67	T. Argue.
Perry	Mt. Horeb, R. F. D. 4	A. Goebel, O.
Sand Hill	Mt. Horeb, R. F. D. 3	Leon Marty, M.
F. Arn	Mt. Horeb, R. F. D. 4	F. Arn, O.
Perry Center	Mt. Horeb, R. F. D. 5	H. Kellesvig, O.
Sunny Side	Hollandale, R. F. D. 1	Henry Berg, O.
Goli	Mt. Horeb, R. F. D. 5	E. Goli, O.
Flisran	Mt. Horeb	E. L. Flisran, O.
Kettleson	Mt. Horeb, R. F. D. 5	K. Kettleson, O.
Big Stone	Mt. Horeb, R. F. D. 5	G. Tisrud, O.
Lee Valley	Blanchardville	E. E. Lee.
Perry Southern	Mt. Horeb, R. F. D. 5	Martin Logan, O.
Anderson	Mt. Horeb, R. F. D. 5	James Anderson.
Goodwin	Verona	J. L. Stuessy, O.
Holum	Rileys	Alex Miller, O.

DANE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Kelly Hill	Mt. Vernon	Herman Henkel, O.
Harker	Mt. Horeb, R. F. D. 2	Jacob Blum, O.
Badger	Mt. Horeb, R. F. D. 2	Andrew Sulland, O.
Wittmer	Belleville, R. F. D. 58	Jacob Wittmer, O.
John Mueller	Verona, R. F. D. 3	John Mueller.
Salmon	Rileys	Sam. Kuehni, O.
Prairie Ridge	Rileys	L. Thompson.
Klevenville	Klevenville	M. E. Skinrud, O.
Brager	Mt. Horeb	Ole Brager, O.
Gausman	Rileys	Fritz Erb, O.
Svenson	Mt. Horeb	Frong Svenson.
Lead Mine	Blue Mounds	T. C. Smith.
Sand Rock	Mt. Horeb	Hans Haakens, O.
Erbe	Mt. Horeb, R. F. D.	Jacob Disch.
Sam Wittwer	Rileys, R. F. D. 64	Sam Wittwer.
Gustave Gust	Verona	Gustave Gust, O.
Spring Valley	Mt. Horeb	T. Tollason.
Mickelson	Mt. Horeb	Morton Mickelson.
Murphy	Mt. Horeb	Jas. Murphy.
Vermont	Black Earth	Geo. Gulson.
Diamond	Black Earth	J. Howeny.
Sharps Corner	Mt. Horeb	Holver Bang.
Pine Ridge	Mt. Horeb	John Macher.
Amble	Black Earth	Sever Amble.
Losenegger	Mt. Horeb	John Losenegger.
Kuehni	Verona	Fred Kuehni.
Kranz	Riley	L. Stuessy.
Zingg	Verona	Fred Zingg.
Gordan	Verona	Stanley Gordan.
Creameries:		
Belleville	Belleville	Carl Minch, O.
Paoli	Paoli	F. Sauer, M.
Daleyville	Mt. Horeb, R. F. D. 3	Henry Knudson, M.
Crystal	Verona	E. F. Groth, O.
Ashton	Middleton, R. F. D. 3	N. Kalscheur, O.
Cottage Grove	Cottage Grove	F. Cunningham, M.
Sun Prairie	Sun Prairie	Roach & Seeber, O.
Marshall	Marshall	J. Dabareiner, O.
Medina	Marshall, R. F. D.	M. Lindas, M.
Oak Park	Deerfield	L. Nasthus, M.
Deerfield	Deerfield	H. Quammen, M.
Bannon	Marshall, R. F. D. 5	E. C. Dodge Cry. Co.
Pierceville	Sun Prairie, R. F. D. 4	Geo. H. Jewett, M.
North Bristol	Sun Prairie	E. M. Button, Milwaukee.
Clay Ridge	Columbus	Frank Schey, O.
York Center	Marshall	Frank Schey, O.
Waunakee	Waunakee	Dodge & Paynter, O.
Blue Mounds	Blue Mounds	Roach & Seeber Co., O.
Elvers Cry. Co.	Mt. Horeb	Wm. Dinneen, M.
Mt. Horeb, Co-op.	Mt. Horeb	James Riley, M.
Klevenville	Klevenville	G. S. Mannes, M.
Mazomanie	Mazomanie	I. L. Parman, M.
Half Way Prairie	Mazomanie	R. Lees, M.

DANE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries: (cont.)		
Marxville	Mazomanie	Wm. Evert, M.
Cross Plains Dairy Co. . .	Cross Plains	Arnold Baer, M.
H. M. Zanders	Cross Plains	H. M. Zanders, O.
Co-op. Dairy Assn.	Black Earth	Fred Stuble, M.
Middleton	Middleton	Hopkins Bros., O.
W. Middleton Dy. Assn. .	Middleton	Wm. Lubeke, M.
Madison Dairy Prod. Co. .	Madison, R. F. D. 7	John Huegel, O.
Eclipse	Windsor	C. J. Dodge, O.
Excelsior	Marshall	Hoyt & Dabareiner, O.
Deansville	Marshall, R. F. D. 1	Cook Buchanan.
Ridge	Deerfield	Andrew Steele, O.
London	London	Roach & Seeber, O.
Rockdale	Rockdale	Henry. Schempf Co., O.
Hillside	Cambridge	L. C. Kranck, M.
Utica	Stoughton, R. F. D. 2	O. P. Nelson.
Prairie Queen	Cambridge	Otto Ohmstadt, M.
McFarland, Co-op.	McFarland	H. C. Klein.
Oak Hill, Co-op.	Cottage Grove	H. C. Kaufmacher, M.
Nora	Deerfield	Roach & Seeber Co., O.
Farmers' Co-op.	Albion	
Rutland, Co-op.	Stoughton, R. F. D.	O. M. Olson, M.
Oregon Co-op.	Oregon	H. Stone, M.
Story Co-op.	Oregon, R. F. D. 3	H. Stone, M.
Oak Hall Co-op.	Oregon, R. F. D.	H. Stone, M.
University Creamery ..	Madison, R. F. D.	E. H. Farrington, M.
Model	Madison	Haugen & Kanehn, O.
Emerald	Stoughton	S. Puemer, O.
Cardinal	Madison	H. A. Haas, O.
Blue Ribbon	Dane, R. F. D.	F. C. Zacher, O.
Kegonsa	Stoughton	O. P. Sweng, M.
Farmers' Cry. Co.	Marshall, R. F. D. 5	H. F. Schmidt, M.
Square Deal Cry. Co. .	Stoughton	Roberts & Gilley, O.
Edwards Park	McFarland, R. F. D. 1	Gottlieb Reusser.
Fred C. Mansfield Co. .	Madison	Fred C. Mansfield Co.
Skimming Stations:		
Roach & Seeber Co.	Sun Prairie	Roach & Seeber Co., O.
Hope	Cottage Grove	John Schantz, M.
Pine Bluff	Klevenville	Mackesey & Farrell.
Rosendale	Waterloo	Roach & Seeber, O.

DODGE COUNTY.

Cheese Factories:		
Sunny Side	Burnett Jet.	John Kuehn, O.
Saylesville	Rubicon, R. F. D. 1	O. Wollner, Hartford, M.
Cherry Hill	Rubicon	J. Reed, Oconomowoc, M.
Rubicon	Rubicon	A. F. Westphal, Neosho, O.
Woodland	Woodland	Ernest Indermuhle, O.
Fry	Hartford	A. F. Westphal, Neosho, O.

DODGE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
North Rubicon	Rubicon	John Reed, Oconomowoc.
Hancock	Watertown, R. F. D. 8 ..	G. A. Stallmann, M.
Globe	Watertown	G. A. Stallmann, M.
Union	Watertown	Jossi Cheese Co., O.
O'Connors	Watertown	John Habbegar, O.
Rock	Watertown	Jossi Cheese Co., O.
Main St.	Watertown	Jossi Cheese Co., O.
Oak Hill	Lebanon	H. Moldenhauer, Water- town, O.
Golden Star	Watertown, R. F. D. 8 ..	G. A. Stallman, M.
Sugar Island	Ixonia, R. F. D. 2	Jossi Cheese Co., O.
Ashippun	Ashippun	G. Meissner, Merton, O.
North Star	Ashippun	G. Meissner, Merton, O.
Rock Ridge	Oconomowoc, R. F. D. 26 ..	Max P. E. Radloff, Hus- tisford, O.
Lime Ledge	Woodland, R. F. D. 1	Mike Murphy, O.
Pucker St.	Woodland, R. F. D. 1	Louis Kuckhahn, M.
Neosho	Neosho	Aug. F. Westphal, O.
Hustisford & Rubicon Co.	Woodland, R. F. D. 1	Max P. E. Radloff, Hus- tisford, O.
Ryder	Hustisford	John Seefeldt, M.
Pondar Grove	Watertown, R. F. D. 8 ..	Mike Fitzgerald, O.
Union	Watertown, R. F. D. 8 ..	Max P. E. Radloff, O.
Hustisford	Hustisford	Ernest Bremer, O.
Wege & Sons	Hustisford	Wm. Wege, O.
Home	Hustisford	Max P. E. Radloff, O.
Maplewood	Iron Ridge	Aug. F. Westphal, Neosho.
Iron Ridge	Iron Ridge	Chas. Mouldenhauer, O.
Bilgrien	Iron Ridge	Herman Bilgrien, O.
Rock River St.	Hustisford	J. E. Dornfeldt, O.
Rock River	Horicon, R. F. D. 1	Max P. E. Radloff, Hus- tisford, O.
Oak Lawn	Juneau	Aug. Duckershien, M.
Oak Grove Union	Juneau	A. F. Ryder, M.
Juneau	Juneau	A. F. Ryder.
Essman	Juneau	R. C. Lovell, M.
Gates	Juneau, R. F. D. 1	Seefeldt Bros., M.
Golden Rule	Hustisford	Ernest Bremer, O.
White Oak	Hustisford	F. Thielke, M.
.....	Hustisford	Max P. E. Radloff, O.
.....	Hustisford	Max P. E. Radloff, O.
Nehls	Watertown, R. F. D. 1	John Habbeger, O.
Silver Creek	Mayville	Herman Koepsell, O.
Rock River	Theresa	Seefeldt Bros., M.
Park	Hockhim	Herman, Koepsell, O.
Rock Spring	Iron Ridge, R. F. D. 1	Seefeldt Bros., M.
Rock	Iron Ridge	Aug. F. Westphal, Neosho
Highland	Horicon, R. F. D. 2	Max P. E. Radloff, Hus- tisford, O.
White Oak .....	.....	.....
Browns Corners	Horicon, R. F. D. 2	Chris. Wenger, M.
Glen Argel	Iron Ridge	Chris. Wenger, M.
Maple Grove	Mayville	Seefeldt Bros., Hustis- ford, M.

DODGE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Badger State	Hartford	Fred Sette, O.
Five Corners	Theresa, R. F. D.	Jos. J. Wenger.
Theresa	Theresa	Mike Ansenbauer.
Oplinger	Theresa	Geo. Ehret, M.
Kekoskee	Kekoskee	Emil L. Roll, O.
Kohli	Brownsville	Christ. Kohli, O.
Fairview	Brownsville, R. F. D. 1 ..	Sam Indermuehle, O.
West Le Roy	Oak Field, R. F. D. 27 ..	Chas. Indermuehle, O.
Brownsville	Brownsville	B. Jonely, O.
LeRoy	LeRoy	Carl Indermuehle, O.
Farmersville	Knowles	Robt. Kohli, O.
Riverside Comb. C. & B.	Mayville	J. W. Falk, O.
Northwestern	Mayville	Christ. Kohli, O.
Shell Rock	Lomira	Chas. Marschall, O.
Klink	Lomira	Geo. Ehrat & Co., M.
Lomira	Lomira	Hersig Bros., O.
Schweifel Co.	Watertown	Jossi Cheese Co., O.
Lily	Oconomowoc	Mike Fitzgerald, Water- town, O.
Shields	Watertown, R. F. D. 7 ..	Jossi Cheese Co., M.
Indian Garden	Watertown, R. F. D. 7 ..	J. H. McCraig, O.
Steele	Oconomowoc, R. F. D. 25 ..	John Steele, O.
Alderly	Oconomowoc	John Reed, O.
Cross Key	Oconomowoc, R. F. D. 25 ..	Mike Fitzgerald, O.
Union	Rubicon, R. F. D. 1	Mike Fitzgerald, O.
Treche	Watertown, R. F. D. 2 ..	Jossi Cheese Co., O.
Rubicon	Woodland, R. F. D. 1	Mike Fitzgerald, O.
Highland	Woodland	Max P. E. Radloff, Hus- tisford.
Moldenhauer	Lebanon	Henry Moldenhauer, Watertown, O.
Habegger Leader	Reeseville, R. F. D. 1	Fred Froelich, M.
Portland	Reeseville, R. F. D. 1	Fred Yerges, O.
Thomas	Beaver Dam	Ray Lovell, Juneau.
Calamus	Columbus	G. W. Scott, O.
Northwestern	Hartford	Aug. F. Westphal, O.
Pleasant Hill	Hartford	Fred Uebele, M.
Mapleton	Watertown	Mike Fitzgerald, O.
Cedar Lake	Neosho	Aug. F. Westphal, O.
Bashford	Juneau	Ray Lovell, M.
South Trenton	Fox Lake	C. J. Schoenfeld, M.
Lake View	Hustisford	Max P. E. Radloff, O.
Strupp	Hustisford, R. F. D. 3	Andrew Klink, M.
Rubicon River	Woodland	Robt. Toppnow, M.
Mayville City Comb. C. & B.	Mayville	F. Baertschy, O.
Brown St.	Oconomowoc	Andrew Olson, M.
Prairie View	Randolph, R. F. D. 3	Jossi Cheese Co., O.
Alderly D'y Ass'n.	Oconomowoc, R. F. D. 25 ..	Hans Tischen, O.
Shaw Creek	Beaver Dam	Sam Indermuehle, O.
Elba	Columbus	A. E. Chivers, O.
Hickory Grove	Beaver Dam, R. F. D. 5 ..	Christ Indermuehle, O.
Leader	Columbus, R. F. D. 2	Ray Lovell, Juneau.
North Shore	Waupun	Ray Lovell, Juneau.

DODGE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Zastrow	Beaver Dam	F. Westphal, Fall River.
Special Line	Beaver Dam	Ray Lovell, Juneau.
Lake Shore	Beaver Dam	Jossi Cheese Co., O.
Beaver Dam Island	Beaver Dam, R. F. D. 3.	Jossi Cheese Co., O.
Beaver Hill	Fox Lake	Jossi Cheese Co., O.
Westford	Beaver Dam	Aug. F. Westphal, Neosho,
Randolph	Randolph, R. F. D. 1	Jossi Cheese Co., O.
Fox Lake	Hustisford	Max P. E. Radloff.
Trenton Center	Fox Lake, R. F. D. 2	Aug. F. Westphal, Neosho.
Maple Grove	Fox Lake	Aug. F. Westphal, Neosho,
Spring Brook	Fox Lake, R. F. D. 3	Max P. E. Radloff, Hustisford.
Westphal	Juneau, R. F. D. 3	Aug. F. Westphal, Neosho.
Horicon	Horicon	Ernst Wruski, M.
Dairy Union	Horicon	Max P. E. Radloff, Hustisford, O.
Champion	Burnett	Max P. E. Radloff, Hustisford, O.
Sunnyside	Burnett	Sam Indermuehle, Hustisford, O.
Mill Creek	Burnett Jet., R. F. D. 1 ..	Mike Fitzgerald, Watertown, O.
Chester	Waupun	A. F. Westphal, Neosho, O.
Prairie Hill	Beaver Dam, R. F. D. 2 ..	Aug. Schmutzler, M.
Town Line	Juneau	Ray Lovell, M.
Clyman Center	Juneau, R. F. D. 2	Jim Duffy, M.
Clyman	Clyman	John Habegger, O.
Careys	Watertown, R. F. D. 1	John Habegger, O.
North Clyman	Juneau, R. F. D. 1	Jossi Cheese Co., O.
Black Oak	Juneau, R. F. D. 2	John Habegger, O.
Jung	Juneau, R. F. D. 3	Fred Jung, O.
Oak Grove	Oak Grove	Aug. F. Westphal, O.
Indermuehle	Juneau	Christ. Indermuehle, O.
Gnewuch	Watertown	Jossi Cheese Co., O.
Rock River Star	Watertown	G. A. Stallman, M.
Sunny Side	Watertown, R. F. D. 8	Max P. E. Radloff.
Red Oak	Juneau	Aug. Westphal, Neosho.
Hibland	Fox Lake	Max P. E. Radloff, Hustisford.
Kaiser	Fox Lake	Max P. E. Radloff, Hustisford.
Creameries:		
Ellwood	Lomira	C. F. Meyer.
Rock Riverside	Mayville	G. Baertschy, O.
Knowles	Knowles	H. G. Naber & Co., O.
Highland	Beaver Dam	A. W. Spangler, O.
Upland Cry. Co., Co-op.	Mayville	Chas. Meyers, O.
Beaver Dam	Beaver Dam, R. F. D. 1 ..	E. H. Weber, O.
Eureka	Reeseville	Jahnke Cry. Co., Watertown.
Minnesota Junction	Minnesota Jet.	H. J. Grell, Johnson Creek, O.
Burnett Jersey	Burnett	Wm. Gibson.

DODGE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries: (cont.)		
Kotenberg	Waupun, R. F. D. 2	H. Kotenberg.
Fox Lake	Fox Lake	P. R. Lean, O.
South Trenton	Fox Lake, R. F. D. 1	C. J. Schoenfeldt, O.
Elba	Columbus, R. F. D. 5	G. H. Weber, O.
Oak Grove	Waterloo, R. F. D. 1	Chas. Christian.
Danville	Danville, R. F. D. 5	E. H. Kilemeier, O.
Elba Center	Columbus, R. F. D. 5	G. H. Weber, O.
Beaver Dam	Beaver Dam, R. F. D. 4 ..	E. H. Weber, O.
Burgess, Private Cry....	Beaver Dam	Jay Burgess.
Ruedebsch	Beaver Dam	A. W. Spangler, O.
Cold Springs	Waterloo, R. F. D.	Roach & Seeber.
Toland	Hartford, R. F. D. 1	J. F. Weber, O.
Atwater	Atwater	F. W. Schultz, M.
Lotus	Columbus	G. H. Weber, O.
Riverside	Mayville	J. W. Falk, O.
Grove Prairie	Reeseville	F. J. Venie, O.
Lowell	Lowell	E. E. Helpe, O.
Randolph	Randolph	George Humphrey, M.
Gold Medal Cry.	Reeseville	Fred Hauff, M.
Mayville City Ch. & B..	Mayville	F. Baertschy.
Riverside Comb. Ch. & B.	Mayville	J. W. Falk.
Skimming Stations:		
White Clover	Waterloo	Roach & Seeber, M.
Welsh Road	Richwood	Jahnke Cry. Co., M.
Nashay	Reeseville	Reese & Duffenbach, M.
Silver Leaf, Coop.	Reeseville	G. W. Ohrmundt, M.
Clearwater Spring	Reeseville	G. W. Ohrmundt, M.
Emmet Grove, Co-op	Watertown	Reese & Duffenbach, M.
Elgin	Oakfield	Geo. Hanson, M.
West Brownsville	Oakfield	Geo. Hanson, M.
Lost Lake	Randolph	Dodge Cry. Co., O.

DOOR COUNTY.**Cheese Factories:**

Wolske	Forestville	Louis Wolske, O.
Forestville Comb. B. & C.	Forestville	Andrew Sloan, O.
Gerondale	Brussels, R. F. D. 2	J. Gerondale.
Jenquins	Brussels, R. F. D. 1	R. Jenquins, O.
Leishow	Forestville, R. F. D. 2	Fred Leishow, O.
Carnot	Forestville, R. F. D. 1	H. J. Teske, O.
Nelsonville	Sawyer, R. F. D. 2	Martin Viste, M.
Washburn, No. 1.....	Sturgeon Bay, R. F. D. 2 ..	L. M. Washburn, O.
Washburn, No. 2.....	Sturgeon Bay, R. F. D. 4 ..	L. M. Washburn, O.
Bagnall	Jacksonport	J. W. Bagnall, O.
Mashek	Jacksonport, R. F. D. 1 ..	Matt Pepper.
Volks	Sturgeon Bay, R. F. D. 3 ..	William Volks.
Peffer	Jacksonport, R. F. D. 1 ..	Matt Pepper, O.
Karnitz	Brussels, R. F. D. 2	Otto Karnitz.

DOOR COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Tinor	Sawyer, R. F. D. 1	Anton Tinor.
Schwichtenberg	Sawyer, R. F. D. 1	J. H. Schwichtenberg.
Leitzkey	Sawyer, R. F. D. 1	J. C. Leitzkey, O.
Bernhardt	Sawyer, R. F. D. 3	Frank Bernhardt.
Dufek	Algoma, R. F. D. 4	Matt Dufek.
Rosewood	Algoma, R. F. D. 4	F. A. Grunderman, O.
Vignes	Sawyer, R. F. D. 2	O. C. Rye, O.
Cheeseville	Sawyer, R. F. D. 2	F. McDermott.
Maplewood	Sawyer, R. F. D. 3	Frank Walter.
Stokes Corner	Sawyer, R. F. D. 3	Joseph Jindra, O.
Gardner Comb. C. & B.	Sturgeon Bay	Willie Guth, O.
Nasawaupsee Dairy Co.	Sawyer, R. F. D. 3	H. Heilmans.
Institute	Sturgeon Bay, R. F. D. 3 ..	Priebe & Coulson, M.
Berg	Sturgeon Bay, R. F. D. 3 ..	Julius Berg, O.
Karlsville	Sturgeon Bay, R. F. D. 2 ..	J. J. Eichinger, M.
Struck No. 1.....	Brussels, R. F. D. 2	Wm. Struck, O.
Struck No. 2.....	Brussels, R. F. D. 1	Wm. Struck, O.
Brussels	Brussels	Gape Pirre, O.
Jarchow	Forestville, R. F. D. 1	L. Jarchow, O.
Clover Dairy	Sawyer, R. F. D. 3	Adam Brink, O.
Brandt Comb. C. & B.	Forestville, R. F. D. 1	Aug. Brandt, O.
Kipping	Sawyer, R. F. D. 3	Christ Kipping, O.
Flemmal	Forestville, R. F. D. 2	Alec. Flemmal, O.
Clover Leaf	Sawyer, R. F. D. 1	Mike Gresel, M.
Creameries:		
Ullsperger	Forestville, R. F. D. 1	Jos. Ullsperger.
Kolberg	Kolberg	C. R. Guth, O.
Pierre Virlee Cry. Co.	Brussels	Henry Engelbert, M.
Sebastopol Farmers' Cry. Ass'n.	Sturgeon Bay, R. F. D. 2 ..	W. A. Waterman, M.
Gardener Comb. C. & B.	Sturgeon Bay	Willie Guth, O.
Sister Bay	Sister Bay	Matt Roeser, O.
Sturgeon Bay	Sturgeon Bay	Elmer Highlander, O.
Bailey's Harbor	Bailey's Harbor	Bailey's Harbor Cry. Co.
Forestville Comb. C. & B.	Forestville	Louis Wolske, O.
Brandt Comb. C. & B.	Forestville, R. F. D. 1	August Brandt, O.

DOUGLAS COUNTY.

Creameries:		
Hawthorn Cr. Co., Co-op.	Hawthorn	L. Bfaw.
Poplar, Co-op	Poplar	A. D. Brown, M.
Superior	Superior	Russell Bros., O.

DUNN COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Ennis Creek	Boyceville, R. F. D. 1	John Schutz, M.
Big Beaver	Wheeler, R. F. D. 1	Olaf Larson, M.
Tramway	Boyceville, R. F. D. 1	H. Krumpel.
Creameries:		
Sand Creek, Co-op	Sand Creek	Wm. Larson, M.
Ridgeland, Co-op	Ridgeland	John Mork, M.
Meridean, Co-op	Meridean	I. E. Brack, M.
Rock Falls, Co-op	Rock Falls	J. L. Odegard, M.
Rusk, Co-op	Rusk	Robt. Cook, M.
New Hudson Road, Co-op	Menomonie, R. F. D. 1	A. Meyer, M.
Knapp	Knapp	C. F. Cole, M.
Elk Lake Farm	Menomonie, R. F. D. 2	E. C. Jacobs, O.
Elk Mound, Co-op	Elk Mound	Wm. Meyer, M.
Boyceville, Co-op	Boyceville	C. A. Rich, M.
Wheeler, Co-op	Wheeler	R. R. Porter, M.
Connorsville, Co-op	Downing, R. F. D. 1	Chas. Whistler, M.
Downing	Downing	Montayne Cry. Co.
Chimney Rock	Glenwood	Montayne Cry. Co., O.
Colfax Co-op	Colfax	Geo. Hammer, M.
Eau Galle	Eau Galle	S. B. Ingram, Jr.
Dunn Co. School of Agri.	Menomonie	Prof. F. R. Crane, M.
Downsville	Downsville	Fred Borm, M.

EAU CLAIRE COUNTY.

Cheese Factories:		
Golden Crown	Augusta	A. M. Mullendore, M.
Creameries:		
Augusta	Augusta	O. A. Williams, M.
Russels Corner, Co-op....	Augusta	Chas. Newhouse, M.
Diamond Valley, Co-op..	Augusta, R. F. D. 1	E. B. Paddock, M.
Washington, Co-op.....	Eau Claire	C. O. Fischer, M.
Brackett, Co-op.....	Fall Creek, R. F. D. 4	E. A. Hankle, M.
Pleasant Valley, Co-op...	Eleva, R. F. D. 1	F. Florine, M.
Fall Creek, Co-op.....	Fall Creek	G. H. Reetz, M.
Eau Claire Cry. Co.....	Eau Claire	Guy Spiers, M.
Sand Prairie	Fall Creek, R. F. D. 3	Aug. Luedtke & Son, O.
Skimming Stations:		
Fall Creek, No. 1, Co-op.	Fall Creek, R. F. D. 1	G. H. Reetz, M.
Fall Creek, No. 2, Co-op.	Fall Creek, R. F. D. 1	G. H. Reetz, M.
Scott Valley	Augusta	O. A. Williams, M.
Rosedale	Fall Creek, R. F. D. 1	O. A. Williams, O.

FOND DU LAC COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Baetz	Campbellsport	Chas. Baetz, O.
Kohlman	Eden	Richard Kohlman, O.
Heberer	Campbellsport, R. F. D. 32	Adolph Heberer, O.
Patt	Van Dyne	Chas. Patt, M.
Friendship Eldorado Ch. Co.	Fond du Lac, R. F. D. 1.	Wm. Balthazor, M.
Woodside	Eden, R. F. D. 35	Roy Prindle, O.
Hirsig	Campbellsport, R. F. D. 32	Rudolph Hirsig, O.
Reiser	New Holstein	Ambrose Reiser, O.
Fischer	Fond du Lac, R. F. D. 3.	J. L. Fischer, O.
Neiss	St. Cloud, R. F. D. 3	Jacob Neiss, O.
Weinreis	Peebles, R. F. D. 37	Peter Weinreis, O.
St. Cloud	St. Cloud	Louis N. Guelig, M.
Guelig	Calvary	Mat Guelig, O.
Guelig	Calvary	Joseph Guelig, O.
St. Joe	St. Cloud, R. F. D. 43	J. P. Schmitz, O.
Badger	St. Cloud	Daniel Entringer, O.
Rice	St. Cloud	John T. Rice, O.
Gallagher	St. Cloud, R. F. D. 42	Martin Gallagher, O.
Dotyville	Fond du Lac, R. F. D. 8.	John Brost, O.
Forest	Fond du Lac, R. F. D. 8.	Chas. F. Perren, O.
Forest Spring	Calvary, R. F. D. 41	L. B. Taplin, O.
Enders	Calvary, R. F. D. 41	John A. Enders, O.
Perren	Calvary, R. F. D. 4	Chas. F. Perren, O.
Empire	Fond du Lac, R. F. D. 7.	Louis Wagner, O.
Eggersville	Fond du Lac, R. F. D. 8.	Chas. F. Perren, O.
Stephany	Malone, R. F. D. 38	Peter Stephany, O.
Isaac	Fond du Lac, R. F. D. 7.	Joseph Isaac, O.
Eden	Eden	Mam. Spgs. C. & B. Co., O.
Pieper	Eden, R. F. D. 35	H. F. Pieper, O.
Sackett	Campbellsport, R. F. D. 3.	Henry F. Sackett, O.
Waucousta	Campbellsport, R. F. D. 33	C. Pieper & Son, O.
Morgan	Eden, R. F. D. 35	C. Slattey, O.
Wolfgram	Fond du Lac, R. F. D. 7.	Herman Isaac, O.
South Empire	Fond du Lac, R. F. D. 7.	Joseph Isaac, O.
Fick	Campbellsport	Otto Fick, O.
Jersey	Campbellsport, R. F. D. 32	L. B. Van Blaricum, O.
Campbellsport	Campbellsport	Sam Grossen.
Fleischman	Campbellsport, R. F. D. 33	J. M. Fleischman, O.
St. Kilian	Campbellsport, R. F. D. 31	A. Strachota, O.
Hirsig	Lomira, R. F. D. 1	Fred Hirsig, O.
Sackett	Campbellsport	Henry F. Sackett, O.
Hillside	Campbellsport, R. F. D. 50	T. L. Johnson, O.
Loyal	Fond du Lac, R. F. D. 6.	Loyal Cheese Co., O.
Christen	Oakfield, R. F. D. 28	Jacob Christen, O.
Friendship	Fond du Lac, R. F. D. 1.	W. C. Schmidt, O.
Reliance	Fond du Lac, R. F. D. 3.	Jacob Sizer, Secy., O.
Eldorado, Co-op.	Eldorado	Eldorado Co-op. Ch. Co., O.
Oak Lawn	Eldorado, R. F. D. 10	Ennison Bros.
Jossi	Rosendale	Jossi Ch. Co., O.
Triangle	Rosendale	Triangle Ch. Assn., O.
Springvale	Brandon, R. F. D. 21	Aug. F. Westphal, M.
Elmwood	Fond du Lac, R. F. D. 2.	Frank Barron, O.

FOND DU LAC COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Alto	Fairwater, R. F. D. 18	U. L. Johnson, O.
Ashford	Campbellsport, R. F. D. 30	Albert Struebing, O.
Calvary Comb. C. & B...	Calvary	Nick Krebsbach.
Blonien	St. Cloud, R. F. D.	Henry Blonien.
Kohlman	St. Cloud, R. F. D. 42	Frank Kohlman.
Creameries:		
Genesee Cry. Co.	Oakfield	Genesee Cr. Co., O.
Willow Creek	Waupun	E. R. Godfrey, Milwaukee, O.
Fond du Lac	Fond du Lac	W. A. West, O.
Tank Bros.	van Dyne	Tank Bros., O.
Silica	Malone	Halfman & Braun, O.
Alpha Cry. Co.	Malone	Alpha Cr. Co., O.
Joonsburg	Malone	Hoerl & Freund, O.
Waupun	Waupun	Waupun Mut. Dy. Co., O.
Fairwater	Fairwater	C. Glaus, O.
Bloch	Fairwater	Julius Bloch, O.
Sand Stone	Ripon	Ripon Produce Co., O.
Calumet Harbor	Reebles, R. F. D. 37	Mat Moersch, O.
Byron	Byron	
Oakfield	Oakfield	Highland Cry. Co., O.
Consolidated	Fond du Lac, R. F. D.	Highland Cry. Co., O.
Highland	Oakfield, R. F. D. 37	Highland Cry. Co., O.
North Byron	Fond du Lac, R. F. D. 5 ..	E. D. Jones, O.
Ladoga	Brandon, R. F. D. 21	Atwood & Jacques, O.
Banner	Waupun, R. F. D. 1	Kotenburg & Mantz, O.
Oak Center	Oak Center	Highland Cry. Co., O.
Waupun	Waupun	Waupun Cry. Co., O.
Waupun Dairy Co.	Brandon, R. F. D. 20	Waupun Dairy Co., O.
County Line	Waupun, R. F. D. 33	Wm. Langer, O.
Alto	Waupun, R. F. D. 22	Alto Cry. Co., O.
Rosendale	Rosendale	H. J. Grell B. & E. Co., O.
Town Line	Fond du Lac	J. C. Weber, O.
Campbellsport	Campbellsport	Fred Zacher, O.
Brandon	Brandon	Ripon Produce Co., O.
Meinke	Ripon	H. W. Meinke.
Brandon Co-op.	Brandon	Brandon Cry. Assn., O.
Rogersville	Fond du Lac, R. F. D. 3 ..	M. Cahill, O.
Schiller	New Holstein, R. F. D. 3 ..	Jacob Schiller, O.
Calvary Comb. C. & B...	Calvary	Nick Krebsbach.
Skimming Stations:		
Michels	Malone, R. F. D. 39	Henry Michels, O.
Sp. Byron	South Byron	Highland Cry. Co., O.
Consolidated	Oakfield, R. F. D. 26	Highland Cry. Co., O.
E. R. Godfrey & Sons...	Waupun, R. F. D. 25	E. R. Godfrey & Sons, O.
Eldorado	Eldorado	Grell B. & E. Co., O.
Rosendale	West Rosendale	Grell B. & E. Co., O.
Nottleman	Eldorado, R. F. D. 10	Nottleman Bros., O.
Van Dyne	Van Dyne, R. F. D. 9	Tank Bros., O.
Price	Price & Ruhland	Lomira, O.

GRANT COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Leggett Branch	Stitzer	Wm. Hahn.
Wingville	Montfort	A. J. Olson.
Gass Hollow	Montfort	R. P. Peterson.
Preston	Preston	George Abeleiter.
Union	Montfort	A. Ostendorff.
Fennimore	Fennimore	Bert Austin.
Castle Rock	Montfort, R. F. D. 1	Sever Anderson.
Rocky Point	Highland	Phil. Schwingel, O.
Walnut Grove	Muscoda	N. F. Ort.
Badger State	Boscobel	John Clarson, O.
Flora	Lancaster	Matt. Schelgden, M.
Homer	Boscobel	H. E. Austin, O.
Sanders Creek	Boscobel	Chris. Bolchen, M.
Oak Grove	Muscoda	H. J. Noyes.
Badger Mills	Boscobel, R. F. D. 5	W. W. Clunas.
Pleasant Grove	Blue River	Schmitt Bros., M.
Blue River	Blue River	James Reed.
Tyler	Muscoda	H. J. Noyes.
Ideal	Boscobel	Bert Austin.
Martin	Lancaster	Link Ellis.
Fisher	Stitzer	Wm. Fischer.
Platt Ridge	Platteville	G. S. Whitecher, M.
Five Point	Lancaster	Nick Auel, M.
Muscoda	Muscoda	A. C. Van Elston.
Lone Pine	Platteville	Pool & Sons, Darlington, M1
Dennis	Livingston, R. F. D. 2	Herbert Orton.
Oak Ridge	Boscobel	Knut Roen, M.
Red Oak	Highland	John Hudek, M.
Bunker Hill	Platteville	Geo. Whitecher, M.
Creameries:		
Farmers' Co-op.	Montfort	A. R. Manley.
Fennimore	Fennimore	W. M. Peacock, O.
Farmers' Mutual	Fennimore	Albert Ketter, M.
Ideal	Fennimore	The Hinn Bros. Co.
Crooked Creek Cry. Co..	Boscobel	M. M. Rice.
Boscobel	Boscobel	Parker Hildebrand Co., O.
Green River Valley	Woodman	The Hinn Bros. Co.
Millville	Millville	Joseph Beadle.
Mount Hope	Mount Hope	C. E. Button.
Mount Ida	Mount Ida	S. E. Rarson.
Werley Co-op.	Werley	Dave Ferris.
Stitzer Cry. Co.	Stitzer	J. W. Griswold.
Lancaster	Lancaster	Baxter & Draper, O.
Bloomington	Bloomington	Jos. Beadle.
Patch Grove	Patch Grove	W. D. Arnsberger.
Bradsville	Bagley	Plattev. Ch. & Pr. Co.
No. Andover Dairy Co..	N. Andover	Louis Krautz, M.
Bee Town Cry. Co.	Bee Town	T. D. Taylor.
Platteville Ch. & Br. Co.	Platteville	Fred Krog, M.
Arthur Cry. Co.	Arthur	C. J. Weitenhiller.
Cassville Cry.	Cassville	E. F. Andree.
Platt Ridge	Livingston	Geo. Whitecher, O.
Ellenboro	Ellenboro	Plattev. Ch. & Pr. Co., O.

GRANT COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries: (cont.)		
Whig	Platteville	Plattev. Ch. & Pr. Co.
Potosi	Potosi	Wm. Dickinson, M.
Cornelia	Platteville	Plattev. Ch. & Pr. Co.
Dickeysville	Dickeysville	Val Dressler, O.
Kieler	Louisburg	Val Gunnerman.
The Louisburg	Louisburg	Henry Runde.
Georgetown	Georgetown	J. P. Jones, M.
Hazel Green Co-op.....	Hazel Green	John Berkett.
Lancaster Pasteurizing Plant.	Lancaster	Geo. Beck.
Cuba City Cry. Co.....	Cuba City	Newwman & Co., Elgin.
Elkhorn	Platteville	E. A. Kaump, O.
Mount Zion	Platteville	Fred Krog, M.
Tennyson	Potosi	Fred Krog, M.
Skimming Stations:		
Middle Ridge	Stitzer	A. R. Manley.
Jos. Beadle	Millville	Jos. Beadle.
Buckwheat Ridge	Ellenboro	Plattev. Ch. & Pr. Co.
Bunker Hill	Ellenboro	Plattev. Ch. & Pr. Co.
Big Plat	Platteville	Plattev. Ch. & Pr. Co., O.
Big Patch	Platteville	Plattev. Ch. & Pr. Co., O.
Livingston	Livingston	M. R. Manley, Montfort, O.

GREEN COUNTY.**Cheese Factories:**

Step Valley	Blanchardville	E. Swenson, M.
Nessa	Blanchardville, R. F. D. 2	Nels Hessa, M.
Mrs. Strahm & Sons	Blanchardville, R. F. D. 3	Mrs. Strahm & Sons, M.
York Prairie	Blanchardville, R. F. D. 3	P. Truman, M.
Stromman	Blanchardville, R. F. D. 1	S. Erickson, M.
Yankee Hollow	Blanchardville	Mike Corban, M.
Vinger	Blanchardville, R. F. D. 1	Thos. Thompson, M.
Saw Mill	Blanchardville, R. F. D. 1	Edw. Anderson, M.
Brager	Blanchardville, R. F. D. 1	Oscar Olson, M.
Hay Hollow	Blanchardville, R. F. D. 3	Chr. Ula, M.
S. Klaessy	Monticello, R. F. D. 4	Klaessy Bros., M.
Farmers' Grove	New Glarus, R. F. D. 1	T. Hoesly, M.
Becker & Elmer	Blanchardville, R. F. D. 1	Becker & Elmer, O.
Walnut Grove	Blanchardville	J. Stauffacher, M.
Spring Valley	New Glarus	Nick Elmer, M.
Altman	New Glarus, R. F. D. 1	Ernst Paule, M.
Pioneer	New Glarus, R. F. D. 1	John Duerst, M.
J. H. Duerst	New Glarus	J. H. Duerst, O.
Husted	New Glarus, R. F. D. 1	Ole Husted, M.
Poplar Grove	New Glarus, R. F. D. 1	Andrew Hoesly, M.
Sam Christen	New Glarus, R. F. D. 1	Sam Christen, O.

GREEN COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
D. Zimmerman	New Glarus, R. F. D. 1 ...	D. Zimmerman, M.
Eickelkraut	New Glarus, R. F. D. 1 ...	Dietrich Marty, M.
Railroad Valley	New Glarus	Peter Hoesly, M.
M. Elmer	New Glarus	F. J. Marty, O.
Legler Bros.	New Glarus	Henry Legler, M.
New Glarus	New Glarus	New Glarus Cheese Co.
Kubly	New Glarus, R. F. D. 2 ...	O. Kubly, M.
Ward	New Glarus, R. F. D. 2 ...	Matt Smith, M.
C. Stauffacher	Monticello	C. Stauffacher, O.
Meadow Valley	New Glarus	Casper Hefty, M.
Three Corner	New Glarus	Andrew Stuessy, M.
Stuessy	Monticello, R. F. D.	Matt. Stuessy, M.
Urben & Arn.	Monticello	Urben & Arn, O.
Exeter	Monticello	F. Elmer, O.
Disch Bros.	Monticello	Disch Bros., M.
Disch	New Glarus, R. F. D. 2 ...	John Disch.
H. Klaessy	Belleville	H. Klaessy, O.
M. B. Hoesly	New Glarus, R. F. D. 2 ...	M. B. Hoesly, O.
C. Zwicky	New Glarus, R. F. D. 2 ...	C. Zwicky, M.
Dayton	Dayton	Paul Schraepfer, M.
H. Freitag	Monticello, R. F. D. 5 ...	H. Freitag, O.
Keylock	Brooklyn, R. F. D. 1 ...	Plain Road, M.
Sam Freitag	Brooklyn, R. F. D. 1 ...	Sam Freitag, O.
West Brooklyn	Brooklyn, R. F. D. 1 ...	Mike Baumgardner, M.
Thos. Flood	Brooklyn	Thomas Flood, M.
Aug. Kraus	Albany, R. F. D. 3 ...	Aug. Kraus, M.
F. Karlen	Monticello	F. Karlen, O.
Fred Blumer	Monticello, R. F. D. 3 ...	F. Blumer, O.
Bleiler	Argyle, R. F. D. 4 ...	H. Gempeler, M.
White Oak Spring	Argyle, R. F. D. 1 ...	John Flannery, M.
Walnut Grove	Argyle, R. F. D. 1 ...	John Conway, M.
Patterson	Argyle, R. F. D. 1 ...	John Hanson, M.
Rier	Argyle, R. F. D. 1 ...	Chr. Vinger, M.
Puddle Duck	Argyle, R. F. D. 1 ...	John Berry, M.
Flannigan & Moltheid ...	Argyle, R. F. D. 1 ...	Mike Flannigan, M.
Poff	Argyle, R. F. D. 1 ...	H. Poff, M.
White Oak	Monticello, R. F. D.	Albert Wittwer, M.
Rat Hollow	Argyle, R. F. D.	W. S. Cary, M.
Big Rock	Blanchardville, R. F. D. ...	S. Gulson, M.
Grinnell Cheese Co.	Monroe, R. F. D. 4 ...	L. Grinnell, M.
Lemon Cheese Co.	Monroe, R. F. D. 4 ...	Jacob Blumer, M.
Klaessy Cheese Co.	Monticello, R. F. D. 2 ...	H. Klaessy, M.
R. Theiler	Monticello, R. F. D. 4 ...	Robert Theiler, M.
Moritz & Purcell	Monticello, R. F. D. 3 ...	Moritz & Purcell, O.
Hefty & Zumbunnen ...	Monticello, R. F. D. 3 ...	Hefty & Zumbunnen, O.
Fred Hefty	Monticello	F. J. Hefty, O.
Theo. Marty	Monticello	Theo. Marty, M.
J. Voegli	Monticello, R. F. D.	Jacob Voegli, O.
Freitag	Monticello, R. F. D.	Nick Freitag, O.
Hare Bros.	Monroe, R. F. D. 7 ...	Hare Bros., O.
Schmerse	Monroe, R. F. D. 7 ...	Alex Bandy, M.
Iseley Bros.	Monroe, R. F. D. 7 ...	W. Iseley, O.
Blum Bros.	Monticello	Blum Bros., O.
Weismueller	Monticello, R. F. D.	A. Weismueller, O.
G. Wittwer	Monticello, R. F. D.	G. Wittwer, O.

GREEN COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Becker & Schuller	Monticello, R. F. D.	Becker & Schuller, M.
Dick	Monticello, R. F. D.	Ed. Theiler, M.
Marty	Monticello, R. F. D.	J. C. Marty, O.
Wm. Stauffacher	Monroe, R. F. D. 4	Stauffacher & Loveland, M.
Wittenwyller & Burgy...	Monticello, R. F. D.	Wittenwyller & Burgy, M.
Blum	Monticello, R. F. D.	Henry Elmer, M.
Monticello	Monticello, R. F. D.	Wittwer & Urben, O.
Woolen Mill Ch. Co.....	Monticello, R. F. D.	O. Zentner, M.
Clark Cheese Co.....	Monticello, R. F. D.	J. Clark, M.
J. Stauffer	Monticello	Jac. Stauffer, O.
Freitag	Monticello	Fred Spring.
Kubley	Monticello	A. Kubley, M.
Hamerli	Monticello	C. Hamerli, O.
Silver	Monticello, R. F. D. 5	Silas Lewis, M.
H. Zimmerman	Monticello	G. Arn, O.
Meythaler	Monroe, R. F. D. 6	F. Feldt, O.
Marty	Monticello	John Marty, O.
Stauffacher & Elmer	Monroe, R. F. D. 6	Nick Stauffacher, M.
Geigel	Monroe, R. F. D.	Martin Geigel, O.
Rhyner	Albany	Jacob Rayner, M.
Baebler	Albany	A. Baebler, M.
Broughton	Albany, R. F. D. 1	F. Broughton, M.
Comstock	Albany	A. B. Comstock, M.
Attica	Attica	R. Zimmerman, M.
Norwegian	Albany, R. F. D. 1	H. Jacobson, M.
John Davis	Albany	John Davis, M.
Hamer	Albany	Wm. Hamer, M.
Greenwald	Monroe, R. F. D. 3	Jacob Greenwald, O.
Klondike	Monroe, R. F. D. 3	John Brum, M.
Schindler	Monroe	B. Schindler, O.
Spring Valley	Argyle, R. F. D. 4	Edw. Share, M.
Jordan Center	Monroe	A. Stauffacher, M.
Schuetz Bros.....	Monroe, R. F. D. 3	Schuetz Bros., O.
Gutzmer	Woodford, R. F. D. 2	A. Gutzmer, M.
A. Byrholder	Monroe, R. F. D. 8	Joe T. Ginner, M.
Green Valley	Monroe, R. F. D. 8	R. F. Ellis, M.
Skinner Creek	Monroe, R. F. D. 7	John Kundert, M.
Burr Oak Grove	Monroe, R. F. D. 7	A. Hartwig, M.
Johnson	Browntown, R. F. D.	H. Johnson, M.
Meyers	Browntown, R. F. D.	H. Meyers, M.
Jones & Flannery	Woodford	Jones & Flannery, M.
Kundert	Monroe, R. F. D. 3	Jacob Kundert, O.
Hauser & Krueger	Monroe, R. F. D. 7	Hauser & Krueger, M.
Benkert Bros.....	Monroe, R. F. D. 7	R. Benkert, O.
West	Monroe	Henry Blumer, M.
Krause Cheese Co.....	Monroe, R. F. D. 4	Nick Schmid, M.
Round Grove	Monroe, R. F. D. 6	John Elmer, M.
Balls Mills	Monroe	John Glanzman, O.
Buekhalter	Monroe, R. F. D. 6	G. Waelti, M.
Prien	Monroe, R. F. D. 2	A. Prien, M.
Sylvester	Monroe, R. F. D. 2	Chas. Pengra, M.
Haman	Monroe, R. F. D. 2	Walter Haman, M.
Steinman	Monroe	G. Steinman, O.
Miller	Juda, R. F. D. 1	J. H. Miller, M.

GREEN COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Hutzsel	Juda	Sam. Hutzsel, O.
Smith	Monroe, R. F. D. 6	C. Smith, M.
Jac. Speich	Monroe, R. F. D. 2	Jacob Speich, O.
Hulbert	Monticello, R. F. D. 2	M. M. Hulbert, M.
G. H. & W. A. Pengra ..	Juda, R. F. D.	G. H. Pengra, M.
F. Stauffacher	Monroe, R. F. D.	F. Stauffacher, M.
Decatur	Brodhead	Charley Zuercher, O.
Oak Hill	Brodhead	H. Atherton, M.
Dawson	Brodhead	J. L. Roderick, M.
Kammerer	Brodhead, R. F. D.	L. Kammerer, O.
Keen	Juda, R. F. D.	J. S. Keen, M.
Munger	Brodhead, R. F. D.	A. Armstrong, M.
Lawver	Browntown	Geo. Lawver, O., Free- port, Ill.
Divan	Browntown	Herman Keel, M.
Klaessy Mills	Winslow, Ill.	G. Argsburger, M.
Smith	Browntown	Wm. Smith, M.
Elmer	Browntown	Mrs. M. Elmer, O.
Franklyn	Monroe	Wm. Hogan, M.
Davis	Monroe	J. N. Davis, O.
Hawthorn	Monroe	Jacob Huffman, M.
Jenney	Monroe, R. F. D. 9	Anton Jenney, M.
Whitehead	Monroe, R. F. D. 1	J. W. Whitehead, M.
C. W. Kleckner	Monroe	C. W. Kleckner, O.
White	Monroe, R. F. D. 9	Frank Thorp, M.
Kubly	Monroe, R. F. D. 9	John Kubly, O.
Truempy	Clarno	J. Truempy, M.
Knoll	Monroe	John Elmer, M.
Beckman	Monroe	Wm. Beckman, O.
Prairie Hill	Clarno	John Raymor, M.
Chr. Marty	Juda, R. F. D. 2	Chr. Marty, O.
Fritz	Monroe	Herman Fritz, O.
Berry	Clarno, R. F. D. 1	J. M. Berry, M.
Meyers	Juda, R. F. D. 1	Mrs. John Meyers, O.
Preston	Juda, R. F. D. 2	Arthur Preston, M.
Five Corner	Monroe	Otto Rubin, M.
South	Monroe	Fred Tschudy, M.
Newman	Juda	P. Timm, M.
Rufi	Monroe	P. Rufi, M.
Maple Grove	Juda	C. A. Newman, M.
Newman	Juda	W. J. Newman, O.
Marty	Brodhead	Jacob Marty, O.
Kundert	Brodhead	Rudy Kundert, O.
Martin	Brodhead	T. E. Martin, Bêloit, O.
Straw	Brodhead	Jacob Marty, O.
Spring Valley	Brodhead	J. B. O'Neal, M.
Giese	Brodhead	H. Giese, M.
Oakley	Juda, R. F. D. 3	John Zimmerman, M.
Shanghai	Brodhead	G. Zimmerman, M.
Marty	Monticello	Mathias Marty, M.
Pleasant Valley	Monroe	Louis Hartwig, M.
Spece	Browntown	Jesse Goodman, M.
Blue Ribbon	Blanchardville	Ole Thompson, M.
McGuire	Argyle	W. McGuire, O.
Sullivan	Monticello	Pat. Sullivan, M.

GREEN COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Dill	Ramona	F. F. West, Monroe, M.
Voegeli	Monticello	Wm. Voegeli, O.
Geo. Whitehead	Juda	Geo. Whitehead, M.
Flanery	Argyle	Mike Flanery, M.
Tuescher Bros.	Monroe	Tuescher Bros., O.
Weiss	Monroe	John Weiss, O.
Jordan Prairie	Brodhead	Jacob Roderick, M.
Prieve	Monroe	Charley Prieve, M.
Enterprise	Juda	Jacob Karlen & Son, Mon- roe, O.
Zurfluch Bros.	Monroe	Zurfluch Bros., O.
Jacob Freitag	Monticello	Jacob Freitag, O.
J. Steiner	Monroe	J. Steiner, O.
Altman	Monticello	J. Altman, O.
Union	Juda	Wm. Tracy, M.
Naef & Gifford	Argyle, R. F. D. 4	Naef & Gifford.
Portman	Monroe, R. F. D. 7	A. Portman.
Creameries:		
Dayton	Dayton	H. Dorner, O.
Browntown, Co-op.	Browntown	S. O. Severson, O.
Brodhead	Brodhead	E. Scheberle, O.
Brooklyn	Brooklyn	Hans Highberg.
Martintown	Martintown	Martintown Cry. Co., O.
Juda	Juda	L. Legler, O.
Condensed Milk Factories:		
Borden Condensed Milk Co.	Monroe	R. F. Church, M.

GREEN LAKE COUNTY.

Creameries:		
Green Lake, Co-op.	Green Lake	M. L. Matthews.
Markesan	Markesan	H. P. Friday.
Manchester, Co-op.	Manchester	Manchester Cr. & Ch. Ass'n.
St. Marie Cry. Co., Co-op.	Princeton	St. Marie Cry. Co.
Princeton, Co-op.	Princeton	Princeton Cry. Ass'n.
Goldedge	Kingston	Haas & Breneman.
Berlin	Berlin	W. E. Blumenstein Co.
Brooklyn Cry. Co.	Green Lake	Brooklyn Cry. Co.
Skimming Stations:		
Blumenstein	Berlin	Blumenstein Co.
Glaus	Fairwater	C. Glaus.
Morris	Waupun, R. F. D.	Morris & Thomas.
Black Creek, Co-op.	Princeton	Princeton Cry. Ass'n.
Haas, No. 1.	Kingston, R. F. D. 1	Haas & Breneman.
Haas No. 2.	Kingston	Haas & Breneman.
Blumenstein No. 2	Fairburn	W. E. Blumenstein Co.
West Black Creek	Neshkoro, R. F. D. 2	West Black Creek D'y Co.
W. E. Blumenstein Co. ..	Green Lake	W. E. Blumenstein, Sulli- van.

IOWA COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Union Prairie	Dodgeville	Page Woodbury, M.
Blotz	Dodgeville	Joe Blorz.
Burr Oak	Dodgeville	Tom Thomas.
Pleasant Ridge	Dodgeville, R. F. D. 1	Wm. Potterton, M.
Rockwell	Dodgeville	Will Lewis.
Hollyhead	Ridgeway	Thomas H. Jones.
Philips	Dodgeville	Philips Bros.
Barrel Town	Mineral Point	Dick Mitchell.
North Survey	Dodgeville	Ast & Regez Co., M.
Maple Grove	Mineral Point	George Jewell.
Severson	Dodgeville	Sever Severson.
Rowland	Dodgeville	Bert McCormick.
Five Pt. Cheese Mfg. Co.	Dodgeville	John Kurth, M.
Union Valley	Dodgeville	Archie Price, M.
Big Spring	Highland	Melvin Christopher, M.
Hunter	Dodgeville	Fred Schiffler.
Latto	Dodgeville	J. N. Williams.
Oak Lawn	Dodgeville	John L. Smith, M.
Spring Valley	Clyde	James Donally.
Hollanbeck	Avoca	Victor Bolchen, M.
Clyde	Clyde	Pat Shelton, M.
Sunrise	Spring Green	John Peart.
Blue Grass	Dodgeville	R. McIntosh, M.
Wyoming	Wyoming	C. R. Adams, O.
Ridgeway	Ridgeway	Bert Strutt.
Mill Creek	Ridgeway	W. H. Thomas.
Porter Grove	Ridgeway, R. F. D.	Thomas Paull.
Section Line	Dodgeville, R. F. D. 3	Wallie Jones, M.
Cloverdale	Edmund	J. W. McClusky.
Walker	Mineral Point	Kiel Ch. & B. Co., Kiel, Wis. M.
Cobb	Cobb	Rud. Heuer, M.
Johnson	Livingston	John Johnson.
New Providence	Livingston	Henry Hugill.
Rewey	Rewey	Chas. Martin.
Nolan	Rewey, R. F. D. 1	Pearce Nolan.
Mount Vernon	Livingston, R. F. D. 2	H. Grunow.
Rosedale	Rewey	Ben Goninen.
Arthur	Mineral Point	Joe Arthur.
Star A	Muscoda	H. J. Noyes, O.
Apex	Highland, R. F. D. 1	Thos. Daly, M.
Highland	Highland	Otto Steinhardt, O.
Pompey's Pillar	Avoca	J. E. Koppes.
Pine Knob	Highland	J. McKinnéy.
Prairie	Muscoda	
Pulaski	Avoca	Ed Swingle.
Trout Branch	Avoca	Chris. Kraak.
Biglow	Avoca	B. W. Radel, M.
Thurber	Avoca, R. F. D. 2	Chris. Kraak.
Oleson	Avoca, R. F. D. 2	H. E. Flannery.
Star	Avoca	Ed. Temby.
Klinzinz	Avoca	Phillip Schwingle.
Barneveld	Barneveld	Lew Jones.
Scheide	Barneveld	Alex Dropke.

IOWA COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Brunner	Blue Mounds, R. F. D. 1..	Chas. Biniers.
Meadow Vale	Barneveld	H. Bakken.
Brynguerwyn	Barneveld	B. J. Owens.
Blue Ridge	Barneveld	Thos. F. Burns.
Pine Knob	Arena	Will Olson.
Coon Rock	Arena	Frank Hildebrand.
Lower Mill Creek	Arena	Harry Cook.
Hyde Mill	Arena	J. McCutcheon.
Drought Creek	Barneveld	O. Perkins.
High Crossing	Barneveld	D. J. Williams.
Thomas	Barneveld, R. F. D. 3	D. D. Thomas.
Hillside	Hillside, R. F. D. 3	Percy Hatfield, O.
Knobs	Spring Green, R. F. D. 3..	James Smith, M.
South Barneveld	Barneveld	J. B. Watkins.
Jones Valley	Barneveld	Wm. Massy.
Theobald	Barneveld	James Theobald.
Prairie Grove	Barneveld	John Stagner.
Barber	Barneveld	John Hannley,
Middlebury	Barneveld	Ed Campbell.
Moritz	Barneveld	Henry Thompson.
Black Oak	Ridgeway	Frank Leferty.
Blue Grass Valley	Ridgeway, R. F. D. 1	R. F. Brunker, M.
Spring Valley	Hollandale	Jake Holte.
Hollandale	Hollandale	Mike Thoni.
Potterton	Dodgeville, R. F. D. 3	D. Peterson.
Halvorson	Highland	A. Halvorson.
Standard	Dodgeville, R. F. D. 2	P. Crook.
Heun	Dodgeville, R. F. D. 2	John Heun.
Long Valley	Hollandale	Erick Hegland.
Adamsville	Barneveld	C. Massey.
Sand Rock	Hollandale	C. F. Paulson.
Star	Hollandale	John Leonard.
Pecatonica	Hollandale	P. Leonard.
Clay Hill	Parry	Nick Bratlay.
River Fork	Hollandale	A. Steensland.
North Hill	Hollandale	M. Peterson.
Schindler	Hollandale	Thos. Schindler.
Moscow	Moscow	Casper Schraepfer.
Herseshoe Bend	Blanchardville	Geo. Engwell.
Engvell	Blanchardville	Isaac Engvell.
Cleary	Blanchardville	James Cleary.
Glenn	Blanchardville	C. Olson.
McKenna	Blanchardville	Frank McKenna.
Dornan	Hollandale	Mike Coffey.
Waldwick	Waldwick	Howard Nicholas.
Rock Branch	Mineral Point	Henry Bennett.
Oak Park	Mineral Point	G. Springer.
Buck Grove	Mineral Point	Sam Salmon.
Mount Hope	Mineral Point	M. H. Brew.
Wren	Hollandale	Peter Welsh.
Waldwick	Hollandale	Mike Thoni.
Regon	Hollandale	Pat Casi.
Banner	Highland	McCormick & Washa, M.
Jonesdale	Jonesdale	P. Welsh.

IOWA COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Garrison Grove	Ridgeway, R. F. D. 1	Henry Conley, M.
Harms & Duffy	Highland	Harms & Duffy.
Gold Mine	Dodgeville	Fred Hible, M.
Messersmith	Dodgeville	A. Regaz.
Mineral Point & Northern	Linden	J. W. Alcock, M.
Glenville	Linden	Kiel Ch. & B. Co., Kiel, Wis. M.
Pleasant Valley	Dodgeville	A. L. Richardson, O.
Mineral Point	Mineral Point	Spensley & Hoare.
Snyder	Avoca	Peckham & Snyder.
Mitchell, Griffiths & Co., Comb. C. & B.	Dodgeville	Mitchell, Griffiths & Co.
Lime Ridge	Spring Green, R. F. D. 3..	Paul Kritz.
Spensley & Hoare Comb. C. & B.	Mineral Point	Spensley & Hoare, O.
Oleson	Avoca, R. F. D. 2	H. E. Flannery.
Oak Ridge	Dodgeville, R. F. D. 2	James Johns, M.
Jewel	Mineral Point	Geo. Ehrat & Co., Chi- cago, M.
Otter Creek	Edmund	B. Rhinerson, M.
Walnut Hill	Jonesdale	Curtis White.
Fair View	Hollandale	John Regan.
Willow Creek	Blue Mounds	W. Lutcliffe.
Creameries:		
Mitchell, Griffiths & Co., Comb. C. & B.	Dodgeville	Mitchell, Griffiths & Co.
Cobb	Cobb	Aug. C. Ipsen, O.
High Point Cry. Co.....	Cobb	Thos. F. Cody.
Edmund	Edmund	Henry Brewer, M.
Spensley & Hoare Comb. Ch. & B.	Mineral Point	Spensley & Hoare, O.
Mounds Creek	Blue Mounds	Parman & Kester.
Arena	Arena	Parman & Kester.

IRON COUNTY.

Creameries:		
Saxon Dairy Assn.....	Saxon	Pat. Auger.

JACKSON COUNTY.

Cheese Factories:		
Fairview	Fairchild	Fred Theiler, Humbird, M.
Golden Valley	Osseo	John Keuster, O.
Creameries:		
Alma Center	Alma Center	F. S. Pomeroy, M.

JACKSON COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries: (cont.)		
Silver Mount Cry. Assn..	Sechlerville	L. A. Sly, M.
York, Co-op.....	Northfield, R. F. D. 1	T. R. Kittilson, M.
Melrose	Melrose	G. L. Dietrich, O.
Disco	Disco	D. K. Carter, M.
Irving, Co-op.....	Black River Falls, R. F. D. 6.	L. Zeilsdorf, M.
Merrillan	Merrillan	J. Newman Co., O.
Farmers' Cry. Assn.....	Black River Falls	F. Witzle, M.
North Bend, Co-op.....	Melrose, R. F. D. 3	R. Patterson, M.
Requa	Augusta	O. A. Williams, O.
Skimming Stations:		
North Branch	Hixton, R. F. D. 1	T. R. Kittilson.
Northfield	Northfield	H. A. M. Steen.
Price	Fairchild, R. F. D. 2	O., A., Williams.

JEFFERSON COUNTY.

Cheese Factories:		
County Line	Watertown, R. F. D. 2	R. A. Cebell, M.
Gopher Hill	Ixonia, R. F. D. 1	Wm. Degman, M.
Greene Valley	Watertown, R. F. D. 1	R. A. Cebell, M.
River Side	Ixonia, R. F. D. 2	G. A. Stallmann, M.
Farmers' Home	Ixonia, R. F. D. 2	R. A. Cebell, M.
Creameries:		
W. Blumenstein Co.....	Sullivan	W. E. Blumenstein, O.
Oakhill B. & Ch. Co.....	Palmyra, R. F. D. 1	E. J. Jolliff, M.
Rome	Rome	W. E. Blumenstein, O.
Concord	Concord	Otto Reese, O.
Pipersville	Watertown, R. F. D. 3 ...	W. E. Blumenstein, O.
Butter & Cheese Co.....	Ixonia	Fred Stracher, M.
Farmington Center	Johnsons Creek	P. H. Wolfgram, O.
Bernhard	Helenville	L. Heimerl, O.
Palmyra	Palmyra	W. J. Peurner, O.
Godfrey Creamery Co....	Whitewater, R. F. D. 3...	C. R. Godfrey, O., 257-259 Broadway, Milwaukee.
Billet & Marshall	Whitewater, R. F. D. 3...	John Marshall, O.
Cold Spring Dairy Co....	Whitewater, R. F. D. 3...	W. J. Cooper, M.
Clark & Reynolds Co.....	Ft. Atkinson, R. F. D. 2..	A. R. Hoard, O.
Cold Spring Cry. Co.....	Ft. Atkinson, R. F. D. 4..	Charles Kutz, M.
So. Koshkonong Cry. Co.	Ft. Atkinson, R. F. D. 3..	M. Osgood, M.
Koshkonong Creamery ..	Koshkonong	A. R. Hoard, O.
Duck Creek	Helenville, R. F. D. 1	A. R. Hoard, O.
Stoneville	Jefferson, R. F. D. 4	W. J. Feind, O.
Maple Leaf	Jefferson, R. F. D. 4	A. E. Wegeman, O.
Monarch	Lake Mills	Dodge & Gallup, O.
East Side	Jefferson	Bruch & Shoemaker, O.

JEFFERSON COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries: (cont.)		
Deer Creek	Jefferson, R. F. D. 5	W. E. Blumenstein, O.
Black Hawk	Ft. Atkinson, R. F. D. 5..	Geo. Hartell, O.
Rock Springs	Ft. Atkinson, R. F. D. 5..	L. Poutsch, M.
Sumner	Ft. Atkinson, R. F. D. 5..	Henry Schempf, O.
Central	Cambridge, R. F. D. 1	Strasburg & Greenwood, Lake Mills, O.
Oakland Center	Ft. Atkinson, R. F. D. 1..	Strasburg & Greenwood, Lake Mills, O.
Ripley	Ft. Atkinson, R. F. D. 1..	T. H. Richards, O.
Wards	Ft. Atkinson, R. F. D. 1..	C. J. Ward, O.
Newville	Lake Mills	L. Wolfer & Abenroth, O.
Star	Lake Mills	John Strasburg, O.
Waterloo Butter & Ch... ..	Waterloo	August Kuhn, M.
Island	Waterloo, R. F. D. 2	L. Wolfer, O.
Kypkie Grove	Waterloo, R. F. D. 2	L. Wolfer, O.
Favill Grove	Lake Mills	B. Crump, M.
Cambridge	Cambridge	Otto Onstadt, M.
Union	Cambridge, R. F. D. 1	August Schultz, M.
Rock Lake	Lake Mills, R. F. D. 1	D. H. Sheldon, O.
Fairview	Jefferson, R. F. D. 2	Dabareiner Cr. Co.
Rock River Valley	Johnsons Creek, R. F. D. ..	Wm. Mautz, M.
Riverside	Jefferson, R. F. D. 2	Henry Sugman, O.
Aztalan	Lake Mills, R. F. D. 2	F. M. Crandall, O.
Riverside	Lake Mills, R. F. D. 2	Bert Gallup, O.
Crescent	Watertown, R. F. D. 6	C. E. Jenks, O.
Banner	Lake Mills	Dodge Cr. Co.
Hubbleton	Hubbleton	Doepke & Wolfer, O.
Acme, No. 2	Watertown, R. F. D. 6	J. Hayes, O.
Jahnke	Watertown	Jahnke Bros., O.
Geo. Mansfield	Johnsons Creek	Fred Mansfield, O.
Grell B. & C. Co.	Johnsons Creek	H. Grell, O.
Ayrshire	Johnsons Creek, R. F. D. 1 ..	H. C. Christians, O.
Rock Valley	Jefferson	J. F. Dabareiner, O.
Hoard's	Ft. Atkinson	A. R. Hoard, O.
Bark River C. & B. Assn.	Hebron	G. R. Van Lone, M.
Fountain	Waterloo	Roach & Seeber.
Whitney	Ft. Atkinson, R. F. D. 2..	B. Linton.
Lake Mills Cr. Co.	Lake Mills	
Condensed Milk Factories:		
Van Camp Packing Co.	Watertown	
Skimming Stations:		
Jersey Dale	Dousman, R. F. D. 33	W. E. Blumenstein, O.
Maple Grove	Rome	W. E. Blumenstein, Sulli- van, O.
Concord	Sullivan, R. F. D. 2	W. E. Blumenstein, O.
Bakertown	Helenville	E. Heimerl, O.
Wolfgram's	Helenville	J. Wolfgram, O.
Melendy's Prairie	Palmyra	J. Peurner, O.
Galloway	Whitewater	Union Produce Co., O.
Finch's Corner	Ft. Atkinson	A. R. Hoard, O.
Cushman's Mills	Sullivan, R. F. D. 1	W. Blumenstein, O.
Helenville	Helenville	W. J. Feind, O.
Black Hawk	Ft. Atkinson, R. F. D. 5..	Geo. Hartell, O.

JEFFERSON COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Skimming Stations:(cont.)		
Maple Grove	Waterloo	Roach & Seeber, O.
Fairview	Jefferson, R. F. D. 2	Dabarefner Cr. Co.
North Branch	Ft. Atkinson	A. R. Hoard, O.
Badger	Lake Mills	J. Strasburg, O.
Central	Cambridge	Greenwood & Strasburg.
Aliceton	Watertown	Jahnke Bros., O.

JUNEAU COUNTY.

Cheese Factories:		
Town Line	Mauston, R. F. D. 7.....	H. E. Granger, O.
Hill Side	Mauston	August Steiner, O.
Lindina	Mauston, R. F. D. 2.....	J. W. Cross, O.
Creameries:		
Hustler	Hustler	F. Handy, Bangor, O.
Camp Douglas	Camp Douglas	E. V. Harpold, O.
New Lisbon	New Lisbon	G. W. Orton, O.
Necedah	Necedah	Otto Peterson, M.
Farmers' Co-op. Dy. Co..	Wonewoc	F. J. Schroeder, M.
Badger State.....	Elroy	Mutch & Thompson, O.
Mauston Cry. Co.....	Mauston	D. W. Allaby, M.
Farmers' Cry. Assn.....	Union Center	F. J. Ganzer, M.
Skimming Stations:		
The Lee Cream Station..	Elroy	C. F. Mutch.
Lyndon Cream Station...	Lyndon Station	Geo. Jirse.

KENOSHA COUNTY.

Creameries:		
Fox River	Wheatland	C. C. Colhapp, Chicago, O.
Slades Corners	Slades Corners	S. D. Stade, O.
Farmers' Wilmot	Wilmot	Chas. Rasch, M.
Borden Co.....	Salem	H. J. Knight, Chicago, M.
Pikeville	Bristol, R. F. D. 7	G. E. Tillotson, M.
Woodworth, Co-op.....	Bristol, R. F. D. 31	Geo. Shepherd, M.
Walkers Prairie	Pleasant Prairie, R. F. D. 33.	C. H. Waldo, M.
Kenosha	Kenosha	B. V. Piper, O.
Somers	Somers	L. H. Fenske, O.

KENOSHA COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries:		
Star	Somers, R. F. D.	B. V. Piper, O.
Paris Corners	Union Grove, R. F. D.	B. V. Piper, O.
Klondike	Salem	
Bowman Dairy Co.	Bristol	Bowman Dairy Co., Chicago.
Farmers' Co-op.	Bassett	Farmers' Co-op. Co.
Condensed Milk Factories:		
Borden Condensed Milk Co.	Bassett	C. A. Knight, M.
Borden Condensed Milk Co.	Salem	

KEWAUNEE COUNTY.

Cheese Factories:		
F. Storzer	Stangelville, R. F. D. 2 ...	F. Storzer.
Chada	Stangelville, R. F. D. 1 ...	L. Chada, O.
Grutzmacher	Kewaunee, R. F. D. 5 ...	C. F. Krohn, O.
Ellisville	Luxemburg, R. F. D. 2 ...	B. O. Last, O.
Hillside	Luxemburg, R. F. D. 3 ...	M. J. Mehlic, O.
Mueller	Stangelville	Math Mueller, O.
Range	Kewaunee, R. F. D. 3	Leo Bogel.
J. F. Konop	Stangelville	J. F. Konop, O.
G. Kozina	Kewaunee, R. F. D. 4	G. Kozina, O.
Anton Grassel	Luxemburg, R. F. D. 1 ...	Anton Grassel, O.
Gasche	Luxemburg, R. F. D. 3 ...	Jacob Gasche, O.
Duval	Luxemburg, R. F. D. 5	William Barrett, O.
Bay View	Luxemburg, R. F. D. 4	Eugene Daonst, O.
Hoebrecht	Luxemburg, R. F. D. 5	Chas. Hoebrecht, O.
Heavers	Luxemburg, R. F. D. 4	Victor Everhard, M.
Lincoln Farmer Co.	Casco, R. F. D. 2	Juel Dernet, M.
Rubens	Casco, R. F. D. 2	L. Rubens, O.
Okonski	Kewaunee, R. F. D. 5	Paul Okonski, O.
Schleis	Luxemburg, R. F. D. 1 ...	Matt W. Schleis.
Worachek	Kewaunee, R. F. D. 3	J. Worachek, O.
Krok	Kewaunee, R. F. D. 4	Simon Kulhanek, O.
Mahacek	Kewaunee, R. F. D. 6	Joseph Mahacek, O.
J. B. Boucher	Luxemburg, R. F. D. 6	J. B. Boucher, O.
Schneider	Luxemburg, R. F. D. 2 ...	A. Schneider, O.
Ryan	Kewaunee, R. F. D. 6	A. Marsicek, O.
Brusky	Kewaunee	L. Brusky, O.
Sipple	Kewaunee, R. F. D. 3	W. Sipple, O.
Hurdke	Kewaunee, R. F. D. 3	H. W. Priebe, M.
Pleasant View	Kewaunee, R. F. D. 3	H. W. Priebe, O.
Rostok	Kewaunee, R. F. D. 7	Joseph W. Skala, O.
Alaska	Kewaunee, R. F. D. 7	A. W. Teske, O.
Schneider	Algoma, R. F. D. 1	H. Schneider, O.
Ahnapee	Algoma, R. F. D. 1	Ed. Bearrand, M.
Kodan	Algoma	Dubeck Bros., O.
Nilsberger, No. 2	Algoma, R. F. D. 2	Dubeck Bros., O.

KEWAUNEE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Boleslar	Algoma, R. F. D. 3	John Ries, O.
Cayernberg	Forestville, R. F. D. 2	Eli Cayernberg.
Range Line	Kewaunee, R. F. D. 1	R. B. McCarty, O.
Thorn Apple Dairy	Kewaunee, R. F. D. 3	G. Erricksen, M.
Sloan	Kewaunee, R. F. D. 6	Louis Blahink, O.
Adams	Kewaunee, R. F. D. 6	J. F. Adams, O.
Schubert	Kewaunee, R. F. D. 1	J. Schubert, O.
Carlton	Kewaunee, R. F. D. 1	E. Miller & Co., O.
Sandy Bay	Kewaunee, R. F. D. 1	Ed. Alberts, M.
Kanera	Kewaunee, R. F. D. 2	John Kanera, O.
Riha	Kewaunee, R. F. D. 3	J. W. Riha, O.
Casco	Casco, R. F. D. 1	Frank J. Haack, O.
Delain	Casco, R. F. D. 1	Joseph Delain, O.
Rio Creek	Algoma, R. F. D. 2	A. A. Gaulke, O.
Mutual Dairy	Kewaunee	F. Pellackek, M.
Burk & Koss	Casco	Burk & Koss, O.
Norman	Kewaunee, R. F. D. 3	F. W. Melicher, O.
Dopersalski	Kewaunee, R. F. D. 3	B. Dopersalski, O.
Gregor	Algoma, R. F. D. 3	Pete Fett, O.
Svoboda	Forestville, R. F. D. 2	John Svoboda, O.
Flemmal	Forestville, R. F. D. 2	Alec Flemmal, O.
Vandenhouten	Luxemburg, R. F. D. 5	Nestor Vandenhouten, O.
West Sandy Bay	Kewaunee, R. F. D. 1	F. J. Melicher, O.
Woodlawn	Stangelville, R. F. D. 2	Thomas Koenig, O.
Creameries:		
Bottkol	Casco, R. F. D. 2	Geo. Bottkol, O.
Rio Creek	Algoma, R. F. D.	A. M. Hoppe, M.
Rankin	Algoma, R. F. D. 2	Peter Entringer, O.
Algoma	Algoma, R. F. D. 4	Chas. Krause, O.
Martinsville	Luxemburg, R. F. D. 4	Frank Vandenhouten, O.
Scarbor Valley	Luxemburg, R. F. D. 6	Fred Gaebke, O.
South Luxemburg Cry. Ass'n.	Luxemburg	J. Daul, M.

LA CROSSE COUNTY.

Cheese Factories:		
Bangor	Bangor	Joseph Faellmi.
Dutch Creek	Bangor, R. F. D. 2	J. Hatz.
Greenfield	Eagle Hotel, La Crosse ..	Casper Anderegg.
Middle Ridge	Bangor, R. F. D. 2	Casper Anderegg.
St. Joseph's Ridge	Bangor, R. F. D. 2	Nick Arentz.
Ackler	Coon Valley	Wm. Ackler, O.

LA CROSSE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries:		
Bangor Dairy Ass'n.....	Bangor	Fred Handy, M.
Barre Mills	West Salem, R. F. D. 2	F. E. Uehling, M.
West Salem, Co-op.....	West Salem	J. H. Moran, M.
Mindoro	Mindoro	Milo Sullivan, M.
Holmen	Holmen	V. S. Keppel, M.
Ice Cream & Butter Co.	La Crosse	W. J. Ennisson, M.
La Crosse Pure Food Co.	La Crosse	W. D. Nielsen, M.
Newberg's Corners	Bangor	A. G. Chapiwisky, O.
Skimming Stations:		
St. Joseph Dairy Ass'n.	West Salem, R. F. D. 2 ..	F. E. Uehling.

LAFAYETTE COUNTY.

Cheese Factories:		
Klondike	Darlington	Mullen Bros., M.
Hicks	Apple River, Ill.	William Hicks, O.
Ronrude	Gratiot	M. Torgelson, M.
Winters	Gratiot	Jacob Dorenden, M.
Egan	Gratiot	Nick Brennen, M.
Andrews	Warren, Ill.	Henry Ballbeck, M.
Brenum	Gratiot	A. Engebretson, M.
Opie	Warren, Ill.	W. S. Stowe, M.
Collins	Gratiot	Pat Foley, M.
Whiteside	Argyle, R. F. D. 3	Sam Madli, M.
Lamont Center	Darlington	Lamont Center Ch. Co., M.
Olson	Argyle	Thos. Olson, O.
Bergamont	Darlington	J. E. Smith, M.
Brunkow	Darlington, R. F. D. 2 ..	W. Penniston, O.
Cannon	Jonesdale	R. M. Finley.
Connelly	Blanchardville	T. A. Connelly, M.
Shellito	Argyle	G. Sory, M.
Smith	Shullsburg	J. H. Mills, M.
Lake	Shullsburg	S. Kraemer, M.
Free Silver	Gratiot	Ferrell Bros., M.
Otter Creek	Darlington	F. Thompson, M.
Lovett Branch	Darlington	Lovett Branch Ch. Co., O.
McDonald	Darlington	G. Burger, M.
Avon	Darlington	A. Poole & Son, M.
Dublin	Darlington	T. Wesley, M.
Sunnyside	Darlington	J. Schwartz, M.
Truman	Calamine	F. Fink, M.
Rock	Mineral Point	N. Rock.
Karlen	Calamine	J. Karlen.
McCarten	Truman	A. McCarten.
Nall	Argyle	E. Salsaa, M.
Mud Branch	Argyle	C. Marty, M.

LAFAYETTE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Vinger-Flint	Argyle	Vinger & Flint Cheese Co., M.
Legler	Argyle	Legler Cheese Co., M.
Gunderson	Argyle	Gunderson Cheese Co., M.
Apple Branch	Argyle	Apple Branch Ch. Co., M.
Town Line	Argyle	Town Line Ch. Co., M.
Everson	Blanchardville	H. Grundahl, M.
Olson	Argyle	Peter Olson, M.
Blackstone & Look	Shullsburg	J. McCauley, M.
O'Connor	Darlington	John Hillary, M.
Lighthouse	Darlington	F. Hinkins, M.
Success	Belmont	M. Holland, M.
Glennon	Shullsburg	D. P. O'Brien.
Bergett	So. Wayne	A. J. Bergett, M.
Spring Brook	Woodford	Wm. Collins, M.
Lycan	Woodford	W. H. McConnell, M.
Wells	Woodford	Fred Butts, M.
Spore	Argyle, R. F. D. 3	John Larson, M.
Sisson	Argyle	J. Kemp, M.
Foley	So. Wayne	Wm. Jennings, M.
River Bend	Argyle	L. C. Olson, M.
Stuart	So. Wayne	Richard Stuart, M.
Hanson	Woodford	John Wehinger, M.
Miller	Woodford	Peter Wang, M.
Hasley	Winslow, Ill.	C. Habbeger, M.
Isley	So. Wayne	F. Kupperschmidt, M.
Hall	Warren, Ill.	P. Jecklyn, M.
Johnson	So. Wayne	John Logan, M.
Graham	Warren, Ill.	P. Jecklyn, M.
Meyer	So. Wayne	Jacob Gempeller, M.
Crosby	So. Wayne	A. R. Rush, M.
McKnight & Arnett	So. Wayne	McKnight Cheese Co., O.
Murphy	So. Wayne	Joe Foley, O.
Wayne Center	So. Wayne	F. Schumacher, O.
Blanchardville	Blanchardville	E. Regez, O.
McClintic	Blanchardville	A. Hanson, O.
O. Olson	Blanchardville	John Cavanaugh, O.
H. Hermanson	Blanchardville	H. Hermanson, O.
Search	Blanchardville	George Frank, O.
Lyon	Blanchardville	Tom Darrow, O.
Calamine	Calamine	P. F. McKernon, O.
Prennet	Calamine	A. Hoesley.
Matley	Mineral Point	F. Haldihalden.
Peter Mick	Mineral Point	J. Altman, O.
John McQuaid	Darlington	F. Miller, O.
P. F. McQuaid	Darlington	P. F. McQuaid.
Defiance	Mineral Point	L. Johnson, O.
Barlow	Darlington	P. B. & E. G. Barlow.
Dunbarton	Dunbarton	E. J. Bretz, O.
Seymour Corner	Darlington	J. Hillary, M.
Stoeber Cheese Co.	Belmont	Anton Stoeber, M.
Vinger Branch	Darlington	Joseph Buttery, M.
Union	Calamine	Louis Boyles, M.
Bennett Cheese Co.	Calamine	Bennett Cheese Co., O.
Zimmerman Cheese Co. .	Darlington	Zimmerman Ch. Co., O.

LAFAYETTE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Johnson	Darlington, R. F. D. 2	Joseph Johnson M.
Prien	Gratiot	J. Carpenter, M.
Maple Leaf	Darlington	Thomas Bros., M.
Oak Grove	Darlington, R. F. D. 5	Nicholas Steffes, M.
Simmons	Belmont	E. Simmons, O.
Grand View	Belmont	W. Steinhoff, O.
Meloy	Shullsburg, R. F. D. 3	Henry Meloy, O.
Elk Grove	Platteville	E. Thomas, M.
Mylor	Darlington	J. McPhillip, M.
Geo. Legler Cheese Co. .	Argyle	Geo. Legler, O.
Hirschbrunner	Darlington	C. Hirschbrunner, O.
Shockley	Argyle	Joe Hanson, M.
East Lamond	Argyle	Pete Alm, M.
Andrews & Vinger	Argyle	Henry Vinger, M.
Creameries:		
Gratiot B. & Ch. Co.	Gratiot	Frank Doring, M.
White Oak Dairy Co. ...	White Oak Springs	J. Newmn, Elgin, Ill., O.
Cottage Inn Cry. Co.	Belmont	H. G. Cowards.
Columbia Cry. Co.	Benton	Fred Winder, M.
Newman Butter Co.	Argyle	John Newman, Elgin, Ill., O.
Leslie Cry. Co.	Leslie	Burris & Elifret.
Belmont	Belmont	Fred Krog, Platteville, O.
Woodford	Woodford	Woodford Cry. Co., O.
D. E. Wood Butter Co....	Wiota	D. E. Wood Butter Co., O.
State Line	Winslow, Ill.	John Newman, Elgin, Ill., O.
So. Wayne Cry. Co.	So. Wayne	So. Wayne Cry. Co., O.
Blanchardville	Blanchardville	W. S. Moore & Co., Chicago, O.
Willow Spring	Darlington	R. H. Driver.
Pleasant View	Darlington	J. J. McDermott.
Meekers Grove	Meekers Grove	M. Hines.
Benton Cry.	Benton	John G. Beck, M.
Skimming Stations:		
Town Line	So. Wayne	So. Wayne Cry. Co.

LANGLADE COUNTY.

Cheese Factories:		
Rolling Cheese Co.	Antigo, R. F. D. 3	John Senzner, Jr.
Kruegar	Stevens Point	Herman Kruegar.
Polar	Polar	Crosby & Meyer, O.
Antigo	Antigo, R. F. D. 1	Crosby & Meyer, O.
Woodcock Corners	Richland Center	Geo. J. Bucher.
Neva	Deerbrook	W. J. Mattek.
Northern	Deerbrook	W. J. Mattek.

LANGLADE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Wenzel	Deerbrook	John Smelana.
Cherf Bros.	Medford, R. F. D. 4	Cherf Bros.
Bryant	Bryant	E. Norem.
Antigo	Antigo	Edward Hruska.
Creameries:		
Star Cry. Co., Co-op.....	Antigo, R. F. D. 3	John Schraml, O.
Phlox, Co-op.....	Phlox	John Kaufman.
Antigo	Antigo	Bachen Bros., O.
Neva	Antigo	W. J. Mattek.
Spring Brook	Antigo	W. G. Mayeri, O.

LINCOLN COUNTY.

Cheese Factories:		
Hackbart	Merrill, R. F. D. 1	Emil Hackbart, O.
Stoltzman	Merrill, R. F. D. 2	Oscar Stoltzman, O.
Pine River	Merrill, R. F. D. 5	A. J. Newell, O.
Pine River Central	Merrill, R. F. D. 2	Carl Lambrecht, O.
Merrill	Merrill	R. W. Mossholder, O.
Spring Valley	Merrill, R. F. D. 5	A. J. Newell, M.
Evergreen	Merrill, R. F. D. 5	A. J. Newell, M.
Creameries:		
Scott & Corning	Merrill, R. F. D. 1	J. F. Quade, O.
Dudley	Pine River	Henry Dudley.
Irma	Irma	

MANITOWOC COUNTY.

Cheese Factories:		
Klessig	Cleveland, R. F. D. 1	L. H. Klessig, O.
Ohn	Cleveland, R. F. D. 1	F. H. Ohn.
Kuhn	Cleveland, R. F. D. 1	John Kuhn.
Schreiber	Kiel, R. F. D. 2	T. W. Schreiber, O.
Millhome	Kiel, R. F. D. 2	H. Rauchschwolbe.
North Kiel	Kiel, R. F. D. 4	F. H. Wagenknecht.
Collins	Collins	R. C. Behnke, O.
Wells	Brillion, R. F. D. 3	R. C. Behnke.
Valders	Valders	H. H. Huhn, O.
Wehausen	Manitowoc, R. F. D. 1	E. F. Wehausen.

MANITOWOC COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Vogelsang	Timothy, R. F. D. 1	Wm. Vogelsang.
Dureneck	Manitowoc, R. F. D. 2	Ernst Dureneck.
Thompson	Valders, R. F. D. 1	Ole Thompson.
Schnell	Timothy, R. F. D. 1	Herman Schnell, O.
School Hill	Kiel, R. F. D. 1	W. D. Fecker.
Matznick	Kiel, R. F. D. 1	G. M. Matznick, O.
Louis Corners	Kiel, R. F. D. 1	F. F. Thiele.
Karstaedt	Kiel, R. F. D. 3	Otto Karstaedt, O.
Cerull	Kiel, R. F. D. 4	Chas. Cerull.
Karstaedt	Kiel, R. F. D. 3	Wm. Karstaedt, O.
Schwalbe	Hayton, R. F. D. 1	Ferd. Schwalbe.
Madson	Manitowoc, R. F. D. 4	Madson & Pederson Dairy Co.
Hein	Manitowoc	Ben Hein.
Grimms	Grimms	Loui Novotny, O.
Cato Falls	Reedsville, R. F. D. 3	J. F. Rappel, O.
Rappel	Reedsville, R. F. D. 3	J. F. Rappel, O.
Krueger	Reedsville, R. F. D. 2	W. M. Krueger.
Kleist	Reedsville, R. F. D. 2	F. W. Kleist, O.
Nate	Grimms, R. F. D. 1	J. D. Nate, O.
Zahorik	Cato, R. F. D.	G. Zahorik.
Sabel	Grimms	Mike Sabel.
Herold	Kellnersville, R. F. D. 1 ..	Joseph Herold, Jr.
Vogel	Kellnersville, R. F. D. 1 ..	Leo Vogel.
Cooperstown	Cooperstown	P. H. Peacock.
Rosecrans	Kellnersville	Joseph Berger.
Greenstreet	Kellnersville	Joseph Siebold.
Kellnersville	Kellnersville	F. J. Sieger.
Schladweiler	Whitelaw, R. F. D. 1	Gerhardt Schladweiler.
Branch	Branch	C. F. Meinert.
Ahlswede	Manitowoc, R. F. D. 5	Chas. Ahlswede, O.
Rohde	Manitowoc, R. F. D. 6	Martin Rohde, O.
Nauman	Two Rivers, R. F. D. 3	Robt. Nauman, O.
Schwanz	Manitowoc, R. F. D. 6	Aug. Schwanz, O.
Rockland	Reedsville, R. F. D. 2	Louis Fischer, O.
Frances Creek	Maribel, R. F. D. 2	A. Benishek, O.
Rank	Manitowoc, R. F. D. 5	Peter Rank & Co.
Meadow Brook, Comb. C. & B.	Manitowoc, R. F. D. 7	Chas. Kornely, O.
School Section	Manitowoc, R. F. D. 7	Fred Wilde.
Kostlery	Kellnersville, R. F. D. 2 ..	Edward Kostlery.
Podhola	Kellnersville, R. F. D. 2 ..	Wenzel M. Podhola.
Larabee	Mishicott, R. F. D. 1	Adolph Seidel, O.
P. H. Peacock, No. 2	Mishicott, R. F. D. 2	P. H. Peacock, M.
Zlab	Two Rivers, R. F. D. 1	Wenzel Zlab, O.
Bleser	Two Rivers, R. F. D. 1	P. C. Bleser, O.
Junker	Brillion, R. F. D. 2	Louis Junker, O.
Maple Grove	Reedsville, R. F. D. 1	Wm. Maede, O.
Two Creeks	Two Rivers, R. F. D. 1	Henry Lehrman, M.
Tisch Mills	Tisch Mills	Frank Zellner, M.
Zander	Zander	Jas. De Zwarte, O.
Geimer	Mishicott, R. F. D. 2	P. E. Geimer, O.
Centerville	Cleveland, R. F. D. 3	A. Klessig.
Alverno	Manitowoc, R. F. D. 1	Jos. Wilhelm, O.
Reedsville	Reedsville	A. Luethy, O.

MANITOWOC COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Kasson	Brillion, R. F. D. 2	J. C. Haese, M.
Lorenz	Reedsville, R. F. D. 1	Emil Lorenz, O.
Fokett	Reedsville, R. F. D. 2	Chas. Fokett, O.
Clover Leaf	Reedsville, R. F. D. 3	L. A. Weise, O.
Olm	Valders	O. F. Olm, O.
Olm	Hayton, R. F. D. 1	H. A. Olm.
Birkleman & Gudeman ..	St. Nazianz	Birkleman & Gudeman.
Siggelkow	Cleveland, R. F. D. 2	E. A. Siggelkow, O.
Rohde	Timothy	Anton Rohde.
Duebner	Manitowoc, R. F. D. 2	Theo. Duebner.
Keilsmeier	Timothy	Rudolph Keilsmeier, O.
Gerlach	Kiel	Adam Gerlach, O.
Streblow	Cleveland, R. F. D. 2	Wm. Streblow.
Riverbend	Manitowoc, R. F. D. 4	Wm. J. Frank, O.
Schultz	Cato	H. S. Schultz, O.
Sixel	Cleveland	H. G. Sixel, O.
Krueger	Hayton, R. F. D. 1	Aug. Krueger, O.
Erdman	Kiel, R. F. D. 2	Erdman & Co.
Strodtorf	Manitowoc, R. F. D. 4	Wm. Strodtorf, O.
Maribel	Maribel	Henry Schneider, O.
Thor	Mishicott, R. F. D. 2	Frank Thor, O.
Hingiss Comb. C. & B....	Cleveland, R. F. D. 2	Henry Hingiss, O.
Sixel Comb. C. & B....	Cleveland, R. F. D. 2	A. G. Sixel.
Kasbaum Comb. C. & B.	Valders, R. F. D. 2	J. F. Kasbaum.
Barenbruch Comb. C. & B.	Manitowoc, R. F. D. 1	Henry Barenbruch.
Duebner Comb. C. & B....	Manitowoc, R. F. D. 3	O. C. Duebner, O.
Siggelkow Comb. C. & B.	Cleveland, R. F. D. 3	E. O. Siggelkow, O.
Lake Shore Comb. C. & B.	Timothy	Martin Rhode.
Ackerman Comb. C. & B.	Manitowoc, R. F. D. 3	Henry Ackerman, O.
Weyer Comb. C. & B....	Manitowoc, R. F. D. 2	Albert Meyer.
Kolamnezsk Comb. C. & B.	Whitelaw	A. V. Kolamnezsk.
Buchholz Comb. C. & B..	Two Rivers, R. F. D. 1	R. F. Buchholz, O.
Engelland Comb. C. & B.	Mishicott, R. F. D. 3	Wm. Engelland.
Creameries:		
Mishicott	Mishicott	Chas. Weinfurther, O.
English Lake	Manitowoc, R. F. D. 2	O. A. Keilsmeier, O.
Meadow Brook Comb. B. & C.	Manitowoc, R. F. D. 7	Chas. Kornely, O.
Hingiss Comb. C. & B....	Cleveland, R. F. D. 2	Henry Hingiss.
Sixel Comb. C. & B....	Cleveland, R. F. D. 2	A. G. Sixel.
Kasbaum Comb. C. & B.	Valders, R. F. D. 2	J. F. Kasbaum.
Barenbruch Comb. C. & B.	Manitowoc, R. F. D. 1	H. Barenbruch.
Duebner Comb. C. & B....	Manitowoc, R. F. D. 3	O. C. Duebner, O.
Siggelkow Comb. C. & B.	Cleveland, R. F. D. 3	E. O. Siggelkow, O.
Lake Shore Comb. C. & B.	Timothy	Martin Rhode.
Ackerman Comb. C. & B.	Manitowoc, R. F. D. 3	Henry Ackerman, O.
Weyer Comb. C. & B....	Manitowoc, R. F. D. 2	Albert Meyer.
Kolamnezsk Comb. C. & B.	Whitelaw	A. V. Kolamnezsk.
Buchholz Comb. C. & B..	Two Rivers, R. F. D. 1	R. F. Buchholz, O.
Engelland Comb. C. & B.	Mishicott, R. F. D. 3	Wm. Engelland.

MARINETTE COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Feifarek	Peshtigo, R. F. D. 2	F. B. Feifarek.
McCoskey	Peshtigo, R. F. D. 2	John McCoskey.
Beemster	Pound	Beemster & Biersteker.
Chudacoff	Peshtigo	Jas. L. Chudacoff.
Krueger	Pound	L. A. Krueger.
Goldsmith	Coleman, R. F. D. 1	Aug. Goldsmith.
Walsh	Walsh	C. R. Gorman.
Mayflower	Marinette, R. F. D. 2	Otto Rusch, M.
Stank	Pound, R. F. D. 2	Fred Stank, O.
Beaver	Beaver	F. J. Bassine, O.
Creameries:		
Marinette Pro. Co.....	Marinette	A. V. Heimbarg, M.
Wausaukee Cry. Co.....	Wausaukee	H. P. Bird, M.

MARATHON COUNTY.

Cheese Factories:		
Riverside	Marshfield, R. F. D. 4	Simon Wunsch, O.
Spencer	Spencer	Aug. Hoops, O.
Hillside	Wausau, R. F. D. 1	W. Zahn, O.
Riverside	Wausau, R. F. D. 1	E. Mathwick, O.
Church Hill	Wausau, R. F. D. 1	R. F. Yahn, O.
Tesch Comb. C. & B.....	Naugart, R. F. D. 1	F. Tesch, O.
Haffeman	Merrill, R. F. D. 3	F. Haffeman, O.
Imm Brick	Merrill, R. F. D. 3	Fred Imm, O.
Grimm	Ringle, R. F. D. 1	Nick Grimm, O.
Gilt Edge	Marathon, R. F. D. 2	W. F. Brandt, O.
Emmerich	Naugart	J. Schmidt.
Storm's, No. 2	Merrill, R. F. D. 4	A. W. Storm.
C. F. Emmerick Comb. C. & B.	Hamburg, R. F. D. 1	C. F. Emmerick, O.
Natzke	Hamburg, R. F. D. 1	A. E. Natzke, O.
Maple Grove	Marathon, R. F. D. 2	A. H. Schlueter, O.
Castle	Marathon, R. F. D. 3	Claus Streveler, O.
Hubert Berge & Co.....	Edgar, R. F. D. 2	Hubert Berge, O.
Wein C. & B. Co.....	Edgar, R. F. D. 4	Wein C. & B. Co., O.
Schelock Corners	Marshfield, R. F. D. 4	Wm. Althmere, O.
Stadt	Stadt	Clover Leaf Dairy Co., O.
Range Line	Rozellville	Brinkman & Reif, O.
Corinth	Corinth	Wm. Hargrove, M.
Farmers' Home	Athens	Stephen Graf, M.
Pargu	Abbotsford, R. F. D. 1	H. G. Pargu, O.
Bruckerville	Dorchester, R. F. D. 1	Jas. Lamer, M.
Hamburg	Hamburg, R. F. D. 1	Hamburg Ch. Co., O.
Cold Spring	Marathon, R. F. D. 2	W. Klinger, O.
Forest Home	Athens	W. J. Decker, O.

MARATHON COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
McMillan	McMillan	Geo. Schuster, M.
Cloverdale	Dorchester, R. F. D. 1	Chas. Bartnik, M.
Hub	Dorchester, R. F. D. 1	Geo. J. Kust, O.
Holton	Dorchester, R. F. D. 1	G. W. Decker, O.
Gartmann	Edgar, R. F. D. 1	F. Gartmann, O.
Frankfort	Edgar, R. F. D. 1	Carl Hoernke, M.
Range Line	Marathon, R. F. D. 3	Nic. Ruplinger, M.
Mannville	Marshfield, R. F. D. 4	Mike Duvall, O.
Hull C. & B.	Colby, R. F. D. 1	Hull C. & B. Co., O.
Gierl	Colby, R. F. D. 1	Oscar Lutz, O.
Rocky Ridge	Mosinee, R. F. D. 1	Bert Jenks, O.
Mosinee	Mosinee	Edwin Emmerich, O.
Streveler's	Mosinee, R. F. D. 1	Nic Streveler, O.
Eau Claire	Ringle, R. F. D. 1	W. R. Detert, O.
Sunrise	Ringle, R. F. D. 1	F. W. Stubbe, O.
Tagerville	Wausau, R. F. D. 1	C. H. Kufahl, O.
Brookside	Rozellville, R. F. D. 1	Chas. E. Hough, M.
Banner	Marathon City, R. F. D. ..	Ed. Shaller, O.
Fenwood	Fenwood	Fenwood Ch. & Pro. Co.
Star C. & B. Co.	Edgar, R. F. D. 1	Star C. & B. Co., O.
Wm. Woller	Merrill, R. F. D. 3	Wm. Woller, O.
Pine Tree	Wausau	O. E. Schoepke, O.
Green Valley	Colby	Blumenstein & Bornheimer, O.
Abbotsford Comb. C. & B.	Abbotsford	Nelson Empey, M.
Edgar Comb. B. & C.	Edgar	Dodge & Becker.
Creameries:		
Colby	Colby, R. F. D. 1	Blumenstein & Bornheimer, O.
Unity	Unity	Farmers' Co., O.
Knowlton	Knowlton	F. C. Oldenwalder, O.
Texas	Wausau, R. F. D. 4	C. Gohdes, M.
Sun Rise	Wausau, R. F. D. 2	Chas. Seymour, M.
Sun Set or Star.	Wausau, R. F. D. 2	A. Beilke, M.
Marathon Co. Dy. Co.	Wausau	Kiefer Cold Storage Co., O.
Rib Falls	Wausau	Wausau Lumber Co., O.
Eureka	Merrill, R. F. D. 1	W. A. Voigt, O.
Marathon Central	Marathon, R. F. D. 1	Frank Gassener, M.
Edgar Comb. B. & C.	Edgar, R. F. D. 3	Dodge & Becker, O.
Hamburg	Marathon, R. F. D. 2	Hamburg Cry. C., O.
McMillan	Marshfield, R. F. D. 4	E. C. Dodge, O.
Rozellville	Rozellville	Peurner Cry. Co., O.
Abbotsford Comb. C. & B.	Abbotsford	Nelson Empey, M.
Kelley	Kelley	Kizer & Derleth, O.
Marathon County Farmers' Cry. Co.	Athens	John Jenkins, M.
Marathon City	Marathon	J. J. Cisler, O.
Eau Plaine	Dancy	Gus Borth, M.
Stratford	Stratford	J. L. Chrouser, M.
Milan Co-op	Milan	J. C. Newgood, M.
Bevent	Bevent	Chris Knippel, M.
Hatley	Hatley	Kizer & Derleth, M.

MARATHON COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries: (cont.)		
Tesch Comb. C. & B.	Naugart, R. F. D. 1	F. Tesch, O.
Emmerick Comb. C. & B.	Hamburg, R. F. D. 1	C. F. Emmerick, O.
Hull Comb. C. & B.	Colby, R. F. D. 1	Hull C. & B. Co., O.
Skimming Stations:		
Poneatouski	Edgar, R. F. D. 1	Athens Creamery Co., M.
South Side	Athens	Athens Creamery Co., M.

MARQUETTE COUNTY.

Creameries:		
Lake Shore	Endeavor	W. H. Burwell, O.
Moundville	Endeavor	Henry Jones, M.
Oxford	Oxford	Kirbaugh & Pierson, O.
M. B. & P. Creamery Co.	Montello, R. F. D. 1	D. S. O'Connell, M.
Montello	Montello	John Gleason, M.
Mecan	Mecan	A. Luebka, M.
Carter	Packwaukee	F. A. Carter.
Westfield	Westfield	R. A. Shrank, M.
Harrisville B. & C. Assn.	Harrisville	S. A. Sharpe, M.
Crystal Lake Cry. Assn.	Budsin	Theo. Teske, M.
Germania Cry. Assn.	Germania	S. N. Hartwell, M.
Shields Cry. Assn.	Montello, R. F. D. 2	G. W. Graham, M.
Skimming Stations:		
Neshkoro	Neshkoro	J. Gleason, M.
Buffalo	Montello, R. F. D. 1	Wm. Blumenstein, O.
Lake View	Briggsville	W. H. Burwell, O.
Lake Shore	Endeavor	

MILWAUKEE COUNTY.

Creameries:		
Burwood	Oakwood	G. H. Barber, Milwau- kee.
Geo. C. Mansfield Co.	Milwaukee	Geo. C. Mansfield Co., O.
Skimming Stations:		
St. Martins	Hales Corners, R. F. D. 20	F. Imme, O.

MONROE COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Bohn	Norwalk, R. F. D.	F. Leuenberger.
Creameries:		
Shennington Cry.	Shennington	A. R. Plageman.
Warrens	Warrens	P. C. Peterson.
Clifton Co-op. Cry. Assn.	Kendall, R. F. D. 3	Henry Frohmader, M.
Oakdale Cry. Co-op.	Oakdale	C. Gerne, M.
Norwalk	Norwalk	Wm. Drier, M.
Wilton	Wilton	H. Sorge, O.
Wilton, Co-op.	Wilton	E. M. McCann, M.
Farmers' Co-op. B. Assn.	Tomah	J. W. Brennan, M.
Sparta Co-op.	Sparta	J. E. Lloyd, M.
Cataract	Cataract	J. E. Lloyd.
Leon Co-op.	Leon, R. F. D. 1	Geo. Weiner, M.
Melvina Cry. Assn.	Melvina	H. Leis, M.
Portland Cry. Co.	Cashton, R. F. D. 2	G. Kamperschroer, M.
Newey Cry. Co.	Westby	A. H. Peterson.
Enterprise Butter Co.	Cashton	G. J. Bates.
Central Wis.	Cashton	H. Sorge.
Hoffmans Corners	Kendall, R. F. D. 1	Aug. Rolloff.
Glendale, Co-op.	Glendale	Geo. H. Robertson.
Kendall	Kendall	H. Sorge & Sons.
Ontario Mut. Co-op. Cry. Assn.	Ontario	J. C. Williams, M.
Clifton	Oakdale, R. F. D. 1	H. Sorge & Sons, Reedsburg.
Leon Valley Cry. Co.	Leon	C. L. Fox, M.
Greenfield Cry. Assn.	Tunnel City	Bert Prescott, M.
Skimming Stations:		
Dorset Ridge	Wilton, R. F. D. 1	Henry Sorge, O.
Sutcliffe Corners	Kendall	Mutch & Thompson.

OCONTO COUNTY.

Cheese Factories:		
Morgan	Oconto Falls, R. F. D. 2 ..	W. A. Kliefoth, O.
Chase	Sobieski, R. F. D. 2	Wm. Vanden Heuvel, O.
Hallman	Sobieski, R. F. D. 1	Henry Hallman.
Erdman	Abrams, R. F. D. 1	Albert Ardmann.
Spruce	Lena, R. F. D. 1	Wm. Teske, O.
Kelly Brook	Lena, R. F. D. 1	J. S. Peterson, O.
Hubbard	Hickory	John Hubbard, O.
Wishka	Lena, R. F. D. 1	James Wishka, O.
Lena Dairy	Lena	Oscar Brazo, O.
Gillett	Gillett	Wis. Butter & Ch. Co., O.
Kurtz	Maple Valley	J. B. Kurtz, O.
Hays	Suring, R. F. D. 1	Gustave Bartz, O.
Linzey Brook, Co-op.	Underhill, R. F. D. 2	Fred W. Runge, M.

OCONTO COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Dallman	Underhill, R. F. D. 2	C. B. Dallman, O.
County Line, Comb. B. & C.	Peshtigo, R. F. D. 2	E. J. Dohnald, O.
T. Stemper	Coleman	T. Stemper.
Four Corners	Coleman	F. Pauli, O.
Deering	Oconto Falls, R. F. D. 2 ..	W. A. Deering, O.
Elm Grove	Oconto, R. F. D. 2	Harry W. Schoen, O.
Kadlec	Oconto Falls, R. F. D. 1 ..	Joseph Kadlec, O.
Natzke	Underhill, R. F. D. 1	A. J. Natzke, O.
Hillside	Coleman, R. F. D. 2	G. J. Schmoll, O.
Creameries:		
Little Suamico	Little Suamico	James McGill, O.
Maple Leaf	Abrams	H. C. Schultz, O.
County Line Comb. B. & C.	Underhill, R. F. D. 2	C. B. Dallman.
Brook Side	Abrams, R. F. D. 1	R. J. Koepf, O.
Stiles	Stiles	Anson Eldred Co., O.
Little River	Oconto, R. F. D. 1	O. P. Safford, O.
Elkhorn	Oconto, R. F. D. 1	G. S. Seyfert, O.
Oconto	Oconto	G. G. Gilchrist, O.
Mosling Co-op.....	Mosling	B. A. Mosling, M.
Oconto Falls.....	Oconto Falls	J. S. McHugh, M.

ONEIDA COUNTY.

Creameries:		
Rhineland	Rhineland	Rhineland Cry. & Pro. Co.

OUTAGAMIE COUNTY.

Cheese Factories:		
Hortonville Comb. C. & B.	Hortonville	Dabareiner & Steffen, O.
B. Nelson, No. 1	Dale	W. C. Halse, O.
Clover Dale	Dale	J. Hauselman, O.
Dale Ch. & But. Co.....	Dale	F. Stocker, O.
Raisler	Dale	L. Raisler, O.
West Hortonville	Hortonville	F. Kleiner, O.
West Greenville Comb. B. & C.	Hortonville	M. W. Pease, O.
Stevensville	Hortonville, R. F. D. 21 ..	W. H. Manley, O.
Rickman	Dale, R. F. D.	P. Schneider, O.

OUTAGAMIE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Island	Dale, R. F. D. 17	Emil Bartschi, O.
Medina Co-op. Cry. Ass'n	Medina	I. A. Hackett, M.
Liberty Corner	New London	Anton K. Schmitz, O.
Peters	New London	P. Peters, O.
Bear Creek	Welcome	O. Mossholder, O.
Conrad	Welcome	F. Conrad, M.
N. E. Maple Creek	Sugar Bush, R. F. D.	O. R. Swantus, O.
Lilly	Welcome, R. F. D.	P. C. Battles, O.
W. Koehler	Welcome, R. F. D. 27	W. Koehler, O.
Leeman Comb. C. & B.	Leeman	Carter & Jones, O.
Theede & Newland	Shiocton, R. F. D. 31	Theede & Newland, O.
Failey	Black Creek	Owen Failey, O.
Cicero	Seymour, R. F. D. 35	Peter Larsen, O.
Lawrenceville	Seymour	F. Jeske, O.
Chas. Hahn & Co.	Seymour	Chas. Hahn & Co.
S. Greenville	Appleton, R. F. D. 1	F. Nau, O.
E. V. Grunigen	Black Creek	E. V. Grunigen, O.
Griese	Binghamton	B. Griese, O.
Wm. Beyer	Black Creek	Wm. Beyer, O.
Black Creek B. & C. Co.	Black Creek	J. Brandt, O.
John Felton	Black Creek	John Felton, O.
Twelve Corners	Black Creek	Gustave Schoeler, O.
Wm. Schueler	Appleton	Wm. Schueler, O.
White Clover Comb. C. & B.	Appleton	Chas. Schueler, O.
River Side	Shiocton, R. F. D. 30	W. Bean, O.
H. Fassbender, No. 3 ...	Hortonville, R. F. D. 22 ..	H. Fassbender, O.
Ideal Comb. B. & C.	Greenville	H. J. Fassbender, O.
Gopher Hill	Hortonville, R. F. D. 21 ..	P. W. Wallace, O.
Seymour Valley	Seymour, R. F. D. 37	H. W. Melchart, O.
Luedke	Seymour	B. H. Luedke, O.
Kliest	Seymour, R. F. D. 36	E. L. Kliest, O.
Five Corners	Seymour, R. F. D. 38	Samuel Baehler, O.
Duck Creek	Seymour, R. F. D. 38	Anton Plutz, M.
Felton Comb. C. & B.	Seymour, R. F. D. 38	M. Felton, O.
Baehler	Seymour, R. F. D. 36	Jacob Baehler, O.
Freedom Village	Kaukauna, R. F. D. 11	H. T. Nabbeft, O.
Greiner	Little Chute, R. F. D. 9 ...	P. H. Greiner, O.
Pleasant View	Little Chute	A. J. Miller, O.
Mackville	Appleton, R. F. D. 4	Martin Striegel, M.
Frazer	Appleton, R. F. D. 5	F. A. Vieregutz, O.
Center Valley Comb. C. & B.	Appleton, R. F. D. 3	H. W. Halverson, O.
A. F. Petersen	Appleton, R. F. D. 3	A. F. Petersen, O.
Elm Grove	Appleton, R. F. D. 3	J. Beemster, O.
Darby Cheese Co.	Appleton, R. F. D. 8	Angert Wondrow, M.
Lemke, No. 2	N. Kaukauna, R. F. D. 13 ..	M. A. Lemke, O.
Smith	Mission	Joseph Smith.
Lemke, No. 1	No. Kaukauna	A. A. Lemke, O.
Poplar Grove	Appleton	C. Onderhoven, O.
Pelky	Welcome	L. Pelky, O.
Riverside	Clintonville	P. H. Kasper, O.
Greenville	Appleton	Frank Leitcke, O.
J. W. Appleton	Kaukauna	J. W. Appleton, O.
Twin Hickory	Appleton, R. F. D. 1	L. Beutel, M.

OUTAGAMIE COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Island Ch. & B. Co.	Larson, R. F. D. 3	Chas. Christensen, M.
Spring Creek	Appleton	C. F. Smith, O.
Dooley	Shiocton	I. F. Spurgeon, O.
West Bovina	Welcome	L. Pelky, O.
Maple Leaf	Welcome	Albert Reinke.
Brass & Kielen	Black Creek, R. F. D. 34 ..	Wm. Kielen.
Baten	Kaukauna, R. F. D. 11 ..	Henry Baten.
Military Road	S. Kaukauna, R. F. D. 14 ..	Jos. Moser.
Medina Comb. B. & C.	Medina	Robt. Riesberry, O.
Potts-Wood-Schroeder Comb. C. & B.	Greenville	Potts Wood-Schroder Co.
Military Junction Comb. C. & B.	So. Kaukauna	John Lamers.
White Clover Comb. C. & B.	So. Kaukauna	H. J. Fassbender.
Creameries:		
Hortonville	Hortonville	Dabareiner & Steffen, O.
Medina Comb. C. & B. ..	Medina	Rob. Riesberry, O.
Welcome Cry. Co.	Welcome	John Kutz, O.
Potts-Wood-Schroder Ch. C. & B.	Greenville	Potts-Wood-Schroder Co.
W. Greenville Station ..	Greenville	Aug. Schroeder, O.
Bovina	Shiocton	F. Braatz, O.
Seymour	Seymour	F. W. Huth, O.
Apple Creek	Appleton	Potts, Wood & Co., O.
Potts, Wood & Co.	Appleton	Potts, Wood & Co., O.
VanWyk	Appleton	A. Van Wyk, O.
Clover Blossom Ch. & B. Co.	Seymour, R. F. D. 35	Otto, Brass & Hahn, O.
Black Creek	Black Creek	Geo. Otto, O.
Hortonville Comb. C. & B.	Hortonville	Dabareiner & Steffen, O.
Center Valley Comb. C. & B.	Appleton, R. F. D. 3	H. W. Halverson, O.
W. Greenville Comb. C. & B.	Hortonville	M. W. Pease, O.
Leeman Comb. C. & B. ..	Leeman	Carter & Jones, O.
White Clover Comb. C. & B.	So. Kaukauna	H. J. Fassbender.
Ideal Comb. B. & C.	Greenville	H. J. Fassbender.
Felton Comb. C. & B.	Seymour, R. F. D. 38	M. Felton.
Chas. Hahn & Co.	Seymour	Chas. Hahn & Co.
White Clover Comb. C. & B.	Appleton	Chas. Schuelefer.
Military Junction Comb. C. & B.	So. Kaukauna	John Lamers.
Skimming Stations:		
Dabareiner & Steffen ...	Hortonville	Dabareiner & Steffen.
Maple Creek No. 1.	New London, R. F. D. 24. ..	W. E. Carter, O.

OZAUKEE COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Ternet	Lake Church	J. J. Ternet.
Belgium	Belgium	E. H. Fisher, O.
Spies	Fredonia, R. F. D. 1	Nick Spies.
Ternes	Cedar Grove	John Ternes, O.
Kohler	Fredonia	Daniel Wittlinger, O.
Rehm	Fredonia	Chas. Rehm, O.
St. Augustine	West Bend	M. Fechter.
Town 10	Grafton	Edward Keller.
Klessig	Fredonia	J. H. Klessig.
Waubeka	Fredonia	J. H. Klessig, O.
Pauley, No. 1	Port Washington	Nick Pauley, O.
Green Bay Road	Port Washington, R. F. D. 1.	Pauly & Karrels, O.
Lake Church	Belgium	Frank Pauly, O.
Possely	Belgium	J. N. Possely.
Holy Cross	Fredonia	Chas. Pauly, M.
Fredonia	Fredonia	Gartmann & Kalmerton.
Wellenstein	Port Washington	J. P. Wellenstein.
Norwegian	Port Washington	W. M. Sterns, M.
Meyer	Port Washington	P. D. Meyer, O.
Port Washington	Port Washington	Wm. Koopman, O.
Muehlberg	Fredonia	O. E. Muehlberg.
Depies	Fredonia	John Depies.
Liezen	Belgium	G. J. Liezen.
Jung Inlet	Fredonia	G. C. Kuhn, O.
Marx	Belgium	Mike Marx, O.
Golden Rod	Cedar Grove	Jacob Theisen, M.
Bruckner	Fredonia	John Bruckner, O.
Riverside Comb. Ch. & B.	Saukville	E. L. Eastman, O.
Creameries:		
Cedarburg	Cedarburg	O. J. Groth, O.
Five Corners	Cedarburg	Thomas Halpin, M.
Grafton	Grafton	C. Gerlach, M.
Lakefield	Grafton	Wm. Hoenner, M.
Riverside Comb. Ch. & B.	Saukville	E. L. Eastman, O.
Clover Hill	Cedarburg	O. J. Groth, O.

PEPIN COUNTY.

Creameries:		
Waterville Co-op.....	Arkansaw	C. K. Fleschauer, M.
Bear Creek, Co-op.....	Durand, R. F. D. 2	E. J. Ryan.
Tarrant, Co-op.....	Durand, R. F. D. 2	Geo. L. Howard.
Skimming Stations:		
Bear Creek	Durand, R. F. D. 1	E. J. Ryan.

PIERCE COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Farm Hill	Elmwood, R. F. D. 1	Hans Tauberg.
Plum Creek	Plum City, R. F. D. 1	C. Martin.
Creameries:		
Ellsworth	Ellsworth	Milton Dairy Co., St. Paul, O.
Eisdale Co-op. Cry. Co..	Bay City, R. F. D. 1	J. W. Carlson, M.
Beldenville	Beldenville	Beldenville Cry. Co., O.
Spring Valley	Spring Valley	P. P. Lomo, M.
Gilman, Co-op.....	Spring Valley, R. F. D. 2.	M. O. Hammer, M.
Fairview, Co-op.....	Malden Rock, R. F. D. 1..	Chas. Peroutky, O.
Elmwood	Elmwood	Ole Peterson, M.
Hatchville	Spring Valley	F. C. Knospe, M.
Lawton B. & Ch. Co.....	Ellsworth	Ed. Husfloen, M.
River Falls	River Falls	Milton Dairy Co., O.
Plum City	Plum City	Sammels Bros., O.

POLK COUNTY.

Cheese Factories:		
Cedar Bend	Osceola	Fred Sorenson, M.
East Farmington	Osceola, R. F. D. 1	Wm. F. Koch, Osceola, O.
Cedar Lake	New Richmond, R. F. D. 3	Wm. F. Koch, Osceola, O.
Elm Grove	Osceola, R. F. D. 2	J. E. Demulling, M.
Maple Grove	Centuria, R. F. D. 1	W. R. Boies, M.
Nye	Nye	Fred Miller, M.
Alden Cheese Co.....	Star Prairie, R. F. D. 1..	J. E. Demulling, M.
Clover Dale	Osceola, R. F. D. 2	Aug. Demulling, M.
Garfield Co-op.....	St. Croix Falls, R. F. D. 2	B. H. Miller, M.
Pine Lake Co-op.....	Osceola, R. F. D. 1	Chas. Engelhardt, M.
McKinley Co-op.....	Lorraine	E. J. Pfluger, M.
Creameries:		
Apple River & Beaver Co-op.	Range	S. P. Swanson, Turtle Lake, O.
Clayton Co-op.....	Richardson	Chas. Lundstrom, M.
Clear Lake Co-op.....	Clear Lake	A. Carswell, M.
Amery Co-op.....	Amery	B. A. DeGolier, M.
Deronda Co-op.....	Deronda	A. Ross, M.
Volga Co-op.....	Amery, R. F. D. 3	Geo. Jones, M.
Garfield	Dresser Junction, R. F. D. 1.	Jules Fredlund, O.
Dresser Junction	Dresser Junction	Jules Fredlund, O.
Lykens	Lykens	G. L. Freeman, M.
Bunyan	Bunyan	H. J. Hjorst, M.
Luck Co-op.....	Luck	A. Berggren, M.
Clam Falls	Clam Falls	Chris Hanson.
Atlas Co-op.....	Atlas	John Akes, M.
Cushing	Cushing	Ed. Skone, M.
Eureka Co-op.....	St. Croix Falls, R. F. D. 1	N. C. Nielsen, M.
West Sweden Co-op.....	Frederick	Wm. Moberg, M.

POLK COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries: (cont.)		
Milltown Co-op.....	Milltown	N. J. Larson, M.
Bone Lake Co-op.....	Luck, R. F. D. 2	Jens Jensen.
St. Croix Falls Co-op.....	St. Croix Falls, R. F. D. 2	J. Brink, M.
Independent Co-op.....	Clayton	J. S. Malchow, M.
Skimming Stations:		
Dwight	Deronda, R. F. D. 2	Engwold Monson, M.
Pineville	Pineville	Bridgman & Russell Co.
Frederick	Frederick	Crescent Cry. Co., St. Paul, Minn.

PORTAGE COUNTY.

Cheese Factories:		
County Line	Milladore, R. F. D. 1	Frank Schugahn, O.
Carson	Stevens Point, R. F. D. 3	C. F. Wink, M.
Creameries:		
Linwood	Stevens Point, R. F. D. 4	Frank Clark, M.
New Hope, Co-op.....	Amherst Jct., R. F. D. 2	Martin Wroldstad, M.
Rosholt	Rosholt	T. J. Warner, M.
Sharon	Rosholt, R. F. D. 2	Geo. Souik, M.
Garfield, Co-op.....	Nelsonville	Olaf Hole, M.
Nelsonville, Co-op.....	Nelsonville	W. T. Waller, M.
Stockton	Stevens Point, R. F. D. 1	B. L. Ward, O.
Custer, Co-op.....	Stevens Point, R. F. D. 2	Martin Heffron, M.
Jersey, Co-op.....	Amhurst	G. E. Jordan, M.
Lanark Butter & Ch. Co.	Amhurst, R. F. D. 1	Frank Droske, M.
Lake Thomas	Fancher	A. J. Kubisiak, M.
Arnott	Stevens Point, R. F. D. 5	T. J. Leary, M.
Buena Vista	Plover, R. F. D. 1	I. E. Albertie, M.
Plover	Plover	W. H. Hartwell, M.
Empire	Junction City	H. Rux, O.
Eau Plaine	Dancy	Gustave Borth, M.
Carson	Stevens Point, R. F. D. 3	W. E. Warren, O.
Almond	Almond	H. J. Kiepert, O.
Blaine	Almond, R. F. D. 2	D. W. Sawyer, M.
Hetzel	Almond, R. F. D. 2	N. T. Hanson, M.
Union	Almond, R. F. D. 1	F. A. Shilling, M.
Bancroft	Plainfield, R. F. D. 3	Otto McCormick, M.
Casimir	Stevens Point	Aug. Walkaush, O.
Ellis	Stevens Point, R. F. D. 2	G. W. Allen, O.
Star	Junction City	Empire Cry. Co., O.
Lone Star	Amherst, R. F. D. 2	R. Wilson, M.
Amherst Jct.	Amherst Jct.	
Farmers C. & B. Co.	Amherst Jct., R. F. D. 2	Ben. Halverson, M.
Skimming Stations:		
North Star	Rosholt, R. F. D. 2	Geo. Souik, M.
Ellis	Custer	Martin Heffron, M.

PRICE COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Oak Ridge	Kennan	Herman Tegen, O.
Plinke's	Prentice	Fred Plinke, O.
Creameries:		
Park Falls	Park Falls	Jas. Esterl.
Kennan	Kennan	Reichert Bros., O.
Prentice	Prentice	F. B. Cuthbert, O.
Ogema, Co-op.	Ogema	Aug. Heden, M.
Ogema Springs	Ogema, R. F. D. 2	Johannes Johnson, O.
Spring Brook	Phillips, R. F. D. 1	Spring Brook Cry. Ass'n, O.
Spirit	Spirit	Sawales & Borst, O.

RACINE COUNTY.

Creameries:		
Caldwell	Lake Beulah	E. I. Seaman, Clinton Jet. O.
Kneeland	Caledonia, R. F. D. 12	Kearney Roessler Co., Jefferson, O.
Union Church	Caledonia, R. F. D. 13	McCanna & Fraser, Bur- lington, O.
Raymond Center	Franksville, R. F. D. 10 ..	Kearney Roessler Co., Jefferson, O.
Raymond, Co-op.	Franksville, R. F. D. 10 ..	Martin Christensen, M.
Waterford	Waterford	McCanna & Fraser, O.
Tichigan Cry.	Waterford, R. F. D. 25	C. Glaus, Milwaukee, O.
Rochester	Rochester	McCanna & Fraser, O.
Mt. Pleasant	Somers, R. F. D.	F. J. Biehm.
Yorkville	Union Grove, R. F. D. 6 ..	Kearney & Roessler, Jef- ferson, O.
Ivesgrove	Union Grove, R. F. D. 6 ..	Kearney & Roessler, Jef- ferson, O.
Thompsonville	Franksville, R. F. D. 10 ..	M. O. Mortenson, O.
Racine Pure Milk Co. ...	Racine	Mr. Lee, M.
High Street	Burlington, R. F. D. 20 ...	Frank Grass, M.
Dover	Burlington, R. F. D. 18 ...	F. C. Zacher, Milw., O.
Condensed Milk Factories:		
Wis. Condensed Milk Co.	Burlington	McCanna & Fraser, O.
Horlick's Malted Milk Co.	Racine	
Skimming Stations:		
Norway	Waterford	McCanna & Fraser, Bur- lington, O.
Beaumont	Kansasville, R. F. D.	McCanna & Fraser, Bur- lington, O.

RICHLAND COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Corwin	Cazenovia, R. F. D. 2	Wm. Peterson, O.
Hawkins	Cazenovia, R. F. D. 1	O. H. Swenick, O.
Balmoral	Muscoda, R. F. D. 1	H. J. Noyes, O.
Pleasant Hill	Richland Center, R. F. D. 2	W. F. Miller, O.
Basswood	Muscoda, R. F. D. 1	Chas. Sobeck, O.
Basswood Union	Basswood	F. Tisdale, O.
Gault Hollow	Boaz, R. F. D. 1	Schmitt Bros., Blue River, O.
Fox Hollow	Richland Center, R. F. D. 4	F. Tisdale, Basswood, O.
Union	Boaz, R. F. D. 1	G. M. Miller, M.
Boaz	Boaz, R. F. D. 1	John Fischer, O.
Elmwood	Soldiers Grove, R. F. D. 2	B. L. Clanin, O.
Butternut	Loyd	Scott Warren, O.
Loyd	Loyd	Chas. Strausburg, O.
Pleasant Ridge	Richland Center, R. F. D. 3	L. H. Jewett, M.
Richland	Richland Center, R. F. D. 3	Omar Dietz, O.
West Branch	Boaz, R. F. D. 1	C. Hannawell, M.
Five Points	Five Points	Albert Munson, M.
Indian Creek	Muscoda, R. F. D. 3	Luther Noyes, M.
Oak Ridge	Richland Center, R. F. D. 2	Schmitt Bros., Blue River, O.
Ash Creek	Richland Center, R. F. D. 2	Chas. Madding, O.
Maple Grove	Viola	Dolph Simmons, O.
Sabin	Sabin	John Babb, M.
Byrd's Creek	Byrd's Creek	Schmitt Bros., Blue River, O.
Excelsior	Excelsior	Schmitt Bros., Blue River, M.
Twin Bluffs	Twin Bluffs	Fitzgerald Bros., O.
Gotham	Gotham	Foley Bros., O.
Goodrich	Lone Rock, R. F. D. 1	F. A. & C. E. Goodrich, O.
Dixon Union	Lone Rock, R. F. D. 1	L. W. Dorgan, M.
Bloom City	Bloom City	Paul Kidd.
West Lima	West Lima	Fred Lepley, O.
Buck Creek	Richland Center	Ned Brewer, O.
Rockbridge	Rockbridge	J. G. Cunningham, O.
Fancy Creek	Richland Center	Hoffman Bros., O.
Hub City	Hub City	W. N. Waddell, O.
Henrietta	Yuba, R. F. D. 1	Scott Lorrence, O.
Yuba	Yuba	Diedrich Bros., O.
Woodstock	Woodstock	Otto Kidd, O.
Peckham	Gillingham	E. E. Austin, M.
Ithaca Union	Ithaca	Theo. Reutten, M.
Keyesville	Twin Bluffs, R. F. D. 1	Durst Bros., M.
Neptune	Neptune	L. H. Sawyer, O.
Greenheck	Lone Rock, R. F. D. 1	Arnold Greenheck, O.
Pine River	Richland Center	Burnham & Scott, O.
Richland Center Comb. C. & B.	Richland Center	Burnham & Scott, O.
Bear Valley	Bear Valley	Peter Schmidt, O.
Brady's	Soldiers Grove	Jas. Brady, O.
Fountain Hill	Lone Rock	W. J. Davis, O.
Fairview	Lone Rock	H. J. Noyes, Muscoda, O.

RICHLAND COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Horse Creek	Richland Center	Cosgrove & Cunningham, O.
Lower Little Willow	Richland Center, R. F. D. 3	Irvin Reagles, O.
Cherry Valley	Yuba, R. F. D. 2	W. E. Elmer, O.
Malanchton Creek	Hub City	Wm. Waddell, M.
Dosch Corners	Richland Center, R. F. D. 1	Fred Dosch, O.
Upper Little Willow	Richland Center, R. F. D. 3	Len Stoddard, O.
Durnford	Richland Center	F. Durauford, M.
English Ridge	Richland Center	S. A. Harris, M.
Aubry	Twin Bluffs	John Nee, M.
Eagle Corners	Muscoda	Chas. Sobeck, M.
Upper Ash Creek	Richland Center	Tim Manning, O.
Middle Ash Creek	Blue River	Schmitt Bros., M.
Ithaca	Ithaca	Font Derickson, O.
East Branch	Richland Center, R. F. D. 4	Wm. Wonn, O.
Ash Ridge Comb. Ch. & B.	Viola	Frank Shepherd, M.
Creameries:		
Westford	Cazenovia	Frank Bowar, O.
Hillside	Richland Center	F. Bowen, O.
Richland Center Comb. Ch. & B.	Richland Center	Burnham & Scott, O.
Viola	Viola	J. Wunsch, O.
Ash Ridge Comb. Ch. & B.	Viola, R. F. D. 2	F. Shepherd, M.
Mill Creek	Boaz, R. F. D. 1	Frank Walker, O.
Sylvan	Sylvan	Levi Echardt, M.
West Boston	Boaz	W. H. Dosch, M.
Tavera	Tavera	M. J. McDermott, M.
Goodrich	Lone Rock, R. F. D. 1	F. A. & C. E. Goodrich, O.
Spot Cash	Richland Center	Ward Lamberson, O.
Ideal	Richland Center	Fred Thompson, O.
Skimming Stations:		
Cazenovia	Cazenovia	Frank Bowar, O.
Smiths Hollow	Reedsburg	H. Sorge, M.
Simpsons	Reedsburg	H. Sorge, M.
Gillingham	Gillingham	Burnham & Scott, O.

ROCK COUNTY.

Cheese Factories:		
Dickey	Brodhead	Andrew Everson, M.
Scotch Hill	Brodhead	Jacob Marty, O.
Magnolia	Brodhead, R. F. D. 1	Jim Ward, M.
Star	Janesville	R. Ryan, M.
Lee	Brodhead, R. F. D. 22	P. Koatrude, M.
Waldron	Brodhead, R. F. D. 4	Peter Waldron, M.

ROCK COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Ryan Farm	Hanover	Andrew Hirsbrunner, O.
Neward, No. 1	Beloit, R. F. D. 27	Henry Legler, M.
Stokes Factory	Brodhead, R. F. D. 23	D. Speik, M.
Avon	Avon	Gottfried Burkhalter, O.
Anderson	Brodhead, R. F. D. 22	Anderson Cheese Co.
Olson	Brodhead, R. F. D. 22	Peter Olson, M.
Jug Prairie	Evansville	Orville Jones, M.
West View	Albany	Wm. Chase, M.
Schuepbach	Brodhead	John Schuepbach, O.
Spring Valley	Orfordville	E. Holden, M.
Hogan	Orfordville	B. Taylor, M.
Creameries:		
Shopiere	Shopiere	Jas. Quigley, W. Madison St., Chicago, O.
Shurtleff	Janesville, 150 Lincoln St.	Shurtleff Co., O.
Center	Evansville, R. F. D. 17	Roach & Seeber Co., Waterloo, O.
Magnolia	Evansville, R. F. D. 20	C. E. Pearsall, O.
Footville	Footville	Roach & Seeber Co., O.
Hanover	Hanover	Jacob Marty, Brodhead, O.
Willowdale	Janesville, R. F. D. 4	C. F. Barnum, O.
La Prairie	Janesville, R. F. D. 2	J. B. Little, M.
Avalon	Avalon	Wm. Conry, O.
Johnston	Avalon, R. F. D. 9	William Borst, O.
Station No. 3	Milton	Else & Steinke, O.
Spring Brook	Whitewater, R. F. D. 1	Diesch & Fromader, O.
Afton	Afton	E. Brinckman, O.
Lima	Lima	W. B. McComb, O.
Maple Grove	Milton Jct., R. F. D.	Wm. Klusmyer, O.
Six Corners	Milton, R. F. D. 11	Dexter Grey, M.
Milton	Milton	R. Else & Son, O.
White Lily	Janesville, R. F. D. 8	F. W. Boettcher, O.
Milton, Co-op.	Milton Junction	Wm. P. Marquart, M.
W'n. Newark Cry. Co.	Newark	E. H. Skinner, O.
Orfordville	Orfordville	Caryell & Bartling, O.
Evansville	Evansville	C. J. Pearsall, O.
Eagle	Edgerton, R. F. D.	Frank Boss, O.
Leyden	Janesville, R. F. D. 17	J. E. Boettcher, O.
Indian Ford	Edgerton, R. F. D. 15	Fred Maidens, O.
Clinton Cry. Co.	Clinton	Ed. Seaman.
Tiffany	Tiffany	D. M. Spicer, O.
Evergreen	Janesville, R. F. D. 3	A. L. Teich, O.
Beloit	Beloit	Sturtevant & Wright, O.
Fairfield	Darien, R. F. D. 2	F. P. Saxe, O.
Newark	Beloit, R. F. D. 26	C. H. Olson.
Skimming Stations:		
Eureka	Whitewater, R. F. D.	Zool & Shepherd, O.
Burr Oak	Milton Jct., R. F. D.	J. B. Westphal, O.
Otter Creek	Milton Jct., R. F. D. 17	W. F. Marquart, M.
Howe's Mill	Beloit	Corcoran & Meech.
Newark	Beloit, R. F. D. 27	Corcoran & Meech.
Star	Evansville, R. F. D. 17	Roach & Seeber.
Spring Valley	Brodhead, R. F. D. 1	Roach & Seeber, Water- loo, O.

RUSK COUNTY.

Name.	P. O. Address.	Owner or Manager.
Creameries:		
Bruce	Bruce	R. C. Shelton, O.

ST. CROIX COUNTY.

Cheese Factories:		
Banner	New Richmond, R. F. D. 6	Chas. Carow, Star Prairie, M.
No. 2	Somerset, R. F. D. 1	H. A. LaGrandeur, O.
No. 1	Somerset	H. A. LaGrandeur, O.
No. 4	Somerset, R. F. D. 1	H. A. LaGrandeur, O.
No. 3	Somerset, R. F. D. 1	H. A. LaGrandeur, O.
Sand Hill	Somerset, R. F. D. 1	D. J. Vanesse, M.
Creameries:		
Wilson, Co-op.....	Wilson	G. W. LaPoint, Jr., Wilson, M.
Baldwin, Co-op.....	Baldwin	A. J. Nyman, M.
Hersey, Co-op.....	Hersey	G. L. Lampert, Woodville, M.
Roberts, Co-op.....	Roberts	J. Imrie, M.
Glenwood	Glenwood	Montanye Cry. Co., O.
New Richmond	New Richmond	Superior Cry. Co., O.
Star Prairie	Star Prairie	Superior Cry. Co., O.
Deer Park	Deer Park	H. C. Casperson, O.
Stanton Ch. & Cry. Co..	Stanton	W. E. Bennett, New Richmond, M.
Emerald	Emerald	Henry Fleming, M.
Hempel Forest	Emerald	H. C. Casperson, O.
Eau Galle, Co-op.....	Woodville, R. F. D. 1	Ole Matteson, M.
Hammond	Hammond	Samels Bros., Minneapolis, Minn., O.
Oak Grove	Stillwater, Minn., R. R. 9	H. A. Radke, O.
Schulenburg	Hudson	Schulenburg Bros.' Cold Storage Co., O.
Lone Tree	Boardman	J. L. Jorgenson, O.

SAUK COUNTY.

Cheese Factories:		
Carr Valley	La Valle, R. F. D. 4	Burt Hurley, M.
Wards	Sandusky, R. F. D. 2	J. E. Wards, O.
Sunny Bank	Bear Valley, R. F. D. 2	Wm. Keegan.
Wilson Creek	Spring Green	Emil Diehl, O.
Clover Hill	Plain	C. Bremmer, O.
Pleasant Valley	Plain	Geo. Kreul, O.
Poplar Grove	Plain	Thos. Moore, M.
White Mounts	White Mounts	W. B. Constantine, Lone Rock, O.

SAUK COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Cedar Grove	Plain	W. B. Constantine, Lone Rock, O.
Oak Leaf	Spring Green	Aksel Bruhn, O.
Upper Big Hollow	Spring Green	A. H. Mainwaring, O.
Sunny Hill	Baraboo	Aug. Westphal, Neosho, M.
Codys Corners	Spring Green	G. F. Randall, O.
Grove	Spring Green	James Ferguson.
Lower Big Hollow	Spring Green	Waterstreet & Diehl, M.
Moosaw	White Mound	J. Scallon, M.
Irish Valley	White Mound	Tom Haney, M.
East Plain	Plain	W. Constantine, O.
Fair View	Spring Green	W. F. Scholl, O.
May Creamery Co.	Reedsburg	Olamp Tourdot, M.
Loreto	Sandusky	W. A. Dwyer, M.
Gruber	Plain	John Coyne, M.
Prairie	Spring Green	Wm. Waterstreet, O.
Pleasant View	Plain	Joe Kraemer, O.
Cold Spring	Plain	A. Mousseau, O.
Cover Leaf	Plain	Chas. Bremmer, O.
Creameries:		
Merrimac	Merrimac	Heimerl Cry. Co.
Ableman	Ableman	John Dettman.
Ironton	Ironton	H. Sorge & Son, M.
River Side	North Freedom	H. Sorge & Son, O.
Excelsior	Baraboo	I. C. Turner, M.
Elm Grove	Baraboo	F. C. Zacher, Milwaukee, M.
Fairfield	Baraboo, R. F. D. 1	B. F. Thomas, M.
Reedsburg	Reedsburg	Henry Sorge, O.
Winfield	Reedsburg	Henry Sorge, O.
La Valle	La Valle	Joseph Schafer, M.
Oak Hill	Reedsburg	H. Sorge.
Sumpter	Prairie du Sac	M. A. Reynolds, M.
Leland	Plain	H. Sorge & Son, O.
Black Hawk	Black Hawk	Pannan & Kester.
Troy & Honey Creek ..	Prairie du Sac	Henry Ferber, M.
Wisconsin Cry. Co.	Sauk City	H. S. Bowman, M.
Oak's	La Valle	Henry Sorge, O.
Valton	Valton	Frank Bowar.
Hill Point	Reedsburg	E. Broeger.
North Prairie	Reedsburg	H. Riggert.
Loganville	Loganville	H. Riggert.
Baraboo	Baraboo	W. H. Cafilisch, O.
Skimming Stations:		
Washington	Reedsburg	H. Sorge, O.
Lime Ridge	Lime Ridge	Henry Sorge & Son, O.
Sandusky	Sandusky	Loganville Cry. Co.
Dellona	Reedsburg	H. Sorge, O.
Floral	Kilbourn	H. Sorge, O.
Wheelerburg	Reedsburg	H. Sorge.
Dutch Hollow	Reedsburg	H. Sorge, O.

SAWYER COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Pioneer	Hayward	J. F. Bradley, O.

SHAWANO COUNTY.

Cheese Factories:		
Briarton	Briarton	J. F. Jeske, O.
Lasch	Shawano, R. F. D. 3	H. C. Lasch, O.
Laney	Laney	John Leonard, O.
Hofa Park	Hofa Park	Theofil Aryger, O.
Town Line Co-op. Co. ...	Rose Lawn, R. F. D. 1	Stanley Adamski, M.
Lyons & Fraser	Frazer	Lyons & Frazer, O.
Lanstad	Bonduel	C. W. Ganshow, O.
Miller	Rose Lawn, R. F. D. 2	C. R. Miller, O.
Angelica	Angelica, R. F. D. 1	
Pulaski B. & C. Co.	Pulaski	L. Szmauosk, M.
Split Rock	Split Rock	E. H. Schoeneck, O.
Star Factory	Marion, R. F. D. 2	R. Krueger, O.
Pella	Clintonville	C. W. Binder, O.
Norway Dairy Ass'n.	Tigerton	A. C. Frailing, O.
Caroline	Caroline	F. Buss, O.
Stemper	Leopolis	A. M. Radke, O.
Belle Plaine Richmond ..	Shawano, R. F. D. 2	G. Kenversatel.
Richmond B. & C. Co. ...	Shawano	Chas. Brockman.
Bibelhouser	Shawano	John Bibelhauser, O.
Gresham	Gresham	Fred Zaug, O.
Red River	Shawano, R. F. D. 2	Fred P. Lash, O.
Thiede	Bonduel, R. F. D. 3	J. A. Thiede, O.
Mills	Cecil	F. A. Mills.
Green Valley Cheese Co..	Underhill, R. F. D. 1	Peter Jensen.
Dillenburg	Shawano, R. F. D. 3	Wm. Dillenberg.
Mill Creek	Shawano, R. F. D. 3	A. G. Tuma, O.
P. & Belle Plaine Ch. Co.	Clintonville, R. F. D. 3 ..	Chas. Killian.
Highland	Bonduel, R. F. D. 3	Henry F. Ganschow, O.
Tot Hill	Bonduel, R. F. D. 2	Frank Pautz.
Ganschow	Bonduel, R. F. D. 1	Ganschow Bros., O.
Hoefs	Bonduel, R. F. D. 2	Chas. Hoefs.
Gippesfield	Bonduel, R. F. D. 2	Henry Drage.
Tracy Corner	Cecil, R. F. D. 1	Theo. Natzke, O.
Brummels	Cecil, R. F. D. 1	J. S. Brummels.
Advance	Advance	M. Larson, O.
Nichols	Angelica, R. F. D. 1	Edw. Nichols.
Brandt Comb. C. & B.	Sobieski, R. F. D. 1	Wm. Baker, O.
Krakow	Sobieski, R. F. D. 1	Casper Stazcek, O.
Friedrich	Bonduel, R. F. D. 3	Wm. Friedrich.
Natzke	Underhill	A. J. Natzke, O.
Lund	Shawano, R. F. D. 1	John Lund.
Wolf River	Shawano, R. F. D. 1	Fred Natzke, O.
Tomashek	Shawano, R. F. D. 1	Chas. Tomashek.

SHAWANO COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Wolf River	Embarrass, R. F. D. 1	David Meisner, Jr., O.
Grass Lake Dairy Co. ..	Belle Plaine	Paul Lasch.
Elm Grove	Marion	Wm. Hoffman, M.
Story Hill	Shawano	A. L. Westel.
Kolpack Comb. C. & B. ..	Bowler	Kolpack Bros., O.
Smithsville	Pella	
Leopolis	Leopolis	Wm. Werth, O.
Aniwa	Aniwa	Joe Zieler.
Frailing	Split Rock, R. F. D. 1	A. C. Frailing, O.
Birnamwood Comb. C. & B.	Birnamwood	A. C. Buss, O.
Belle Plaine Comb. C. & B.	Belle Plaine	Wm. Huebner, O.
Creameries:		
Galesburg Co-op. Cry. Co.	Leeman, R. F. D. 31	A. C. McCully, M.
Rose Lawn	Rose Lawn	Geo. Anderson, M.
Tigerton	Tigerton	H. W. Mavis, O.
Wittenberg	Wittenberg	R. A. Haase, O.
Tilleda Cry. Co.	Tilleda	Dumke Bros., O.
Spring Fountain	Cecil	Otto Able, M.
Bonduel Co-op. Cry. Co..	Bonduel	Fred Westphal, M.
Pulcifer	Pulcifer	Lenn Bemminger, O.
Belle Plaine Comb. B. & C.	Belle Plaine	Wm. Huebner, O.
Birnamwood Comb. C. & B.	Birnamwood	A. C. Buss, O.
Elmdale Cry. Co.	Rose Lawn, R. F. D. 1	John Sechrist, M.
Shawano	Shawano	Brightman & Damrow, O.
Kenny Co.	Eland	I. E. Kenny, O.
Baker C. & B. Co.	Sobeiski	Wm. Baker.
Kolpack Comb. C. & B..	Bowler	Kolpack Bros., O.

SHEBOYGAN COUNTY.

Cheese Factories:		
Aupperle	Kewaskum, R. F. D. 1 ...	John Aupperle, O.
Batavia	Random Lake, R. F. D. 18.	R. A. Donath, O.
Val Rach	Random Lake	Val Rach, O.
Spieker	Random Lake	Emil Spieker, O.
Wetor	Random Lake	John Wetor, O.
Bichler	Random Lake	Thos. Bichler, O.
Graven	Cedar Grove	B. G. Graven, O.
Kleinhesselink	Cedar Grove	John Kleinhesselink, O.
Cascade	Cascade	H. Suemnicht, O.
Helmer	Cascade	Paul Helmer, O.

SHEBOYGAN COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Goehring	Cascade	L. B. Goehring, O.
Hirsig	Waucosta, R. F. D. 34	Christian Hirsig, O.
Mayer	Cascade	R. A. Mayer, O.
Flunker	Cascade, R. F. D. 20	Herman Flunker, O.
Scott	Waldo	H. M. Scott, O.
Onion River	Waldo	H. M. Scott, O.
Waldo	Waldo	Leonard Dyke, O.
Hingham	Hingham	Emil Maas, O.
Brasser	Oostburg	Martin Brasser, O.
Gibbsville	Gibbsville	F. A. Boldt, O.
Fenner	Sheboygan Falls	Frank A. Fenner, O.
Schulte	Plymouth, R. F. D. 24	Robt. Schulte, O.
Harmon	Plymouth, R. F. D. 24	H. M. Scott, O.
West Oostburg	Oostburg	G. J. Ten Dollen, O.
Kleinhesselink	Cedar Grove	G. Kleinhesselink, O.
Koskamp Bros.	Oostburg	Koskamp Bros., O.
Gartman	Sheboygan	Hy. Gartman, O.
Huenink Bros.	Cedar Grove	Huenink Bros., O.
Weedens	Sheboygan, R. F. D. 4	F. W. Gartman, O.
Six Corners	Sheboygan, R. F. D. 4	Chas. Gartman, O.
Piper	Cascade, R. F. D. 1	Chas. Piper, O.
Ninneman	Cascade, R. F. D. 21	Robt. Ninneman, O.
Rathbun	Plymouth, R. F. D. 26	N. E. Cosgrove, O.
South Prairie	Plymouth, R. F. D. 26	Dan Piper, O.
Chaplin	Plymouth, R. F. D. 26	H. A. Chaplain, O.
Spring Farm	Plymouth, R. F. D. 25	R. F. Buchholz, O.
Zelm	Plymouth, R. F. D. 26	W. A. Zelm, O.
Greenbush	Greenbush	E. B. Mayhew, O.
Webb	Glenbeulah, R. F. D. 31 ..	G. E. Webb, O.
Hulls Crossing	Glenbeulah, R. F. D. 31 ..	T. A. Ubbelohde, O.
Termaat	Plymouth, R. F. D. 28	Ed. Termaat, O.
Peters	Sheboygan, R. F. D. 9	J. H. Peters, O.
Luecke	Plymouth	C. H. Luecke, O.
Damrow	Sheboygan F., R. F. D. 7 ..	O. A. Damrow, O.
Widder	Sheboygan, R. F. D. 2	Emil Widder, O.
Beuchel	Sheboygan, R. F. D. 1	Herman Beuchel, O.
Strub	Plymouth, R. F. D. 28	J. Strub, O.
Hafschild	Plymouth, R. F. D. 29	R. A. Hafschild, O.
Otter Creek	Plymouth, R. F. D. 29	H. W. Basler, O.
Beck	Sheboygan F., R. F. D. 7 ..	Geo. Beck, O.
Erbstoesser	Sheboygan F., R. F. D. 2 ..	Ed. Erbstoesser, O.
Harms	Sheboygan, R. F. D. 2	Chas. Harms, O.
Cleveland Cry. Co.	Haven, R. F. D. 6	Cleveland Cry. Co., O.
Kalk	Haven, R. F. D. 6	J. F. Kalk, O.
Schreiber & Erdman	Sheboygan, R. F. D. 1	Schreiber & Erdman, O.
Reineking	Plymouth, R. F. D. 29	F. C. Reineking, O.
Franklin	Franklin	Louis Reseburg, O.
Rehm	Plymouth, R. F. D. 29	H. A. Rehm, O.
Mueller	Sheboygan F., R. F. D. 8 ..	Henry Mueller, O.
Dassow	Sheboygan F., R. F. D. 8 ..	R. P. Dassow, O.
Rhine Center	Elkhart, R. F. D. 33	Geo. Horneck, O.
Riverside	Elkhart, R. F. D. 34	Hy. Horneck, O.
Ada	Elkhart, R. F. D. 34	F. O. Lindow, O.
Reseburg	Sheboygan, R. F. D. 2	Louis Reseburg, O.

SHEBOYGAN COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Spindler	Elkhart, R. F. D. 34	Jacob Spindler, O.
L. Zimmerman	Haven, R. F. D. 6	Louis Zimmerman, O.
W. Zimmerman	Haven, R. F. D. 6	Wm. Zimmerman, O.
R. Liebetrau	Random Lake	R. Liebetrau, O.
Hammen	Random Lake	Arthur Seider, O.
Silver Creek	Random Lake	A. A. Bettner, O.
Paasch	Cedar Grove	Wm. Paasch, O.
Larson	Cedar Grove	Wm. Larson, O.
South Cedar Grove	Cedar Grove	John Voskuil, O.
Huibregtse	Oostburg	Albert Huibregtse, O.
Cedar Grove	Oostburg, R. F. D. 13	Harry Voskuil, O.
Lemahien	Oostburg	Jake Lemahien, O.
Verhulst	Oostburg	John Verhulst, O.
Union Corners	Oostburg, R. F. D. 12	L. H. Pieper, O.
Paetznick	Waldo	Robt. Paetznick, O.
Adell	Adell	Ed. Kohl, O.
Nussbaumer	Waldo, R. F. D. 23	F. W. Nussbaumer, O.
Koehler	Plymouth	A. C. Koehler, O.
Valley	Plymouth	A. K. Brandt, O.
Maple Grove	Plymouth	P. F. Jung, O.
Lindow	Plymouth	Wm. C. Lindow, O.
McKinnon	Sheboygan Falls	M. McKinnon, O.
Kauffman	Sheboygan Falls	L. O. Kauffman, O.
Kalk	Sheboygan Falls	H. A. Kalk, O.
Leon Laack	Sheboygan F., R. F. D. 8	Leon Laack, O.
Otto Hahn	Sheboygan F., R. F. D. 8	Otto Hahn, O.
Spring	Plymouth	H. C. Lange, O.
Becker Combined Ch. & B.	Adell, R. F. D. 19	Henry Becker, O.
Moenning	Sheboygan, R. F. D. 5	Gustave Moenning, O.
Schreiber & Dassow	Sheboygan, R. F. D. 1	Schreiber & Dassow, O.
Penselin	Sheboygan, R. F. D. 2	F. Penselin, O.
R. Schreiber & Co.	Sheboygan, R. F. D. 2	B. Schreiber & Co., O.
Moehrl	Random Lake	J. F. Moehrl, O.
Boll	Sheboygan, R. F. D. 2	Ernest Boll, O.
Edgewood	Glenbeulah	J. H. Deicher, O.
Union	Glenbeulah	Louis Ebeling, O.
Weiskopf	Cleveland, R. F. D. 1	Henry Weiskopf, O.
Horneck	Elkhart	Geo. Horneck, O.
Rehm	Elkhart	Wm. Rehm, O.
Sheboygan Falls	Sheboygan Falls	H. Anderson, O.
Oourtown	Sheboygan Falls	Ed. M. Bahr, O.
Voechting	Sheboygan Falls	Henry Voechting, O.
Five Corners	Sheboygan F., R. F. D. 10	Henry Erbsstoesser, O.
Edwards	Haven	R. Conrad, O.
Bates	Waldo	H. M. Scott, O.
Creameries:		
Melendy	Sheboygan Falls	E. B. Melendy, O.
Becker Comb. B. & C.	Adell, R. F. D. 19	Henry Becker, O.
Condensers:		
Oostburg Evaporated Milk Co.	Oostburg	Oostburg Evaporated Milk Co., O.

TAYLOR COUNTY.

Name.	P. O. Address:	Owner or Manager.
Cheese Factories:		
Four Corners, C. & B.	Medford, R. F. D. 2	A. W. Schultz, O.
Little Black	Medford, R. F. D. 2	A. W. Schulte.
Browning Comb. B. & C.	Medford, R. F. D. 1	Alfred Waldhart, O.
Fond Valley	Rib Lake, R. F. D. 1	Aug. Radtke, O.
Creameries:		
Stetsonville	Stetsonville	Schroeder Bros., O.
Sunrise	Medford	A. C. Haberstich, O.
Medford Cry. Ass'n	Medford, R. F. D. 4	John Wyss, O.
Maple Grove	Medford, R. F. D. 4	Fred Miller, O.
Pioneer	Medford, R. F. D. 3	J. McAdams, O.
Little Black	Little Black	David McAdam, O.
Chelsea	Chelsea	L. H. Schroeder, M.
Standard	Medford	H. G. Brehm, O.
Whittlesey	Whittlesey	A. C. Haberstich, O.
Four Corners Comb. C. & B.	Medford, R. F. D. 2	A. W. Schultz, O.
Browning Comb. C. & B.	Medford, R. F. D. 1	Alfred Waldhart, O.

TREMPEALEAU COUNTY.

Cheese Factories:		
Pigeon	Pigeon Falls	Albert Fremsted, M.
Little Elk	Independence	M. J. Jensen, M.
Creameries:		
Pigeon Falls	Pigeon Falls	B. M. Sleetland, M.
Preston	Blair	H. Duxbury, M.
Whitehall	Whitehall	L. D. Parson, M.
Artie Springs	Galesville	J. N. Benrud, M.
Ettrick	Ettrick	A. Ofsdahl, M.
Arcadia Farmers Co.	Arcadia	E. G. Bigham, M.
Independence	Independence	J. Jackson, M.
Osseo	Osseo	O. A. Williams, Augusta, O.
Eleva	Eleva	Sam Bulinger, M.
Elk Creek	Trempealeau	Oscar Roon, O.
Unity Co-op.	Strum	H. N. Robbe, M.
Dodge	Dodge	Rohn & Rulas, O.
Skimming Stations:		
Milton	Trempealeau	Wm. Young.

VERNON COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Purdy	Viroqua, R. F. D. 2	Delbert Groves.
Ross	Viola, R. F. D. 3	Chas. W. Beeman, O.
Liberty	Viola, R. F. D. 3	Chas. W. Beeman, O.
Manning	Reedstown	H. K. Eastman, O.
Green Creek	Yuba, R. F. D. 1	Jas. Novy, O.
Wood	Wood	Theo. Johnson, O.
Dabello	Hillsboro, R. F. D. 1	Albert Johnson, O.
Star Valley	La Farge	Wm. Keepers, M.
West Prairie	Viroqua	C. L. Currey, O.
Muncie	Dilley	Oscar Hunter, O.
Liberty Pole	Viroqua, R. F. D. 4	Edgar Lepley.
Fargo	Viroqua, R. F. D. 4	Edgar Lepley.
Brinkman	Coon Valley	C. Brinkman, O.
Fred Andreg	Coon Valley	Fred Andreg, O.
Warner Creek	Dilley, R. F. D. No. 1	Geo. Marshall, M.
Meadow Valley	Hillsboro	Novy & Pline, O.
Kickapoo Valley Cry. Co.	La Farge	Kickapoo Valley Cry. Co.
Creameries:		
Viroqua Cry. Co.	Viroqua	W. Wigginton, M.
Westby Co-op.	Westby	A. J. Moen, M.
Bloomington Co-op.	Bloomington, R. F. D. 3 ..	Gust. Morterud, M.
Rockton	Rockton	H. A. Meyers, M.
Retreat	De Soto, R. F. D. 2	J. L. Davis, M.
Chaseburg Co-op.	Chaseburg	A. D. Wangen, M.
Coon Valley	Coon Valley	P. Stromstad, M.
Hillsboro	Hillsboro	W. C. Allsbrock, O.
Newry	Cashton	A. H. Peterson, M.
Valley	La Farge	Geo. Cancutt.
Ontario	Ontario	H. Sorge & Sons, Reeds- burg, O.
Stoddard Co-op.	Stoddard	J. Flick.
Tabor Co-op.	Kendalls, R. F. D. 5	J. B. Thompson, Elroy, M.
Red Mount Co-op.	De Soto	Ole Gauper, M.
Genoa Co-op.	Genoa	Matt Gueszetti.
Avalanche	Viroqua, R. F. D. 7	Geo. Liom.
Esofa Co-op.	Westby, R. F. D. 2	H. Rentz.
Dell Co-op.	La Farge, R. F. D. 3	S. S. Smith.
Reedstown Co-op.	Reedstown	A. Ward.
Kickapoo Valley Cry. Co.	La Farge	Joseph & Wigginton.
Comb. B. & C.		
Mt. Tabor Co-op. Cry. Co.	Mt. Tabor	B. F. Sherman, M.
Skimming Stations:		
Dilly	Dilly	Edw. Kuhn.
Millers Prairie	Elroy, R. F. D. 1	Mutch & Thompson.
Hills Prairie	Elroy, R. F. D. 1	Mutch & Thompson.

WALWORTH COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Lake Beulah	Lake Beulah	F. J. Kolb, O.
Kilkenny's Comb. B. & C.	Delavan, R. F. D. 1	J. L. Kilkenny, O.
Creameries:		
East Troy	East Troy	J. Uhrletig, M.
Troy Center	Troy Center	Wm. Clancy, M.
Troy Co-op.....	Troy Center	B. F. Luedtke, M.
Hilburn	Lake Beulah	John Spaight, M.
Honey Creek	Honey Creek	C. Claus, Milwaukee, O.
Grove	Elkhorn, R. F. D. 4	F. M. Dyke, M.
Spring Valley Center	Burlington, R. F. D. 4	Ambrose Heinz, M.
Spring Prairie	Spring Prairie	Wm. Vaughn, M.
Lyons	Lyons	C. H. Stubb, O.
Island	Whitewater, R. F. D. 1	Kachel & Henning, O.
Town Line	Whitewater, R. F. D. 1	Zuill & Shepherd, O.
Richmond	Delavan, R. F. D. 1	J. L. Kilkenny, M.
Lyman	Whitewater, R. F. D. 5	C. Kehoe.
Heart Prairie	Whitewater, R. F. D. 5	C. Kehoe, M.
Little Prairie	Eagle, R. F. D. 35	A. Meracle, O.
La Grange	Whitewater, R. F. D. 4	C. L. Calkins, M.
Adams B. & Co. Co.....	Troy Center, R. F. D. 1	O. R. Brownley, M.
Bloomfield Center	Bloomfield	E. O. Kull, M.
Springfield	Springfield	C. F. Schinke, O.
East Delavan	East Delavan	Wm. Stein, O.
Elkhorn	Elkhorn	Wis. B. & C. Co., O.
Darien	Darien	F. P. Saxe, O.
Columbia	Allens Grove	John Winkleman, Delavan, O.
North Sharon	Sharon, R. F. D. 2	E. A. Peters, M.
Silver Lake	Elkhorn, R. F. D. 3	Geo. Renner, M.
Millard	Elkhorn, R. F. D. 3	Wis. B. & C. Co., O.
Sugar Creek	Elkhorn, R. F. D. 7	J. McDonald, M.
Allen Grove	Allen Grove	W. C. Winkleman, O.
Lake View	Walworth, R. F. D. 2	A. S. Robinson, M.
Zenda Milk Co.....	Zenda	Cornell Bros., Chicago, O.
Lake Geneva	Lake Geneva	Cornell Bros., Chicago, O.
North Bloomfield	North Bloomfield	Andrew Kull, M.
Marr's	Whitewater	H. Marr, O.
East Richmond	Whitewater, R. F. D. 5	John Doherty, M.
Honey Hill	Elkhorn, R. F. D. 2	G. A. Stachel, Elkhorn.
Kilkenny's Comb. B. & C.	Delavan, R. F. D. 2	J. F. Kilkenny, O.
Skimming Stations:		
Prairie	Whitewater	W. H. McCuschon.
North Geneva	Elkhorn, R. F. D. 5	Wis. B. & C. Co., O.
Millard	Elkhorn, R. F. D. 3	Wis. B. & C. Co., O.
Milk Condensing Factories:		
Walworth Condensing Co.	Walworth	McBride Bros. & Knoee, Chicago, Ill.
Borden Cond. Milk Co...	Genoa Junction	Borden Condensed Milk Co., Chicago, Ill.
Sharon Milk Condensery.	Sharon	
Zenda Milk Co.....	Zenda	H. R. Hatch.
Delavan Milk Cond. Co..	Delavan	A. E. Hanson.

WASHBURN COUNTY.

Name.	P. O. Address.	Owner or Manager.
Creameries:		
Farmers' Co-op.....	Spring Brook	Henry Clemons.
Shell Lake	Shell Lake	H. T. Pearson, O.
Sarona	Sarona	G. Roemhild, Black Earth, O.

WASHINGTON COUNTY.

Cheese Factories:

Wayne & Addison	Allenton, R. F. D. 1	
Erin	Hartford	M. Fitzgerald, O.
Hamm	Kohlsville	W. P. Hamm, O.
Orchard Grove	Barton	Ben Woag, O.
Boltonville	Boltonville	Jos. Merkel, M.
Cheeseville	Barton	J. H. Klessig.
Myra	Newburg	Paul Hetebrueg, M.
North Trenton	West Bend, R. F. D. 2	Chas. McCormick, M.
Riverside	Barton	Thos. H. Jordan, O.
Joeckel	Jackson, R. F. D. 1	Louis Joeckel, O.
Showalter & Tesch	Jackson, R. F. D. 1	Showalter & Tesch, O.
Joeckel	Jackson	John Joeckel, O.
Franks	Cedarburg	Otto Wollner, Hartford.
Farmers' Dairy Assn....	West Bend	Aug. Krueger, M.
South Star	Hartford	John Reed, O.
County Line	Nashotah, R. F. D. 22	Mike Murphy, O.
Hibernian	Hartford, R. F. D. 5	Otto Wollner.
Maple Hill	Hartford, R. F. D. 2	John Reed, Oconomowoc.
Pleasant Hill	Richfield, R. F. D. 2	Henry Becker, O.
Serres	Hubertus	Bernard Serres, O.
Thomas	Richfield	Steiner Bros. O.
Richfield	Richfield	John Winkler, O.
Meeker	Richfield	Steiner Bros. O.
Guth	Ackerville	John Rothenbach, Jr. O.
Zimmerman	Schleissingerville	Bruno Zimmerman, O.
West Side	Hartford, R. F. D. 4	Aug. Westphal, O.
Lake Five	Colgate, R. F. D. 1	Ed. Kuenzie.
Schleissingerville	Schleissingerville	J. Roderbach.
Cedar Lake	Neosho	Geo. Schubert.
Hartford	Neosho	Aug. Westphal, M.
Wayne	Wayne	John Petri, O.
Foote	Kewaskum	Geo. Ehrat, M.
Little Cedar Lake	Schleissingerville	Jacob Joss, O.
Schubert	Schleissingerville	Geo. Schubert, O.
Mertz	Random Lake	Dries & Spies, M.
Jackson B. & C. Co.....	Jackson	W. H. Froelich.
St. Lawrence	Saint Lawrence	Chris. Joss.
Cedar Brook	West Bend	John Doering, O.
Pleasant Hill	Hartford	John Ruefner, M.

WASHINGTON COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Kauper	Hartford	E. Stencky, M.
Aufdermauer	Allenton	Anton Aufdermauer, St. Laurence.
Milk Condensing Fac- tories:		
J. P. Gehl's Milk Con- densing Factory.	Germantown	J. P. Gehl
Creameries:		
Gilt Edge	Hartford	Bonniwell & Tusch, O.
Kirchhayn	Cedarburg, R. F. D. 2 ...	H. W. Butzke, O.
Maxon	Schleissingerville	Dow Maxon, O.
Allenton	Allenton	Wm. Hamm.
Kewaskum	Kewaskum	Grell & Wollensack, O.
Germantown	Germantown	J. P. Gehl, O.
Friestadt	Thiensville	Wm. Schoesson, O.
Keown	West Bend	M. G. Thiens, O.
Hubertus	Hubertus	John Winkler, O.
Jackson B. & C. Co.	Jackson	W. H. Froelich,
Wallan Dairy Co.	West Bend	C. H. Wallan, M.
Richfield	Richfield.	J. Schmidt & Son.
Skimming Stations:		
Waukesha Milk Co.	Jackson	Waukesha Milk Co., O.
Kohn's	Kewaskum	Grell & Wallensack, O.

WAUKESHA COUNTY.

Cheese Factories:		
Templeton	Templeton	J. & M. Steiners, Milwau- kee, O.
Mapleton	Oconomowoc, R. F. D. 25 .	J. J. Reed.
Brown Street	Oconomowoc, R. F. D. 25 .	J. J. Reed.
Colgate	Colgate	J. & M. Steiners, Milwau- kee, O.
Waukesha	Waukesha	Wis. B. & C. Co., O.
Creameries:		
Waukesha	Waukesha	Wis. B. & C. Co., O.
Mukwonago	Mukwonago	Wm. Quale, M.
Eagle	Eagle	Frank Baker, M.
Jericho	Eagle, R. F. D. 3	B. A. Pitcher, M.
North Prairie	North Prairie	F. Kipp, M.
Saylesville	Waukesha, R. F. D. 1	A. Venske, O.
Oakdale	Waukesha, R. F. D. 2	Kee & Chapell Dairy Co., Chicago, O.
Sussex	Sussex	C. G. Daniels, O.
Waukesha Milk Co.	Menomonee Falls	Geo. Seybold, Milwaukee, O.
Merton	Merton	John Winkler.

WAUKESHA COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries: (cont.)		
Gold Medal	Pewaukee	C. B. Harbaugh, Hartland, O.
Prince of Wales	Wales	L. G. Heimerl, O.
Delafield	Delafield	H. Geisse, O.
Hartland	Hartland	C. B. Harbaugh, O.
Stone Bank	Nashotah	H. Riedeburg, M.
Monterey	Oconomowoc, R. F. D. 20 ..	Forsyth & Rasmussen, O.
Oak View	Oconomowoc	Owen Reese, O.
Silver Lake	Oconomowoc	Roach & Seeber, Waterloo, O.
River Park	Dousman	Robt. Adams, O.
Battle Creek	Oconomowoc, R. F. D. 28 ..	Buskirk Bros., O.
Hartman	Oconomowoc, R. F. D. 28 ..	E. J. Hartman, O.
Big Ben	Mukwonago, R. F. D. 40 ..	McCanna & Fraser, Burlington, O.
Crystal Spring	Muskego, R. F. D. 19	F. Imme, O.
Prospect	Waukesha, R. F. D. 4	C. C. Champeny, Milwaukee, O.
Guthrie	Waukesha, R. F. D. 3	C. C. Champeny, Milwaukee, O.
Fairview	Waukesha, R. F. D. 1	Shirley Harrison, North Prairie, R. F. D.
Skimming Stations:		
North Lake	North Lake	John Winkler, Merton, O.
Vernon	Vernon	Wis. B. & C. Co., Waukesha, O.
Crystal Spring	Menominee Falls, R. F. D. 19.	C. G. Daniels, Sussex, O.

WAUSHARA COUNTY.

Cheese Factories:		
Burr Oak	Berlin	Ben Jacklin.
Marion	Berlin	Norton Holcombe.
Winter	Tustin	S. M. Winter.
West Bloomfield, B. & C.	West Bloomfield	H. Koehler, O.
Spring Rose, B. & C.	Wild Rose	Chas. Rasmussen, M.
Clark's	Berlin	J. J. Clark, O.
Bloomfield Comb. Ch. & B.	Pine River	Louis Fraedrich, O.
Creameries:		
Wild Rose, Co-op	Wild Rose	Wild Rose Cry. Co., O.
Wautoma, Co-op.	Wautoma	Wautoma Cry. Co., O.
Mount Morris	Wautoma, R. F. D. 2	Mt. Morris Dairy Co., O.
West Plainfield	Plainfield, R. F. D. 1	John Indermuehle, O.
Plainfield	Plainfield	Jenson Bros., O.
Deerfield	Hancock	F. L. Parkinson.

WAUSHARA COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Creameries: (cont.)		
Oak Ridge	Oak Ridge	A. S. Hamilton.
Hancock, Co-op.	Hancock	Fred Severson, M.
Coloma	Coloma	J. D. Hollister, M.
Dakota, Co-op.	Wautoma, R. F. D. 5	Dakota Cry. Co., O.
Richford Co-op.	Coloma, R. F. D. 3	Richford Cry. Co., O.
Pine River	Pine River	Frisbee & Kimball, O.
Brushville	Poysippi, R. F. D. 1	C. J. Walter, O.
Star	Tustin	G. Velte, O.
Poysippi	Poysippi	H. A. Dewey, O.
Waushara	Berlin, R. F. D. 1	High Bros.
Aurora ville	Aurora ville	John Owen, M.
Spring Lake	Spring Lake	Spring Lake C. & B. Co., O.
Spring Brook	Red Granite, R. F. D. 2 ..	John Basing, M.
West Bloomfield Comb. B. & C.	W. Bloomfield	H. Koehler, O.
Bloomfield Comb. Ch. & B.	Pine River	Louis Fraedrich.
Skimming Stations:		
Coloma Corner	Coloma	Fred Severson, M.
Sheds Island	Berlin	W. T. Blumenstein, O.

WAUPACA COUNTY.

Cheese Factories:		
Embarrass Silver Star ..	Embarrass	Krubsack & Gehrt, O.
Readfield	Readfield	Fred Schmidt, O.
Van Eppe	Fremont	Van Eppe, O.
Caledonia	New London, R. F. D. 2 ..	O. Gettlinger, O.
Maple Grove C. & B. Co.	Embarrass	Krubsack & Gehrt, O.
Sunnycrest	Clintonville, R. F. D. 3 ..	E. Dixon & Son, O.
Red Star	Clintonville, R. F. D. 3 ..	C. D. Koeller, O.
Krueger	Clintonville, R. F. D. 2 ..	J. Krueger.
Mayhew	Clintonville, R. F. D. 2 ..	A. B. Mayhew, O.
Dupont Farmers	Marion, R. F. D. 3	Peter Yehren, M.
Stony Bridge	Manawa, R. F. D. 2	O. G. Rohde, O.
Nicholson	Welcome, R. F. D. 40	P. H. Casper, O.
Enterprise	Clintonville, R. F. D. 1 ..	Chas. Radke, O.
Clover Leaf	Clintonville, R. F. D. 1 ..	John Bohn.
Popple Valley	Clintonville, R. F. D. 1 ..	Jesse Johnson, O.
Willow Hill Co-op.	Clintonville, R. F. D. 1 ..	Fred Kubitz, Jr., M.
Yehren	Clintonville, R. F. D. 1 ..	J. O'Connor, O.
Shaw Creek	Marion, R. F. D. 1	J. L. Yehren, O.
Elmer	Manawa	
White Clover	Manawa, R. F. D. 2	H. Bucholy, M.
Lind	Waupaca, R. F. D. 3	E. A. Behm, M.

WAUPACA COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Evanswood	Weyauwega	F. W. Marquardt, M.
Stange	Weyauwega, R. F. D. 4 ..	W. M. Stange, O.
Independent C. & B. Co..	Clintonville	L. Wooden, O.
Elm Grove	Marion, R. F. D.	Wm. Hoffman, M.
Twin C. & B. Co.	Clintonville	O. F. Gruenke, M.
Quarter Line	Marion, R. F. D. 3	Wm. Virgutz, M.
Pigeon Valley	Marion, R. F. D. 3	H. L. Schmidt, M.
Magatanz	New London	Magatanz Bros., O.
Symco Ch. & B. Assn....	Symco	Chas. Delow, M.
Larabee Mattison Ch. & B. Co.	Clintonville	H. F. Zarling, M.
Maple Grove	Welcome	Albert Reinke, O.
Creameries:		
Nowell	New London, R. F. D. 3 ..	E. Heinrich, O.
Symco	Symco	T. H. Hart, M.
Fremont	Fremont	
Pigeon Riv. Co-op. B. & C. Co.	Clintonville	C. Folkman, M.
Big Falls	Big Falls	
Royalton Cry. Assn....	Royalton	H. A. Wheeler, O.
New London	New London, R. F. D. 24.	W. E. Carter, O.
Ogdensburg	Ogdensburg	M. C. Nichols, M.
Iola Cry. Assn.	Iola	C. L. Passmore, M.
Silver Lake Co-op.	Scandinavia	R. J. Bestul, M.
Sheridan Cry. Assn....	Sheridan	Fred Fisher, M.
Spring Hill Co-op.	Waupaca, R. F. D. 1	M. T. Allen, M.
Walla Walla Cry. Co.	Waupaca, R. F. D. 3	Henry Derleth, M.
Maple Grove	Weyauwega, R. F. D. 1 ..	H. M. Derleth, M.
Baldwin	Weyauwega	C. P. Baldwin, O.
Weyauwega Co-op.	Weyauwega	H. W. Glocke, M.
Waupaca	Waupaca	H. M. Derleth, M.
Manawa	Manawa	F. J. Jehrke, M.
Marion Cry. Co.	Marion	O. J. Hartman, O.
Skimming Stations:		
Granite Quarry	St. Lawrence	H. M. Derleth, M.
Lebanon	New London, R. F. D. 3 ..	W. E. Carter, O.
Derleth	Waupaca, R. F. D. 2	H. Derleth, M.
Little Wolf	Manawa, R. F. D.	H. M. Derleth, M.
Milk Condensing Factories:		
National Cond. Milk Co..	New London	F. McIntyre, M.

WINNEBAGO COUNTY.

Cheese Factories:		
Wolf Hill	Fremont, R. F. D. 17	J. G. Kennedy, O.
Boyson	Fremont, R. F. D. 17	Boyson Cheese Co., O.
Alder Creek	Fremont, R. F. D. 17	Alder Creek Ch. Co., O.

WINNEBAGO COUNTY—Continued.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories: (cont.)		
Zion	Omro, R. F. D. 25	Melk Steiner, O.
Scheller	Oshkosh, R. F. D. 2	Mrs. Minnie Scheller, O.
Black Wolf	Oshkosh, R. F. D. 1	J. F. Pfeiffer, O.
Germania	Neenah, R. F. D. 9	Mark Wohld, O.
Manley	Neenah	Oscar Manley, M.
Haueter	Neenah, R. F. D. 9	G. Haueter, O.
Allen	Allenville	Tim Allen, O.
Schneider	Winneconne	Jos. Schneider, O.
Lake View	Winneconne, R. F. D. 19	Lake View Ch. Co., O.
Oak Grove	Larson, R. F. D. 15	Oak Grove Ch. Co., O.
Peerless	Larson, R. F. D. 15	C. W. Kraus, M.
Bay Boom	Larson, R. F. D. 15	Bay Boom Ch. Assn., O.
Pribbenow	Fremont, R. F. D. 16	Wm. Pribbenow, O.
Union Star	Fremont, R. F. D. 16	Union Star Ch. Assn., O.
Schnyder	Dale, R. F. D. 18	Peter Schnyder, O.
Drews	Larson, R. F. D. 14	Albert Drews, O.
Snell	Neenah, R. F. D. 8	Snell Cheese Co., O.
Ihde	Neenah, R. F. D. 10	Wm. Ihde, O.
Clover Leaf	Neenah, R. F. D. 11	J. E. Jorgenson, O.
Cold Spring	Neenah, R. F. D. 11	Cold Spring C. & B. Co., O.
Boss	Oshkosh, R. F. D. 7	Samuel Boss, O.
Chris Boss	Oshkosh, R. F. D. 6	Chris Boss, O.
Reuteler	Butte des Morts	Clemens Reuteler, O.
Vinland Cheese Assn.	Allenville, R. F. D. 18	Vinland Cheese Assn., O.
Jacob Schneider	Allenville, R. F. D. 18	Jacob Schneider, O.
Ahrndt	Larson, R. F. D. 13	Henry Ahrndt, O.
Mikesville	Allenville, R. F. D. 18	A. F. Martin, M.
Hough	Allenville	Chas. Christiansen, O.
Faber Cheese Co.	Neenah, R. F. D. 19	Faber Cheese Co., O.
Snell	Neenah, R. F. D. 8	Walter Abendschein, O.
Ryff	Oshkosh	John Ryff, Jr., O.
Valley Brook	Neenah	Valley Brook Ch. Co., O.
Schultz	Van Dyne	H. C. Schultz, O.
Creameries:		
Neenah	Neenah	H. J. Frank, O.
Rush Lake	Rush Lake	Rush Lake Cry. Co., O.
Oak Grove	Berlin, R. F. D. 2	Oak Grove Cry. Co., O.
Koro	Berlin, R. F. D. 2	Koro Co-op. Cry. Co., O.
Omro	Omro	Omro B. & C. Co., O.
Nottleman	Oshkosh	Nottleman Bros., O.
Tittmore	Omro, R. F. D. 22	J. N. Tittmore, O.
Winchester	Larson, R. F. D. 14	Winchester C. & B. Co., O.
Oak Hill	Neenah, R. F. D. 10	H. J. Frank, O.
Oshkosh Pure Milk Co. ..	Oshkosh	Oshkosh Pure Milk Co., O.
Richland	Oshkosh	W. C. Rich.
Jersey Lily	Oshkosh	L. R. Luebke.
Skimming Stations:		
Oshkosh Pure Milk Co. ..	Oshkosh	Oshkosh Pure Milk Co.
Frank	Larson, R. F. D. 13	H. J. Frank.

WOOD COUNTY.

Name.	P. O. Address.	Owner or Manager.
Cheese Factories:		
Hewitt	Hewitt	L. Ley, O.
Field's	Arpin	W. Field.
Milladore	Milladore	Ben Pitt, O.
Siedel	Blenker	S. Siedel, O.
Berdau	Auburndale	J. Berdau, M.
Marshfield Comb. C. & B.	Marshfield	John Henseler, O.
West Side	Marshfield, R. F. D. 3	A. S. James, O.
Nasonville	Marshfield, R. F. D. 1	H. E. Bulgren, M.
Yellow River Comb. C. & B.	Marshfield, R. F. D. 2	Bruhn & Dix, O.
Bakerville Comb. C. & B.	Marshfield, R. F. D. 1	Anton Hensler, O.
Fairview	Vesper, R. F. D. 2	John Rolsoma, M.
Eight Corners	Vesper	F. Albert Dairy Co., O.
Brookside	Auburndale, R. F. D. 2	W. J. Schlafke, O.
Ebbe's	Marshfield, R. F. D. 3	P. R. Ebbe, O.
Arpin	Arpin	J. Altman, M.
Creameries:		
Siegel	Grand Rapids	Cook & Buchanan, O.
Rudolph	Rudolph	Koch & Chambers, O.
Clover Hill	Rudolph	Clark & Scott, O.
Grand Rapids	Grand Rapids	Chambers & Co., O.
Pittsville	Pittsville	S. M. Baum, O.
Rocky Run	Pittsville	F. W. Waterstreet, O.
Veedum	Mayville, R. F. D. 1	F. Alberts Dairy Co., O.
Hanson	Vesper, R. F. D. 1	F. Albert, M.
Mill Creek	Marshfield, R. F. D. 1	Puerner Cry. Co., O.
North Hewitt	Marshfield, R. F. D. 5	Puerner Cry. Co., O.
Klondike	Marshfield, R. F. D. 2	P. Crammer, O.
Nasonville	Marshfield, R. F. D. 1	H. F. Thiel, O.
Puerner	Marshfield	R. C. Hastings, M.
Brookside	Sherry	Brookside Cry. Co., O.
Milladore	Milladore	J. W. Cherney, O.
Richfield Cry. Co.	Marshfield, R. F. D. 2	Wm. Krause, M.
Equitable Co-op.	Vesper	Equitable Cry. Co., O.
Ripon Produce Co.	Marshfield	Ripon Produce Co., O.
Sherry	Sherry	Mitchell, Griffiths & Co., O.
Clark & Scott	Grand Rapids, R. F. D. 4.	Clark & Scott, O.
Nekoosa	Nekoosa	Segford Ree, M.
Marshfield Comb. C. & B.	Marshfield	John Henseler, O.
Yellow River Comb. C. & B.	Marshfield, R. F. D. 2	Bruhn & Dix, O.
Bakerville Comb. C. & B.	Marshfield, R. F. D. 1	Anton Henseler, O.
Dexterville	Dexterville	
Skimming Stations:		
Hewitt	Hewitt	Puerner Cry. Co., O.
Markee Corners	Marshfield, R. F. D. 5	Puerner Cry. Co., O.
Maple Grove	Marshfield, R. F. D. 1	P. Crammer.

SUMMARY BY COUNTIES.

County.	Cheese Factories.	Creameries.	Skimming Stations.	Conden- series.
Adams	3	8	5	
Ashland	4	2		
Barron	13	18		
Bayfield		2		
Brown	48	17	1	
Buffalo	18	10	1	
Burnett		6	1	
Calumet	54	7		
Chippewa	9	20	1	
Clark	43	47	9	
Columbia	11	15	1	
Crawford	6	10		
Dane	32	57	4	
Dodge	139	30	8	
Door	38	10		
Douglas		3		
Dunn	3	18		
Eau Claire	1	9	4	
Fond du Lac	57	33	9	
Grant	29	36	7	
Green	200	6		1
Green Lake		8	9	
Iowa	125	7		
Iron		1		
Jackson	2	10	3	
Jefferson	5	58	17	1
Juneau	3	8	2	
Kenosha		14		2
Kewaunee	53	7		
La Crosse	3	8	1	
Lafayette	100	16	1	
Langlade	11	5		
Lincoln	10	3		
Manitowoc	96	15		
Marathon	53	26	2	
Marinette	10	2		
Marquette		12	4	
Milwaukee		2	1	
Monroe	1	23	2	
Oconto	22	10		
Oneida		1		
Outagamie	74	22	2	
Ozaukee	28	6		
Pepin		3	1	
Pierce	2	11		
Polk	11	20	3	
Portage	2	28	2	
Price	2	8		
Racine		15	2	2
Richland	63	12	4	
Rock	17	31	7	
Rusk		1		
St. Croix	6	16		
Sauk	26	22	7	
Sawyer	1			
Shawano	54	15		
Sheboygan	109	2		1
Taylor	4	11		
Trempealeau	2	12	1	
Vernon	17	21	3	
Walworth	2	36	3	5
Washburn		3		
Washington	42	12	2	1
Waukesha	5	26	3	
Waupaca	32	19	4	1
Waushara	7	21	2	
Winnebago	36	12	2	
Wood	15	25	3	
Totals	1,818	1,010	143	14

145 Co-ops. Co.
12 cheese co-ops.

DAIRY AND FOOD LAWS OF WISCONSIN.

OF THE OFFICE AND DUTIES OF THE DAIRY AND FOOD COMMISSIONER.

Appointment; term; vacancy; supplies; assistants and report. [Section 1410, Statutes of 1898.] The dairy and food commissioner shall be appointed by the governor, by and with the advice and consent of the senate, for a term of two years from the date of his appointment and until his successor qualifies. Vacancies occurring from any cause shall be filled for the remainder of the term by the governor, with the advice and consent of the senate if it shall be in session, or if it is not in session, subject to approval at the session next held after such appointment is made, if the term for which it was made has not expired. Such commissioner may, with the advice and consent of the governor, appoint an assistant, who shall be an expert in dairy products, and a chemist who shall be a practical analytical chemist; he may also, with such advice and consent, appoint an agent for the inspection of milk dairies, factories and creameries, and to assist in the work of the dairy and food commission at such times and for such periods of time as may be required in the enforcement of the dairy and food laws. The compensation of such agent shall be three dollars per day for each day of actual service, and his expenses, to be audited by the secretary of state on the presentation of accounts approved by the dairy and food commissioner. Said commissioner may also appoint a stenographer and confidential clerk. The commissioner shall be furnished with a suitable office in the capitol, and with such supplies and printing as may be necessary. He shall as soon as practicable after the thirtieth day of September in each even-numbered year make a report to the governor and give therein an itemized statement of all expenses incurred by

him, and of all fines collected, with such statistics and other information and suggestions as he may regard of value.

His powers and duties; legal assistance. [Section 1410a, Statutes of 1898, as amended by ch. 193, laws of 1905.] It shall be the duty of the commissioner to enforce the laws regarding the production, manufacture and sale of dairy products, the adulteration of any article of food or drink, or condiment or of any drug and personally or by his assistants to inspect any milk, butter, cheese, lard, syrup, coffee, tea or other article of food, drink, condiment or drug made or offered for sale within this state which he may suspect or have reason to believe to be impure, unhealthful, adulterated or counterfeit, and to prosecute or cause to be prosecuted any person, firm or corporation engaged in the manufacture or sale of any adulterated or counterfeit article or articles of food or drink, or condiment or drug in violation of law. The district attorney of the county in which a violation of any such law has occurred shall, when called upon by the commissioner or either of his assistants to do so, give all the aid he can to secure the execution of the law and shall prosecute cases arising under the provisions of this chapter or other provisions of these statutes relating to the adulteration of food, drinks, condiments and drugs and their sale. Such commissioner shall have power to appoint, with the approval of the governor, special counsel to prosecute or assist in the prosecution of any case arising under the provisions of these statutes imposing a penalty for adulterating dairy products, or foods, drinks, condiments or drugs, or practicing deception or frauds in the manufacture and sale thereof. All fines collected in prosecutions begun or caused to be begun by the dairy and food commissioner or either of his assistants shall be paid into the state treasury.

Appointments; compensation; agents and experts. [Section 1, chapter 144, laws of 1903.] In addition to the provisions of section 1410 of the statutes of 1898, the dairy and food commissioner may, with the advice and consent of the governor, appoint an assistant chemist for the dairy and food commission, when needed, who shall be paid not to exceed fifty dollars per month, in the same manner as the analytical chemist is paid; he may also, with such advice and consent, appoint two agents for the inspection of foods, milk dairies, cheese factories and creameries, and to assist in the work of the dairy and food commission at such times and for such periods of time as may be required in the enforcement of the dairy and food laws. The

compensation of each of said agents shall be three dollars per day for each day of actual service and his expenses to be audited by the secretary of state on the presentation of accounts approved by the dairy and food commissioner. In addition to the foregoing, the dairy and food commissioner may appoint one expert agent or more for the special inspection of cheese factories and creameries and so far as may be deemed practicable their sources of supply, for such times and periods of time as may be deemed necessary, provided that no cost for compensation or traveling expenses of said expert agents shall thereby be incurred by the dairy and food commissioner.

Access to buildings; samples of food, etc.; stencils for cheese [Section 1410b, Statutes of 1898.] The commissioner, his agent or assistant shall have free access to any barn or stable where any cow is kept or milked, or to any factory, building, dairy or premises where any dairy product is manufactured, handled or stored, when the milk from such cow or such product is to be sold or shipped, and may enforce such measures as are necessary to secure perfect cleanliness in and around the same and of any utensil used therein, and to prevent the sale of milk from cows diseased or fed upon unwholesome food. Either of them may enter any place or building in which there is reason to believe that any food, drink or drug is made, prepared, sold or offered for sale, and may open any package or receptacle of any kind containing, or which is supposed to contain, any article of food, drink or drug, and examine or analyze the contents thereof. Any such article or a sample thereof may be seized or taken for the purpose of having it analyzed; but if the person from whom it is taken shall so request, at the time of taking, the officer shall then and in the presence of such person securely seal up two samples of such article, one of which shall be for analysis under the direction of the commissioner, the other shall be delivered to the person from whom the sample or article was obtained. Said commissioner shall adopt a uniform stencil, bearing a suitable device or motto, a number and the words "Wisconsin full cream cheese" and a space for a number, and upon proper application therefor and under such regulations as to the custody and use thereof as he may prescribe, issue the same, with the proper number inserted, to the proprietor or manager of any cheese factory in this state; he shall enter in a book kept for that purpose the name, location and number of each factory using such stencil, no number being duplicated, and the name of the person thereat authorized to use the same.

See note to paragraph 5 for rulings on questions of evidence arising under a similar statute.

Submission of articles for analysis; evidence. [Section 1410c, Statutes of 1898.] The state board of health, medical officers of local boards of health, town and village boards or common councils may submit to the dairy and food commissioner samples of water or other drinks, of food or drugs for analysis, and the same shall be examined and reports made of the analysis thereof to the body or officer submitting the same as soon as practicable; such reports shall fully specify the results of the analysis and be signed by such commissioner; they shall be accepted in all courts and places as *prima facie* evidence of the properties or condition of the articles analyzed.

Questions of evidence as to sealing and analysis. If there is contradictory evidence concerning the sufficiency of the seal of a sample, and the credibility of the witnesses for the prosecution is submitted to the jury, the defendant is not injured. If there is evidence that a few drops of carbolic acid were added to a sample of milk, and it is submitted to the jury as a question of fact whether this would change the character of the milk, make the analysis impossible or difficult, or in any way injuriously affect the sample for the purpose of analysis, the defendant has no cause of complaint: *Commonwealth v. Spear*, 143 Mass., 172.

It is observed of a statute similar to this and the preceding paragraph that it is intended to secure a fair examination and analysis by providing the defendant with the means of making an analysis of a portion of the same specimen which the state has analyzed. If the sample is not saved, or not saved in proper condition, he has no means of showing that his evidence, if any he has as to the quality of the milk, applies to that with reference to which the government witnesses have testified. It cannot be said that a portion reserved is sealed when wax is merely placed on the top of the cork and not extended over the mouth of the bottle thus making it air-tight, if it is shown that the character of the milk will be affected by the air: *Commonwealth v. Lockhardt*, 144 Mass., 132.

Where the article analyzed has not been taken under the statute the competency of evidence is to be determined by the common law, and the testimony of any person who had sufficient skill to analyze it, and who has analyzed some which was proven to have been sold by the defendant, is admissible. *Commonwealth v. Holt*, 146 Mass., 38.

Farmers' institutes; expense of analyses. [Section 1410d, Statutes of 1898.] The governor may authorize the commissioner or his assistants, when not engaged in the performance of other official duties, to give such aid in farmers' institutes, dairy and farmers' conventions and the agricultural department of the state university as may be deemed advisable. For the necessary expenses of making the analyses contemplated in the foregoing sections the commissioner may incur an annual expense of not to exceed six hundred dollars, the accounts for which, when verified and itemized, and approved by the governor shall be audited by the secretary of state.

Obstructing performance of commissioner's duty. [Section 4607h, Statutes of 1898.] Any person who shall obstruct the dairy and food commissioner of this state or either of his assistants in the performance of their duty by refusing him entrance to any place he is authorized to enter or by refusing to deliver to him a sample of any article of food, drink or drug made, sold, offered or exposed for sale by the person to whom request therefor is made, if the value thereof is tendered, shall be punished for the first offense by fine not exceeding twenty-five dollars, and for each subsequent offense by fine not exceeding five hundred dollars nor less than fifty dollars.

Biennial report; quarterly bulletins. [Section 1, chapter 131, laws of 1903, as amended by ch. 188, laws of 1905.] In lieu of the twenty thousand copies of the biennial report of the dairy and food commissioner, as provided in section 335c of the statutes of 1898, the number of copies of the said biennial report of the dairy and food commissioner shall be five thousand bound in cloth, and the said dairy and food commissioner may also, with the consent of the governor, and in accordance with the laws regulating the printing and publication of public documents or bulletins, prepare, print and distribute to such persons as may be interested, or may apply therefor, a quarterly or semi-annual bulletin in suitable paper covers, containing results of inspections, results of analyses made by the chemist for the dairy and food commission, with popular explanations of the same and such other information as may come to him in his official capacity, relating to the adulteration of food, drug and drink products and of dairy products so far as he may deem the same of benefit and advantage to the public; also a brief summary of the work done during the quarter by the commissioner and his assistants in the enforcement of the dairy and food laws of the state; but not more than fifteen thousand copies of each such quarterly bulletin shall be printed.

SALE OF IMPURE MILK AND CREAM.

Penalty for. [Section 4607, Statutes of 1898, as amended by ch. 138, laws of 1905.] Any person who shall sell or offer for sale, furnish or deliver, or have in his possession with intent to sell or offer for sale or furnish or deliver to any creamery, cheese factory, corporation or person, any adulterated milk or any adulterated cream shall be guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not less

than twenty-five dollars nor more than one hundred dollars or be imprisoned in the county jail not less than thirty days nor more than sixty days.

Validity. A New York law (ch. 183, 1885, ch. 202, 1884,) providing that "no person or persons shall sell, supply or bring to be manufactured to any butter or cheese factory any milk diluted with water or any unclean, impure, unhealthy, adulterated or unwholesome milk," has been sustained as a valid exercise of legislative power: *People v. West*, 106 N. Y., 293.

Construction. The New York law does not make fraudulent intent a necessary ingredient of the offense and it would not be a reasonable construction of it to apply it to a dairyman who owns and conducts a butter or cheese factory for the manufacture of those articles from milk furnished exclusively by himself from his own cows. If the defendant is such a person, these facts are matter of defense, and their existence need not be negated on the face of the indictment: *People v. West*, 106 N. Y., 293.

Under a Massachusetts law imposing a penalty for selling or offering to sell "adulterated milk, or milk to which any foreign substance has been added," it is immaterial whether the substance added is injurious or not. The indictment need not allege the quantity of such substance: *Commonwealth v. Schaffner*, 146 Mass., 512.

Under an act which prohibits the sale of milk which is not of a good standard quality, the fact that the milk was delivered under a contract to furnish the person who bought it with the milk of one dairy is not a defense if that furnished was not of such quality. The contract would be held to contemplate milk which should be bought and sold: *Commonwealth v. Holt*, 146 Mass., 38.

Sale, what is. A hotel-keeper who sells milk to be drunk by his guests on his premises is liable if the milk so sold is not of the quality prescribed by the next section. *Commonwealth v. Vieth*, 155 Mass., 442.

The Massachusetts statute uses the language "whoever by himself, or by his servant or agent," etc. Held to include a hotel-keeper's servant who made a sale to a guest, though the master was not present and did not consent to or know of the particular sale: *Commonwealth v. Vieth*, 155 Mass., 442.

Milk bought by a guest and delivered to him as part of his meal is just as much a sale as if a specific price had been put upon it or it had been bought or paid for by itself: *Commonwealth v. Warren*, 160 Mass., 533.

Intent to sell, evidence of. Where one is charged with having in his possession, with intent to sell, milk which is not of a good, standard quality, the fact that he was upon a wagon which had his name painted on it, and that therein were cans of milk, and that a sample was given from one of them to one employed by the milk inspector for analysis, is competent evidence to go to the jury upon the question of his intent: *Commonwealth v. Rowell*, 146 Mass., 128.

Standard for pure; evidence. [Section 4607a, Statutes of 1898, as amended by ch. 138, laws of 1905.] In all prosecutions under the preceding section, or any other section of these statutes, or laws amendatory thereof or supplementary thereto, relating to the sale of adulterated milk or adulterated

cream, the term adulterated milk shall mean: Milk containing less than three percentum of milk fat, or milk containing less than eight and one-half percentum of milk solids not fat, or milk drawn from cows within eight days before or four days after parturition, or milk from which any part of the cream has been removed, or milk which has been diluted with water or any other fluid, or milk to which has been added or into which has been introduced any coloring matter or chemical or preservative or deleterious or filthy substance or any foreign substance whatsoever, or milk drawn from cows kept in a filthy or unhealthy condition, or milk drawn from any sick or diseased cow or cow having ulcers or other running sores, or milk drawn from cows fed unwholesome food, or milk in any stage of putrefaction, or milk contaminated by being kept in stables containing cattle or other animals. The term adulterated cream shall mean cream containing less than eighteen percentum of milk fat, or cream taken from milk drawn from cows within eight days before or four days after parturition, or cream from milk to which has been added or introduced any coloring matter or chemical or preservative or deleterious or filthy substance or any foreign substance whatsoever, or cream from milk drawn from cows kept in a filthy or unhealthy condition, or cream from milk drawn from any sick or diseased cow or cow having ulcers or other running sores, or cream from milk drawn from cows fed unwholesome food, or cream contaminated by being kept in stables containing cattle or other animals, or cream to which has been added or into which has been introduced any coloring matter or chemical or preservative or deleterious or filthy substance or any foreign substance whatsoever, or cream in any stage of putrefaction; provided, that nothing in this act shall be construed to prohibit the sale of pasteurized milk or cream to which viscogen or sucrate of lime has been added solely for the purpose of restoring the viscosity, if the same be distinctly labeled in such manner as to advise the purchaser of its true character; and providing that nothing in this act shall be construed as prohibiting the sale of milk commonly known as "skimmed milk," when the same is sold as and for "skimmed milk." Milk drawn from cows within eight days before or four days after parturition, or milk to which has been added or into which has been introduced any coloring matter or chemical or preservative or deleterious or filthy substance or milk drawn from cows kept in a filthy or unclean condition, or milk drawn from any sick or diseased cow or cow having ulcers or other running sores, or milk drawn from cows fed unwholesome food,

or milk contaminated by being kept in stables containing cattle or other animals and cream from any such milk, or cream in any stage of putrefaction are hereby declared to be unclean and unsanitary milk or unclean and unsanitary cream, as the case may be.

Validity. The supreme court of New York has ruled that a statute which provides that milk which contains less than three percentum of fat shall be declared adulterated is unconstitutional. The ground upon which this was held was that the statute deprived the defendant of his liberty and property without due process of law, in that it barred him of the right upon the trial of the accusation against him to have the issue determined according to what might be the proof, and compelled him to submit to the statutory declaration thereof, without regard to the truth: *People v. Cipperly*, 37 Hun., 217. This decision was not unanimous, and on appeal was reversed by the court of appeals, without opinion, and on the grounds given by the dissenting judge of the supreme court: *People v. Cipperly*, 101 N. Y., 634.

A law of New Hampshire (ch. 42, laws of 1883) prohibited the sale of adulterated milk, or milk to which water or any foreign substance has been added, or, as pure, milk from which the cream or a part thereof has been removed. It authorized inspectors of milk to take samples and cause the same to be analyzed, and expressed that in all prosecutions under it if the milk is shown by analysis to contain more than eighty-seven per cent. of watery fluid, or less than thirteen per cent of milk solids, it shall be deemed for the purposes of the statute to be adulterated. It was contended that the clause fixing the standard was unconstitutional. In answer the court said: "The statute tends to discourage the breeding of a certain class of cattle for the supply of the milk market. The difficulty of guarding against the adulteration of milk may have influenced the legislature in fixing a standard of richness. Practically it makes no difference whether milk is diluted after it is drawn from the cow, or whether it is made watery by giving her such food as will produce milk of an inferior quality, or whether the dilution regarded by the legislature as excessive, arises from the nature of a particular animal or a particular breed of cattle. The sale of such milk to unsuspecting consumers, for a price in excess of its value, is a fraud which the statute was designed to suppress. It is a valid exercise by the legislature of the police power for the prevention of fraud, and protection of the public health, and as such is constitutional." *State v. Campbell*, 64 N. H., 402.

In Rhode Island a similar provision has been sustained against an objection to its validity on the ground that it virtually confined the testimony to the analysis of the samples taken by the inspector, which samples were destroyed in making the analysis, so that the testimony could not be controverted. The court was of opinion "that the testimony, though it may not always be practicable to controvert it directly by another analysis, can be controverted by evidence of collateral facts going to prove that the analysis is incorrect, and therefore that the act is not unconstitutional for the reason alleged." *State v. Groves*, 1 Atl. Rep., 384. *Shivers v. Newton*, 45 N. J. L., 469, is to much the same effect.

Intent immaterial. The doing of the act condemned by the law constitutes the offense, if it is silent as to the knowledge or intent of the person who is charged with violating it. *People v. Kibler*, 106 N. Y., 321; 12 N. E. Rep., 795.

Milk of diseased cows, of cows kept in an unsanitary condition or fed on slops from a distillery or a vinegar factory. [Section 1, chapter 313, laws of 1899.] No person by himself or agent shall offer for sale, furnish or deliver, or have in possession with the intent to sell, or offer for sale, or furnish or deliver, milk or cream drawn from sick or diseased cow or cows kept in filthy and unsanitary condition, or cows fed on refuse or slops from distilleries or vinegar factories, unless such refuse or slop be mixed with other dry sanitary grain or food to a consistency of a thick mush.

Foreign substance not to be added to milk or cream not pasteurized. [Section 2, chapter 313, laws of 1899.] No person by himself or agent shall offer for sale or furnish or deliver or have in possession with the intent to sell, offer for sale, or furnish or deliver, any milk or cream having therein or containing in any amount any foreign substance or coloring matter or any chemical or preservative, whether for the purpose of increasing the quantity of milk or cream or for improving its appearance, or for preserving the condition of sweetness thereof, or for any purpose whatever, provided that nothing in this act shall be construed to prohibit the sale of pasteurized milk or cream, to which viscogen or sucrate of lime has been added solely for the purpose of restoring the viscosity, if the same be distinctly labeled in such manner as to advise the purchaser of its true character.

The foregoing section probably repeals in part sec. 4607b, Statutes of 1898, which reads as follows: "Any person who shall sell or offer for sale, consign or have in possession with intent to sell any milk, cream, butter, cheese or other dairy products, or who shall deliver to any creamery or cheese factory milk or cream to be manufactured into butter or cheese to which milk, cream, butter, cheese or other dairy products, boracic acid, salicylic acid or compounds containing them, or other antiseptics injurious to health have been added, shall be punished by fine not exceeding one hundred dollars nor less than twenty-five dollars."

Penalty for violating either of the two preceding sections. [Section 3, chapter 313, laws of 1899, as amended by ch. 66, laws of 1905.] Any person violating any of the provisions of this act shall, upon conviction, be fined not less than twenty-five dollars nor more than one hundred dollars for each and every offense, or be confined in the county jail not less than thirty days nor more than sixty days.

Unclean and unsanitary milk. [Section 1, chapter 67, laws of 1903.] Milk which shall be drawn from cows that are

kept in barns or stables which are not well lighted and ventilated or that are filthy from an accumulation of animal refuse or from any other cause, or from cows which are themselves in a filthy condition, and milk in or from cans or other utensils that are not kept in a clean and sanitary condition, or milk to which has been added any unclean or unsanitary foreign substance, is hereby declared to be unclean and unsanitary milk; provided, that nothing in this act shall be construed to prohibit the sale of pasteurized milk or cream to which viscogen or sucrate of lime has been added solely for the purpose of restoring the viscosity, if the same be distinctively labeled in such manner as to advise the purchaser of its true character.

Sale of. [Section 2, chapter 67, laws of 1903.] No person, firm or corporation shall knowingly offer or expose for sale, or sell, or deliver for sale or consumption, or to any creamery or cheese factory or milk condensing factory, or have in his possession with intent to sell any unclean or unsanitary milk.

Manufacture of food from. [Section 3, chapter 67, laws of 1903.] No person, firm or corporation shall knowingly manufacture for sale any article of food from unclean or unsanitary milk or from cream from the same.

Premises and utensils to be kept clean. [Section 4, chapter 67, laws of 1903.] All premises and utensils employed for the manufacture or sale or offering for sale of food products from milk or cream from the same which shall not be kept in clean and good sanitary condition are hereby declared to be unclean and unsanitary. Any milk dealer or any person, firm or corporation, furnishing milk or cream to such dealer, or the employee of such milk dealer, and any person, firm or corporation or the employee of such person, firm or corporation, who operates a creamery, cheese factory or milk condensing factory, or manufactures, re-works or packs butter for sale as a food product, shall maintain his premises and utensils in a clean and sanitary condition.

Cans, bottles or vessels to be washed. [Section 5, chapter 67, laws of 1903.] Any person, firm or corporation, who receives any milk or cream in cans, bottles or vessels, which has been transported over any railroad, or boat line, where such cans, bottles or vessels are to be returned, shall cause the said cans, bottles or vessels to be emptied before the said milk or cream contained therein shall become sour, and shall cause said cans, bottles and vessels to be immediately washed and thoroughly cleansed and aired.

Penalty for violating either of the preceding five sections. [Section 6, chapter 67, laws of 1903, as amended by ch. 154, laws of 1905.] Whoever violates any provision of this act shall, upon conviction thereof, be punished by a fine of not less than twenty-five dollars nor more than one hundred dollars for each and every offense, or shall be imprisoned in the county jail not less than thirty days nor more than sixty days.

SALE OF IMITATION CHEESE AND BUTTER.

Filled cheese; oleomargarine; penalties. [Section 4607c of the Statutes of 1898, as amended by chapter 151, laws of 1901.] Any person who shall by himself, his agent or servant manufacture, buy, sell, offer, ship, consign, expose or have in possession for sale, any cheese manufactured from or by the use of skim milk to which there has been added any fat which is foreign to such milk, or who shall by himself, his agent or servant manufacture, buy, sell, offer, ship, consign, expose or have in possession for sale, within this state, any skimmed-milk cheese or cheese manufactured from milk from which any of the fat originally contained therein has been removed, except such last mentioned cheese is ten inches in diameter and nine inches in height, or who shall, by himself, his agent or servant, render or manufacture, sell or solicit or accept orders for, ship, consign, offer or expose for sale or have in possession, with intent to sell, any article, product or compound made wholly or partly out of any fat, oil or oleaginous substance or compound thereof, not produced from unadulterated milk or cream from the same, and without the admixture or addition of any fat foreign to said milk or cream, which shall be in imitation of yellow butter produced from such milk or cream with or without coloring matter, shall for the first offense be punished by fine of not more than five hundred dollars, nor less than fifty dollars, and for each subsequent offense, by imprisonment in the county jail not to exceed sixty days nor less than ten days, or by fine of not more than five hundred dollars nor less than one hundred dollars, or by both such fine and imprisonment. Nothing in this section shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form and in such manner as will advise the consumer of its real character, and free from coloration or ingredient that causes it to look like butter.

Origin. So much of the foregoing as relates to butter is almost an exact copy of sec. 1, ch. 5, acts of Mass., 1891. The words "ship, con-

sign," "and without the admixture or addition of any fat foreign to said milk or cream," "or solicit or accept orders for," found in the section, are not in the Massachusetts act.

Validity. A state may lawfully prohibit the manufacture out of oleaginous substances, or out of any of its compounds other than that produced from unadulterated milk or cream from such milk, of an article designed to take the place of butter or cheese produced from unadulterated milk: *People v. Arensberg*, 105 N. Y., 123; *Commonwealth v. Huntley*, 156 Mass., 236; *State v. Marshall*, 64 N. H., 549; *State v. Addington*, 77 Mo., 110; *Butler v. Chambers*, 36 Minn., 69; *McAllister v. State*, 72 Md., 390; *Weideman v. State*, 56 N. W. Rep., 688; *State v. Horgan*, 55 Minn., 183. It may also prohibit the manufacture or sale, or the offering for sale, of any imitation or adulterated butter or cheese, or the having of it in possession with intent to sell the same as an article of food: *Powell v. Pennsylvania*, 127 U. S., 678.

Though it may be severe to punish those who unintentionally sell the article prohibited, the legislature has power to so provide in order that the much larger number may be protected: *State v. Newton*, 14 Atl. Rep., 604.

Such an act is not void though the oleomargarine sold was brought into the state where the sale was made from another state and was sold in the original package: *Commonwealth v. Huntley*, 156 Mass., 236; *State v. Newton*, 14 Atl. Rep., 604. The power of the state to enact such a law is not affected by the legislation of congress imposing special taxes upon manufacturers and wholesale and retail dealers in oleomargarine: *Plumley v. Massachusetts*, 155 U. S., 461.

The ruling of the United States supreme court. The validity of the Massachusetts statute, so far as it was affected by the clause of the federal constitution giving congress power over commerce, came before the supreme court of the United States in *Plumley v. Massachusetts*, 155 U. S., 461. It was there held, by a majority of the judges (three dissenting), that the federal statute imposing special taxes upon manufacturers and wholesale and retail dealers in oleomargarine does not restrict the power of the states over the manufacture and sale thereof within their respective limits. "The taxes prescribed by that act were imposed for national purposes, and their imposition did not give authority to those who paid them to engage in the manufacture or sale of oleomargarine in any state which lawfully forbade such manufacture or sale, or to disregard any regulation which a state might lawfully prescribe in reference to that article. . . . Nor was the act of congress relating to oleomargarine intended as a regulation of commerce among the states. Its provisions do not have special application to the transfer of oleomargarine from one state of the union to another. They relieve the manufacturer or seller, if he conforms to the regulations prescribed by congress or by the commissioner of internal revenue, under the authority conferred upon him in that regard, from penalty or punishment so far as the general government is concerned, but they do not interfere with the exercise by the states of any authority they possess of preventing deception or fraud in the sales of property within their respective limits."

The opinion of the court then proceeds to discuss the validity of the statute of Massachusetts as affected by the commerce clause of the federal constitution. "It will be observed," said Justice Harlan, "that the statute of Massachusetts which is alleged to be repugnant to" that clause "does not prohibit the manufacture or sale of all oleomargarine, but only such as is colored in imitation of yellow butter produced from pure unadulterated milk or cream of such milk. If free from coloration or ingredient that causes it to look like butter, the right to sell it 'in a separate and distinct form, and in such manner as will

advise the consumer of its real character,' is neither restricted nor prohibited. It appears, in this case, that oleomargarine, in its natural condition, is of a 'light yellowish color,' and that the article sold by the accused was artificially colored 'in imitation of yellow butter.' Now the real object of coloring oleomargarine so as to make it look like genuine butter is that it may appear to be what it is not, and thus induce unwary purchasers, who do not closely scrutinize the label upon the package in which it is contained, to buy it as and for butter produced from unadulterated milk or cream from such milk. The suggestion that oleomargarine is artificially colored so as to render it more palatable and attractive can only mean that customers are deluded, by such coloration, into believing that they are getting genuine butter. If any one thinks that oleomargarine, not artificially colored so as to cause it to look like butter, is as palatable or wholesome for purposes of food as pure butter, he is, as already observed, at liberty under the statute of Massachusetts to manufacture it in that state or to sell it there in such manner as to inform the customer of its real character. He is only forbidden to practice in such matters, a fraud upon the general public. The statute seeks to suppress false pretenses and to promote fair dealing in the sale of an article of food. It compels the sale of oleomargarine for what it really is, by preventing its sale for what it is not."

After reviewing many of the cases cited by the supreme court of the United States and relied upon by counsel for the defendant to support his contention that the statute was void, the opinion uses this language: "In none of the above cases is there to be found a suggestion or intimation that the constitution of the United States took from the states the power of preventing deception and fraud in the sale, within their respective limits, of articles in whatever state manufactured, or that that instrument secured to any one the privilege of committing a wrong against society . . . If there be any subject over which it would seem that states ought to have plenary control, and the power to legislate in respect to which it ought not to be supposed was intended to be surrendered to the general government, it is the protection of the people against fraud and deception in the sale of food products. Such legislation may, indeed, indirectly or incidentally affect trade in such products transported from one state to another state. But that circumstance does not show that laws of the character alluded to are inconsistent with the power of congress to regulate commerce among the states. For, as said by this court in *Sherlock v. Alling*, 93 U. S., 99, 103: 'In conferring upon congress the regulation of commerce, it was never intended to cut the states off from legislating on all subjects relating to the health, life and safety of their citizens, though the legislation might indirectly affect the commerce of the country. Legislation, in a great variety of ways, may affect commerce and persons engaged in it without constituting a regulation of it within the meaning of the constitution. . . . And it may be said generally, that the legislation of a state, not directed against commerce or any of its regulations, but relating to the rights, duties, and liabilities of citizens, and only indirectly and remotely affecting the operations of commerce, is of obligatory force upon citizens within its territorial jurisdiction, whether on land or water, or engaged in commerce, foreign or interstate, or in any other pursuits.'"

The opinion of the court then proceeds to point out that the case of *Leisy v. Hardin*, 135 U. S., 100, which it was held that ardent spirits, distilled liquors, ale and beer, were subjects of exchange, barter and traffic, and, being articles of commerce, their sale while in the original packages in which they are carried from one state to another, could not, without the assent of congress, be forbidden by the state into

which they were transported, was not conclusive of the case before it, because the articles sold in that case were what they purported to be. The opinion of the majority of the court on the Massachusetts statute concluded thus: "We are of opinion that it is within the power of a state to exclude from its markets any compound manufactured in another state, which has been artificially colored or adulterated so as to cause it to look like an article of food in general use, and the sale of which may, by reason of such coloration or adulteration, cheat the general public into purchasing that which they may not intend to buy. The Constitution of the United States does not secure to any one the privilege of defrauding the public. The deception against which the statute of Massachusetts is aimed is an offense against society; and the states are as competent to protect their people against such offenses or wrongs as they are to protect them against crimes or wrongs of more serious character. And this protection may be given without violating any right secured by the national constitution, and without infringing the authority of the general government. A state enactment forbidding the sale of deceitful imitations of articles of food in general use among the people does not abridge any privilege secured to citizens of the United States, nor, in any just sense, interfere with the freedom of commerce among the several states."

Expose for sale. Under the English statute regulating the sale of margarine it has been held that margarine kept for sale upon the counter of a shop, but behind a screen hiding it from the view of customers, is not exposed for sale (*Crane v. Lawrence*, 25 *Queen's B. Div.*, 152), and that parcels of margarine placed upon a counter or shelf, in view of customers, are exposed for sale, although so wrapped in paper that the margarine cannot be seen. *Wheat v. Brown*, [1892] 1 *Queen's B.*, 418.

In Massachusetts, from whence this section was borrowed (see first sentence of note), the court has said, in a case decided in 1893, that whenever goods are placed for convenient delivery upon expected sales they are put out and in one sense exposed for sale. But in our opinion, the words are not so used in the statute under consideration. The prohibited articles are designed and adapted to deceive the eye, and because their appearance is likely to induce those who see them to buy them as the genuine of butter of which they are in imitation, there is special reason for prohibiting their exposure to view. It was held that oleomargarine colored in imitation of yellow butter and kept for sale in a shop, so long as it was in a closed and covered refrigerator and could not be seen by customers, was not exposed for sale, notwithstanding there was a sign in the shop to the effect that oleomargarine was sold there. *Commonwealth v. Byrnes*, 158 *Mass.*, 172.

Sale, what is. A restaurant keeper who furnishes oleomargarine to a customer, as part of a meal ordered by the latter, sells the same, notwithstanding the meal is paid for as a whole and the oleomargarine is not eaten, but carried away: *Commonwealth v. Miller*, 131 *Pa.*, 118. See note, p. 244.

A foreign manufacturer who puts up oleomargarine in packages evidently adapted for and intended to meet the requirements of an unlawful retail trade in another state, sending them to an agent there for sale to consumers, is not engaged in interstate commerce, but in an effort to carry on a forbidden business: *Commonwealth v. Paul*, 170 *Pa.*, 284.

Notice of sale of imitation butter. [Section 4607d, Statutes of 1898.] Any person who shall sell or offer for sale to

any person who asks, sends or inquires for butter, any oleomargarine, butterine or any similar substance made in imitation or semblance of pure butter, not made entirely from the milk of cows, with or without coloring matter, or who shall expose for sale oleomargarine, butterine, or any similar substance not marked and distinguished on the outside of each tub, package or parcel thereof by a placard with the word "oleomargarine," and not having also upon every open tub, package or parcel thereof a placard with the word "oleomargarine," such placard in each case to be printed in plain, uncondensed gothic letters not less than one inch long, and not containing any other words thereon, or who shall sell oleomargarine, butterine or any similar substance from any dwelling, store, office or public mart, without having conspicuously posted thereon the placard or sign, in letters not less than four inches in length, "oleomargarine sold here," or "butterine sold here," which placard or sign shall be approved by the dairy and food commissioner of this state, or who shall sell or deliver from any cart, wagon or other vehicle, upon the public streets or ways, oleomargarine, butterine or any similar substance, without having on the outside of both sides of said cart, wagon or other vehicle a placard, in uncondensed gothic letters not less than three inches in length, "licensed to sell oleomargarine," or who shall furnish or cause to be furnished in any hotel, boarding-house, restaurant or at any lunch counter, oleomargarine, butterine or any similar substance to any guest or patron thereof, without first notifying such guest or patron that the substance so furnished is not butter, shall be punished as provided in the last preceding section.

Validity. See note, p. 251. It is "within the undoubted power of the legislature to prohibit the sale of substances having the semblance of butter or cheese, but not wholly made from pure cream or milk, unless each package of such substance should have printed, stamped or marked thereon, in the manner prescribed by the statute, the name of each article used in, or entering into, the composition of such substance, and this power is possessed by the legislature over the sale of articles protected by letters patent as well as of those not protected:" *Palmer v. State*, 39 Ohio St. 237.

Expose for sale. See note, p. 243.

Notice. The provisions requiring notice are much like the corresponding clauses in ch. 412, Mass. acts, 1891, and have been held not to be in conflict with the federal statute authorizing the sale of oleomargarine: *Commonwealth v. Crane*, 158 Mass., 218.

Notice given by printed signs and on the bills of fare satisfies the statute; it need not be given, either orally or in writing, to each guest on every occasion when he is furnished with oleomargarine or butterine in the stead of butter: *Commonwealth v. Stewart*, 159 Mass., 113.

Sale by agent. The Massachusetts statute in terms provides that the penalty imposed for the sale of oleomargarine which is not labeled

as it prescribes shall be imposed whether the sale is made by the vendor or his agent. It is held not to be a defense to show that the sale by the agent of an unmarked package or quantity was made through inadvertence; a guilty intent is not an element in the offense: *Commonwealth v. Gray*, 150 Mass., 327.

Oleomargarine. The defendant in a prosecution for selling oleomargarine from a wagon without having the placard required cannot escape liability because that sold by him is usually known as oleomargarine, looks like pure butter and is not easily distinguished therefrom, and the other kind is dishonestly and designedly made in imitation of the best pure butter. The statute applies to all kinds: *Commonwealth v. Crane*, 162 Mass., 506.

Imitation butter and cheese in state institutions. [Section 4607e, Statutes of 1898.] Any person who shall knowingly or negligently buy or procure for use as food in any of the charitable, correctional or penal institutions of this state any butter or cheese not made wholly and directly from pure milk or cream, salt and harmless coloring matter, shall be fined not exceeding fifty dollars nor less than twenty-five dollars for the first offense, and for each subsequent offense shall be punished by imprisonment in the county jail not more than ninety days nor less than ten days, or by fine not exceeding one hundred dollars nor less than fifty dollars, or by both fine and imprisonment.

RENOVATED BUTTER.

How marked. [Section 1, chapter 76, laws of 1899, as amended by ch. 34, laws of 1905.] No person shall, himself, or by his agent or servant, sell, offer or expose for sale, or have in his possession with intent to sell, or exchange or deliver renovated butter, or butter which has been melted and its rancidity removed or masked, and which has been regranulated, colored and prepared in imitation or in semblance of genuine creamery butter, unless the substance shall have the words "Renovated Butter" conspicuously stamped, labeled or marked in one or two lines and in plain Gothic letters, at least three-eighths of an inch square, so that the words cannot be easily defaced, upon two sides of each and every tub, firkin, box or package containing said renovated butter; or, if such butter is exposed for sale uncovered, or not in a case or package, a placard containing said words in the same form as above described in this section shall be attached to the mass in such a manner as to be easily seen and read by the purchaser; and when renovated butter is sold from such package or otherwise at retail, in print, roll or other

form, before being delivered to the purchaser, it shall be wrapped in wrappers plainly stamped on the outside thereof with the words "Renovated Butter," printed or stamped thereon in one or two lines and in plain Gothic letters at least three-eighths of an inch square, and such wrapper shall contain no other words or printing thereon, and said words "Renovated Butter" so stamped or printed on the said wrapper shall not be in any manner concealed, but shall be in plain view of the purchaser at the time of the purchase.

Penalty. [Section 2, chapter 76, laws of 1899.] Any person who shall violate any of the provisions of this act [the preceding paragraph] shall be guilty of a misdemeanor, and upon conviction thereof, be fined not less than twenty-five nor more than one hundred dollars.

FRAUD IN LABELING CHEESE.

Penalty for. [Section 4438g, Statutes of 1898.] Any person who shall sell, offer for sale ship or consign cheese labeled with a false brand or label as to the quality of the article, or shall use any stencil or label furnished by the dairy and food commissioner of this state and bearing the words "Wisconsin full cream cheese," otherwise than upon the bandage on the side of full cream cheese and upon the package containing the same, shall be punished by a fine of not more than fifty dollars nor less than twenty-five dollars.

CLEANLINESS OF DAIRY COWS AND UTENSILS.

Penalty for violating law. [Section 4607j, Statutes of 1898.] Any person owning or managing a dairy, the product of which is sold for family use, who shall feed his cows upon unwholesome food or keep them in unclean stables or handle the milk with unclean utensils shall be deemed guilty of a misdemeanor and upon conviction thereof be fined not less than twenty-five dollars nor more than one hundred dollars for the first offense, and not less than one hundred dollars nor more than two hundred dollars for each subsequent offense.

FRAUD IN DAIRY MANUFACTORIES.

Wrongful use of milk, etc.; fraudulent accounts. [Section 1494a, Statutes of 1898.] Any butter or cheese manufacturer who shall knowingly use or allow any other person to use for the benefit of himself or any other person than he who is entitled to the benefit thereof any milk or cream from the milk brought to him, without the consent of the owner thereof, or who shall refuse or neglect to keep or cause to be kept a correct account (which shall be open to the inspection of any person furnishing milk to him) of the amount of milk daily received, or of the number of pounds of butter, and the number and aggregate weight of cheese made by him each day, or the number of cheese cut or otherwise disposed of and the weight of each, shall for each and every offense forfeit not less than twenty-five nor more than one hundred dollars, one-half of which shall be paid to the person upon whom any such fraud has been committed and who first made complaint thereof; the remainder shall be paid to the school fund.

Standard measures adopted for Babcock test. [Section 1, chapter 43, laws of 1903.] In the use of the Babcock test, the standard milk measures or pipettes shall have a capacity of 17.6 cubic centimeters, and the standard test tubes or bottles for milk shall have a capacity of 2 cubic centimeters for each 10 per cent., marked on the necks thereof; cream shall be tested by weight and the standard unit for testing shall be 18 grams, and it is hereby made a misdemeanor to use any other standards of milk or cream measure where milk or cream is purchased by or furnished to creameries or cheese factories and where the value of said milk or cream is determined by the per cent. of butter fat contained in the same, or wherever the value of milk or cream is determined by the per cent. of butter fat contained in the same by the Babcock test.

Sale of false measure a misdemeanor. [Section 2, chapter 43, laws of 1903.] Any manufacturer, merchant, dealer or agent in this state who shall offer for sale or sell a milk pipette or measure, test tube or bottle which is not correctly marked or graduated as herein provided shall be guilty of a misdemeanor, and upon conviction thereof shall be punished as provided in section 4 of this act.

To under-read or over-read unlawful. [Section 3, chapter 43, laws of 1903, as amended by ch. 99, laws of 1905.] It

shall be unlawful for the owner, manager, agent or any employee of a cheese factory, creamery, or condensed milk factory to falsely manipulate or under-read or over-read the Babcock test or any other contrivance used for determining the quality or value of milk or cream or to make any false determination by said Babcock test or otherwise.

Penalty for violating either of the preceding sections.

[Section 4, chapter 43, laws of 1903, as amended by chapter 99, laws of 1905.] Whoever shall violate any of the provisions of this act shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than twenty-five dollars nor more than one hundred dollars for each and every offense, or be imprisoned in the county jail not less than thirty days nor more than sixty days.

ADULTERATION OF FOOD, DRUGS, LIQUORS, ETC.

Sale of unwholesome provisions. [Section 4599, Statutes of 1898.] Any person who shall knowingly sell any kind of diseased, corrupted or unwholesome provisions, whether for meat or drink, without making the same fully known to the buyer, shall be punished by imprisonment in the county jail not more than six months or by fine not exceeding one hundred dollars.

Sale of adulterated articles; definitions. [Section 4600, Statutes of 1898, as amended by chapter 207, laws of 1905.] Any person who shall by himself, his servant or agent or as the servant or agent of any other person, sell, exchange, deliver or have in his possession, with intent to sell, exchange, offer for sale or exchange any drug or article of food which is adulterated shall be fined not less than twenty-five dollars, nor more than one hundred dollars, or be imprisoned in the county jail not less than thirty days nor more than four months. The term "drug," as used in this section, shall include all medicines for internal or external use, antiseptics, disinfectants and cosmetics. The term "food," as used herein, shall include all articles used for food or drink or condiment by man, whether simple, mixed or compound.

Origin. This and the next paragraph are modeled after paragraphs 8805-8807, R. S. of Ohio (6th ed.), first enacted in that state in 1884.

Agent. An agent who sells for a non-resident principal is within the statute: *Meyer v. State*, 54 Ohio St., 242.

Pleading; ignorance. It need not be alleged that the article sold was to be used as food. Ignorance of the adulteration is not a defense: *State v. Kelly*, 54 Ohio St., 166.

Adulteration, what is. [Section 4601, Statutes of 1898, as amended by chapter 133, laws of 1903, as amended by chapter 207, laws of 1905.] An article shall be deemed to be adulterated within the meaning of the preceding section:

1. In the case of drugs: First, if, when sold, or offered or exposed for sale or had in possession with intent to sell, under or by a name recognized in the United States pharmacopoeia, it differs from the standard of strength, quality or purity laid down in the latest current edition thereof; second, if when sold, or offered or exposed for sale or had in possession with intent to sell, under or by a name not recognized in said pharmacopoeia, but which is found in the pharmacopoeia of some other country, the national formulary or other standard work on materia medica, it differs materially from the standard of strength, quality or purity laid down in the latest current edition of such work; third, if its strength, quality or purity falls below the professed standard under which it is sold.

2. In the case of food: First, if any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its strength, quality or purity; second, if any inferior or cheaper substance or substances have been substituted wholly or in part for it; third, if any valuable or necessary ingredient has been wholly or in part abstracted from it; fourth, if it is an imitation of, or sold under the name of another article; fifth, if it consists, wholly or in part, of a diseased, infected, decomposed, putrid, tainted or rotten animal or vegetable substance or article, whether manufactured or not; sixth, if it is colored, coated, polished or powdered, whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is; seventh, if it contains any added substance or ingredient which is poisonous, injurious, or deleterious to health, or any deleterious substance not a necessary ingredient in its manufacture; provided, that articles of food which are labeled, branded or tagged in a manner showing their exact character and composition and approved by the dairy and food commissioner of the state, and not containing any poisonous or deleterious ingredient, shall not be deemed adulterated in the case of mixtures or compounds sold under their own distinct names or under coined names and which articles, if substitutes, are not in imitation of, or sold under, the name of any other article of food; and provided further, that nothing in this act shall be construed as requiring or compelling proprietors or manufacturers of proprietary foods to disclose their trade formulas, except so far as may be

necessary to secure freedom from adulteration, imitation or fraud.

Imitation. The sale of liquid chicory and coffee as "liquid coffee" is within the statute: *State v. Dreher*, 55 Ohio St., 115.

Pharmacopoeia. The reference is to the edition in use when statute enacted; a higher standard required by a later edition will not render a sale unlawful: *State v. Emery*, 55 Ohio St., 364.

Scope of statute. Whiskey, being recognized as a drug in the pharmacopoeia and its strength and purity being there given, is a drug within the meaning of the statute. The law is not limited in its application to the sale of drugs by druggists and pharmacists, nor to sales for medicinal or pharmaceutical use, but extends to all persons without regard to their vocations, and makes no distinctions on account of the use intended to be made of the article: *State v. Hutchinson*, 56 Ohio St., 82.

"A sale of beer, as food containing salicylic acid, without a label on the package notifying the purchaser that it contains such an ingredient, is, when found to be poisonous or deleterious to health by its continuous or indiscriminate use as a food," an offense against the law: *State v. Hutchinsen*, 55 Ohio St., 573.

Pleading. The proviso is the preceding paragraph applies to it and the next preceding one, and is not limited to any particular offense defined in them. Hence, a negative averment of the facts within the proviso need not be made in charging an offense; the facts may be proven under a plea of not guilty: *State v. Hutchinson*, 55 Ohio St., 573.

Canned Goods, labels on. [Section 4601a, Statutes of 1898, as amended by chapter 104, laws of 1905.] Any person who shall, himself, or by his servant or agent, or as the servant or agent of any other person, pack, can or preserve within this state, for use or consumption therein, fruits, vegetables, meats, fish or shell-fish, or who shall sell, exchange, deliver or have in his possession with intent to sell, or exchange or expose for sale, or offer for sale or exchange for use or consumption within this state such canned articles containing saccharin, formaldehyde, sulphurous acid or sulphites, salicylic acid, or salicylates or any substance, article or ingredient other than sugar, salt, vinegar or spices, possessing a preservative character or action, or any copper compound or other artificial coloring, or any bleaching compound, or any article injurious to health; or any person who shall, himself, or by his servant or agent, or as the servant or agent of any other person, pack, can or preserve within this state for use or consumption therein, fruits, vegetables, meats, fish or shell-fish, or who shall sell, exchange, deliver, or have in his possession with intent to sell or exchange, or expose for sale, or offer for sale or exchange for use or consumption within this state, such canned articles, unless each can containing such articles shall bear a label on which shall be printed the true name of the contents and the name and ad-

dress of the producer or packer canning or preserving the same, or the dealer who sells the same, shall be guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than twenty-five dollars, nor more than one hundred dollars or be imprisoned in the county jail not less than thirty days nor more than sixty days.

Expose for sale. See note, p. 243.

Label on baking powder. [Section 4601b, Statutes of 1898.] Any person who shall, by himself, his servant or agent or by the servant or agent of any other person, make or manufacture baking powder or any mixture or compound intended for use as a baking powder, or sell, exchange or deliver, or have in his possession with the intent to sell or exchange, or expose or offer for sale or exchange such baking powder, or any mixture or compound intended for use as a baking powder, which contains alum in any form or shape, unless the presence of the same be distinctly shown by a label on the outside and face of which is printed with black ink in legible type, not smaller than brevier heavy gothic caps, the name and residence of the manufacturer and the words:

"THIS BAKING POWDER CONTAINS ALUM."

shall be punished as provided in the preceding section.

Validity. A statute which provides that no person shall sell any lard or any article intended for use as lard which contains any ingredient but the pure fat of healthy swine, under any label bearing the words "refined," "pure," "family," unless every package in which the article sold is marked "compound lard," has been sustained as valid by the supreme court of Iowa: *State v. Snow*, 47 N. W. Rep., 777.

In Minnesota a statute which makes it a misdemeanor to manufacture for sale within that state, or to sell or offer to do so, baking powder containing alum, unless each package thereof is labeled, "This baking powder contains alum," has been sustained: *Stoltz v. Thompson*, 46 N. W. Rep., 410.

Expose for sale. See note, p. 243.

Label on poisonous medicine. [Section 4601c, Statutes of 1898.] Any person who shall, by himself, his servant or agent or as the servant or agent of any other person, sell, exchange, deliver, or have in his possession with intent to sell or exchange, or expose or offer for sale or exchange any medicine known as patent or proprietary, or of which the formula is kept secret by the manufacturer, which contains morphine, strychnine, cocaine or poisonous or narcotic alkaloid or drug, in any quantities which the state board of health shall deem harm-

ful to the life or health of the public, unless the presence of the same be distinctly shown by a label upon the bottle or package and upon the outer wrapper thereof, shall be punished as provided in section 4601a.

Sale of imitation honey. [Sections 1, 2 and 3, ch. 229, laws of 1905.] Section 1. No person shall, himself, or by his agent or servant, sell, offer or expose for sale or have in his possession with intent to sell as and for honey any substance whatsoever that is not the legitimate and exclusive product of the honey bee, to-wit, the nectar of flowers, honey dew and natural saccharine exudations of plants gathered and stored in the comb by bees.

Section 2. Any person who shall violate any of the provisions of this act shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not less than twenty-five dollars nor more than one hundred dollars or by imprisonment in the county jail not less than thirty days nor more than sixty days.

Section 3. Section 4607f of the statutes of 1898 is repealed.

Sale of diseased apiary, honey therefrom or appliances used therein. [Section 4605a, Statutes of 1898.] Any owner of a diseased apiary, of honey made or taken from such an apiary or appliances taken from such an apiary who shall sell, barter or give away any such apiary, honey, appliances or bees from such apiary, expose other bees to the danger of contracting such disease or refuse to allow the inspector of apiaries to inspect such apiary, honey or appliances, shall be fined not less than fifty dollars nor more than one hundred dollars, or be imprisoned in the county jail not less than one month nor more than two months.

Sale, etc., of diseased meat, killing diseased animal, etc. [Section 4607g, Statutes of 1898.] Any person who shall sell or expose for sale, or give away for use as food, or can or pack for the purpose of transportation to and sale in any market or place any unwholesome, stale, emaciated, blown, tainted, putrid or measly meat, or the flesh of any diseased animal or of any animal not slaughtered for the purpose of food knowing or having good reason to believe that such meat is as above described, or that such flesh is the flesh of a diseased animal or of an animal not slaughtered for such purpose, and any person or corporation owning or operating any slaughter-house or packing establishment in this state who shall receive for the purpose of killing, or kill, any diseased animal, or render the

carcass of any animal that shall die by disease or in consequence of exposure, or that shall not have been slaughtered for food, knowing or having good reason to believe that such animal was diseased, or had died from disease or in consequence of exposure, or had not been slaughtered for food, such person shall be punished by imprisonment in the county jail not exceeding six months nor less than ten days, or by fine of not more than one hundred dollars nor less than ten dollars, or both, and such corporation shall be fined not more than five hundred dollars nor less than ten dollars.

Standard for vinegar; sale of impure. [Section 4607i, Statutes of 1898.] Any person who manufactures for sale or offers or exposes for sale as cider vinegar any vinegar which is not the sole product of pure apple juice, known as apple cider, or vinegar not made exclusively of said cider, or vinegar into which foreign substances, drugs or acids have been introduced, or which contains any preparation of lead, copper, sulphuric acid, artificial coloring matter or other ingredient injurious to health, or who, by himself, his servant or agent, or as the servant or agent of any other person, shall sell, exchange, deliver or have in his custody or possession with intent so to do any adulterated vinegar, or who shall label, brand or sell as cider or apple vinegar any vinegar not the legitimate product of pure apple juice, or not made exclusively from apple cider, or any vinegar which shall not have an acidity equivalent to the presence of not less than four per centum by weight of absolute acetic acid, and in addition, in the case of cider vinegar, not less than two per centum by weight of cider vinegar solids upon full evaporation over boiling water at two hundred and twelve degrees Fahrenheit, and any manufacturer of vinegar in this state, and any person who reduces or re-barrels vinegar therein or who handles vinegar in quantities of one barrel or more who shall fail to stencil or otherwise mark in black figures, at least one inch in length, on the head of each barrel or package of vinegar manufactured, reduced, re-barreled, bought or sold by him, the standard strength of the vinegar contained in such barrel or package, which shall be denoted by the per centum of acetic acid therein, or who shall falsely mark such barrel or package shall be punished by fine not exceeding one hundred dollars nor less than ten dollars. (See amended law.)

Coloring matter. It is competent for the legislature to make it a misdemeanor to add artificial coloring matter to vinegar, regardless of whether the matter added is injurious to the health of the consumer or not: *People v. Girard*, 73 Hun (N. Y.) 457.

Where, in the manufacture of vinegar, low wine, formed from fermented grain, is, previously to its acetification, passed through roasted malt, not for the purpose of adding any substantial ingredient to the vinegar, but for the purpose of giving it color as well as aroma and flavor, and without such treatment the vinegar would be colorless, the vinegar so produced contains artificial coloring matter: *Weller v. State*, 53 Ohio St., 77.

Validity. It is provided by a Michigan law (Public Acts of 1897, No. 71), "that no person shall manufacture for sale, offer or expose for sale, sell or deliver, or have in his possession with intent to sell or deliver, any vinegar not in compliance with the provisions of this act. No vinegar shall be sold as apple, orchard or cider vinegar which is not the legitimate product of pure apple juice, known as apple cider or vinegar not made exclusively of said apple cider or vinegar into which foreign substance, drugs or acids have been introduced, as may appear upon proper tests, and upon said tests shall contain not less than one and three-fourths per cent., by weight, of cider vinegar solids upon full evaporation at the temperature of boiling water." That "all vinegar made by fermentation and oxidation without the intervention of distillation, shall be branded 'fermented vinegar,' with the name of the fruit or substance from which the same is made. And all vinegar made wholly or in part from distilled liquor shall be branded 'distilled vinegar,' and all of such distilled vinegar shall be free from coloring matter added during or after distillation, and from color other than imparted to it by distillation. And all fermented vinegar not distilled shall contain not less than one and three-fourths per cent., by weight, upon full evaporation (at the temperature of boiling water) of solids, contained in the fruit or grain from which said vinegar is fermented, and said vinegar shall contain not less than two and a half-tenths of one per cent. ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. And all vinegar shall be made wholly from the fruit or grain from which it purports to be or is represented to be made, and shall contain no foreign substance, and shall contain not less than four per cent., by weight, of absolute acetic acid."

Under that law it was held, 1. That cider vinegar must contain the required quantity of ash or mineral matter as well as the stated per cent. of cider vinegar solids. 2. That the act could not be declared void as beyond the police power of the state because it imposed an unreasonable and arbitrary test, that being a question for the legislature. 3. That it was not for the jury or the court to determine from expert chemical testimony whether the act was unreasonable. 4. That a person convicted of violating the act was not deprived of property without due process of law because he could not obtain a sample of the vinegar in question for analysis, he not being so prevented by any person connected with the prosecution, and the law not requiring that the accused be furnished with a sample. 5. That the law was violated by the sale of vinegar below the standard, though the seller was not aware of the fact that the vinegar sold was of that character: *People v. Worden Grocer Co.*, 77 N. W. Rep., 315.

Sale of impure ice; notice of place where ice was cut. [Section 4607k, Statutes of 1898.] No person or corporation shall sell or offer for sale or cause the same to be done within this state, for domestic, culinary or drinking purposes, any ice which contains mud, decayed vegetation, animal or foreign

matter or malarial substance. Every person or corporation offering ice for sale shall have posted on his or its wagons, in a conspicuous manner, the name of the place from which the ice so offered for sale was cut, harvested or manufactured, and all persons or corporations dealing in or handling impure ice, to be used for cooling purposes only, shall have their wagon so labeled. Any person who or corporation which violates any of the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not less than fifty dollars or more than one hundred dollars.

Penalty for use of antiseptics, etc., in meat products. [Section 1, chapter 243, laws of 1903, as amended by ch. 261, laws of 1905.] Any person who by himself or his agent shall offer or expose for sale, take orders for, or sell, or have in his possession with intent to sell for use or consumption within the state any sausage or chopped meat compound containing any artificial coloring, or chemical preservative or antiseptic, except common salt, saltpetre, spices or wood smoke shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than twenty-five dollars nor more than one hundred dollars.

Coloring grain. [Section 4606, Statutes of 1898.] Any person who shall fumigate any barley, wheat or other grain by the use of sulphur or other substance, or shall in any way or by the use of any chemical, material or process affect the color or healthfulness of such grain, or who shall sell or offer for sale any such grain knowing that the same has been so fumigated or the color or the healthfulness thereof so affected shall be punished by imprisonment in the county jail not more than one month or by fine not exceeding fifty dollars.

ADULTERATION OF FLAXSEED OR LINSEED OIL.

Pure, standard of. [Section 1, chapter 234, laws of 1899.] No person, firm, association or corporation shall manufacture for sale, offer or expose for sale in this state, any flaxseed or linseed oil for other than food purposes, unless the same answers a chemical test for purity recognized in the United States pharmacopoeia, or any flaxseed or linseed oil as "boiled linseed oil" unless the same shall have been put, in its manufacture, to a temperature of two hundred and twenty-five degrees Fahrenheit.

Package containing oil to be stamped. [Section 2, chapter 234, laws of 1899.] No person, firm, association or corporation shall at any time, personally or by clerk or agent, sell, expose or offer for sale, dispose of or attempt to dispose of, any flaxseed or linseed oil unless so done under the true name of such oil, and unless each tank car, tank, barrel, keg, can or other vessel containing such oil has, at such time, distinctly and durably painted, stamped, stenciled or marked thereon, in ordinary full-faced capital letters, not less than five line-pica in size, the true name thereof in the words "pure linseed oil raw" or "pure linseed oil boiled," as the fact may be, and also the name and address of the manufacturer or dispenser thereof.

Adulteration and false stamping. [Section 3, chapter 234, laws of 1899.] No person, firm, association or corporation shall, at any time, personally or by any clerk or agent, adulterate any "pure linseed oil raw" or "pure linseed oil boiled," by adding thereto any other oil or substance or thing whatever, for the purpose or with the intent to sell, expose or offer for sale, such mixture or compound as the pure article, nor shall any person, firm, association or corporation, personally or by any clerk or agent, paint, stamp, stencil or mark any tank car, tank, barrel, keg, can or other vessel so as to falsely represent that it contains either "pure linseed oil raw" or "pure linseed oil boiled," nor so as to falsely represent the manufacturer thereof, nor permit or suffer any such false painting, stamping stenciling or marking.

Penalty for violation of law. [Section 4, chapter 234, laws of 1899.] Any person, firm, association or corporation who shall violate any of the provisions of this act shall be punished by a fine of not less than fifty dollars, nor more than five hundred dollars, or by imprisonment in the county jail for not more than six months.

Duty of dairy and food commissioner. [Section 5, chapter 234, laws of 1899.] It is hereby made the duty of the dairy and food commissioner to see that the provisions of this act are enforced, and personally or by his assistants, to inspect any flaxseed or linseed oil, made or offered for sale in this state, and any tanks, barrels, kegs, cans or other vessels containing the same in this state which he may suspect or have reason to believe, fails to comply with the provisions of this act, and to prosecute or cause to be prosecuted, any person, firm, association or corporation, whom he may suspect or have

reason to believe, has violated any of the provisions of this act, which prosecution shall be conducted by the district attorney in the same manner as is now provided in case of the violation of the laws relating to the sale of impure, adulterated or counterfeit articles of food, or drink, or drug.

Concentrated feeding stuffs: prosecutions for violations; notice to manufacturers, etc. [Section 8 chapter 377, laws of 1901.] Whenever the director aforesaid becomes cognizant of the violation of any of the provisions of this act, he shall report such violations to the dairy and food commissioner, and said commissioner shall prosecute the party or parties thus reported; but it shall be the duty of said commissioner upon thus ascertaining any violation of sections two, three or four of this act, to forthwith notify the manufacturer, importer or dealer in writing and give him not less than thirty days thereafter in which to comply with the requirements of this act, but there shall be no prosecution in relation to the quality of any concentrated commercial feeding stuff if the same shall be found substantially equivalent to the certified statement named in section two of this act.

Chapter 33, 1905.

Relating to the restriction and regulation of the sale of foods containing chemical preservatives. SECTION 1.

No person, firm or corporation shall, by himself, or by his agents or servants, manufacture, sell, ship, consign, offer for sale, expose for sale or have in his possession with intent to sell for use or consumption within the state, any article of food within the meaning of section 4600 of the statutes of 1898 and laws amendatory thereof, which contains formaldehyde, sulphurous acid or sulphites, boric acid or borates, salicylic acid or salicylates, saccharin, dulcin, glucin, beta naphthol, abrostol, asaprol, fluorides, fluoborates, fluosilicates or other fluorine compounds, or any other preservatives injurious to health; provided, however, that nothing contained in this section shall prohibit the use of common salt, saltpetre, wood smoke, sugar, vinegar and condimental preservatives, such as turmeric, mustard, pepper and other spices. Nor shall any person, firm or corporation, by himself, or by his agents or servants, manufacture, sell, ship, consign, offer for sale, expose for sale or have in his possession with intent to sell for use or consumption within the state, any article of food within the meaning of section 4600 of the statutes of 1898 and laws amendatory thereof, containing any

added substance, article or ingredient possessing a preservative character or action other than the articles named in the proviso of this act, unless the presence, name and proportionate amount of said added substance, article or ingredient shall be plainly disclosed to the purchaser.

SECTION 2. Every person, firm, or corporation and every officer, agent, servant or employe of such person, firm or corporation who violates any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than twenty-five dollars nor more than one hundred dollars or be imprisoned in the county jail not less than thirty days nor more than sixty days.

Chapter 151, 1905.

Defining maple sugar and maple syrup and regulating the sale thereof. SECTION 1. Any person who shall manufacture for sale, sell, or offer or expose for sale or have in his possession with intent to sell, as and for maple sugar or maple syrup, any article other than the unadulterated product produced by the evaporation of pure sap from the maple tree, shall forfeit to the state of Wisconsin, the sum of not less than twenty-five dollars nor more than one hundred dollars.

Chapter 152, 1905.

Relating to the sale of syrups, molasses and glucose mixtures. SECTION 1. No person shall sell, offer or expose for sale or have in his possession with intent to sell any syrup, sugar-cane syrup, sorghum syrup, molasses or glucose, unless the same be true to the name under which it is sold, and as defined in the standards of purity for food products as adopted by the United States Department of Agriculture, and unless the barrel, cask, keg, can, pail or package containing the same be distinctly branded or labeled with the true name of its contents as defined in the above named standards; and no person shall sell, offer or expose for sale or have in his possession with intent to sell any syrup, sugar-cane syrup, sorghum syrup, or molasses mixed with glucose unless the mixture be sold as and for compound glucose mixture or corn syrup, and unless the barrel, cask, keg, can, pail or package containing the same be distinctly branded or labeled "Glucose Mixture" or "Corn Syrup," in plain Gothic type not less than three-eighths of an

inch square, with the name and percentum by weight of each ingredient contained therein plainly stamped, branded or stenciled on each package in plain Gothic letters not less than one-quarter of an inch square. Each and every package of syrup, either simple or mixed, shall bear the name and address of the manufacturer. Such mixtures or syrups shall have no other designation or brand than herein required that represents or is the name of any article which contains a saccharine substance; and all brands or labels required shall be an inseparable part of the general or distinguishing label, and the general or distinguishing label shall be the principal and conspicuous sign under which it is sold; nor shall any of the aforesaid glucose, syrups, molasses or mixtures contain any substance injurious to health, nor any other articles or substance otherwise prohibited by law in articles of food.

SECTION 2. Whoever shall do any of the acts or things prohibited or neglect or refuse to do any of the acts or things required by this act, or in any way violate any of the provisions, shall forfeit to the state of Wisconsin, the sum of not less than twenty-five dollars nor more than one hundred dollars.

Chapter 187, 1905.

Relating to the manufacture and sale of buckwheat flour. SECTION 1. No person shall manufacture for sale within this state, or offer or expose for sale, have in possession with intent to sell, or sell or exchange any ground buckwheat containing any product of wheat, corn, rice or other foreign substance, unless each and every package thereof shall be distinctly branded or labeled in letters not less than one-half inch in length with the name of the maker and factory, and the location of such factory, and the words "Buckwheat Flour Compound," together with the words, "This buckwheat flour compound contains the following ingredients and none other" and immediately after the latter words shall appear in the same size letters the true names of each and every ingredient of such mixture or compound. Provided, that this act shall not be construed as prohibiting the manufacture and sale of Self-Rising Buckwheat Flour when labeled or branded as such and when the same consists only of pure buckwheat flour, salt, sodium bicarbonate and calcium acid phosphate, cream of tartar or tartaric acid.

SECTION 2. Any brand or label herein required shall be an inseparable part of the general or distinguishing label, and such label shall be that principal and conspicuous sign under

which it is sold, and any other label or printed matter upon the package shall not be in contravention of the requirements of this act.

SECTION 3. The having in possession of any buckwheat flour compound, which is not branded or labeled as hereinbefore required and directed upon the part of any person engaged in the public or private sale of such article, shall, for the purpose of this act, be deemed prima facie evidence of intent to sell the same.

SECTION 4. The taking of orders or the making of agreements or contract by any person, firm or corporation or by any agent or representative thereof, for the future delivery of buckwheat flour compound shall be deemed a sale within the meaning of this act.

SECTION 5. Any person who shall violate any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than twenty-five dollars nor more than one hundred dollars, or by imprisonment in the county jail for a period of not less than thirty nor more than ninety days, or by both such fine and imprisonment, in the discretion of the court.

Chapter 247, 1905.

Regulating the manufacture and sale of condensed milk, and of evaporated or condensed cream. SECTION 1. No person shall manufacture for sale within this state, or offer or expose for sale, have in his possession with intent to sell, or sell or exchange, any condensed milk, sweetened or unsweetened, unless the same shall contain not less than twenty-eight percentum, by weight, of milk solids, of which not less than one-fourth shall be milk fat.

SECTION 2. No person shall manufacture for sale within this state, or offer or expose for sale, have in his possession with intent to sell, or exchange, as and for evaporated or condensed cream, any substance except the product obtained by the evaporation of a portion of water from cream containing not less than eighteen percentum, by weight, of butter fat. Provided, that nothing in this act shall apply to goods manufactured for sale and shipment outside of the state.

SECTION 3. Whoever shall violate any of the provisions of this act shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not less than twenty-five dollars nor more than one hundred dollars, or by imprisonment in the county jail not less than thirty days nor more than sixty days.

Chapter 297, 1905.

Relating to the sale of vinegar and fixing standards therefor. SECTION 1. Sectio 4607i of the statutes of 1898 is hereby amended so as to read as follows: Section 4607i. No person shall sell, manufacture for sale, offer or expose for sale or have in his possession with intent to sell as apple, orchard or cider vinegar, any vinegar which has not been made exclusively by the fermentation of pure apple juice, known as apple cider; or vinegar which contains any foreign substance whatsoever; or vinegar which shall contain less than 4 per centum by weight of absolute acetic acid; or vinegar which shall be found to contain less than one and three-fourths per centum by weight of pure cider vinegar solids upon full evaporation at two hundred and twelve degrees Fahrenheit; and no person shall sell, offer or expose for sale or have in his possession with intent to sell any cider vinegar unless each barrel, cask, or keg containing the same be plainly stenciled or branded on one head of said barrel, cask or keg, in black letters and figures at least one inch in height, with the words "Cider Vinegar," together with the name and place of business of the manufacturer thereof, and the strength of the vinegar contained in said barrel, cask or keg, which strength shall be denoted by the per centum of weight of absolute acetic acid contained in said vinegar. And no person shall manufacture for sale, offer or expose for sale, or have in his possession with intent to sell, or sell, any vinegar which shall be adulterated within the meaning of sections 4600 and 4601 of the statutes of 1898, and laws amendatory thereof; or any vinegar which shall contain less than four and one-half per centum by weight of absolute acetic acid; or vinegar which shall contain any artificial coloring matter, or any preparation of lead, copper, sulphuric or other mineral acids, or any acid made from the distillation of wood or any ingredient injurious to health. And no person shall sell, offer or expose for sale or have in his possession with intent to sell any vinegar (except cider vinegar) made by fermentation without the intervention of distillation unless each barrel, cask, or keg containing the same be plainly stenciled or branded on one head of said barrel, cask or keg, in black letters and figures at least one inch in height, with the name and place of business of the manufacturer of said vinegar and the strength of the vinegar contained in said barrel, cask or keg, which strength shall be denoted by the per centum by weight of absolute acetic acid contained in said vinegar, together with the words "Fermented Vinegar" and the true name of the fruit or

substance from which said vinegar is made. And no person shall sell, offer or expose for sale or have in his possession with intent to sell any vinegar made wholly or in part from distilled liquor unless each barrel, cask or keg containing the same be plainly stenciled or branded on one head of said barrel, cask or keg, in black letters and figures at least one inch in height, with the words "Distilled Vinegar," together with the name and place of business of the manufacturer thereof and the strength of the vinegar contained in said barrel, cask or keg, which strength shall be denoted by the per centum by weight of absolute acetic acid contained in said vinegar.

Any person who shall be found guilty of violating any of the provisions of this section shall forfeit to the state of Wisconsin the sum of not less than twenty-five dollars nor more than one hundred dollars for each such violation. Provided that this act shall not be construed as prohibiting the sale of any vinegar by the manufacturer for shipment and use outside the state. Provided, however, that nothing herein contained shall be held to prohibit the coloring of vinegar by the use of burnt sugar, or the sale or offering for sale of the same until on and after July 1st, 1906.

Chapter 390, 1905.

Providing a second assistant for the dairy and food commissioner, and additional cheese factory, creamery, dairy and food inspectors, and an assistant chemist, and making an appropriation therefor. Section 1. In addition to the officials and appointees provided for by section 1410 of the statutes of 1898, and of chapter 144 of the laws of 1903, the dairy and food commissioner may, with the advice and consent of the governor, appoint a second assistant dairy and food commissioner, an assistant chemist and eight agents or inspectors, whose duties shall be to assist in promoting the work of the dairy and food commissioner in the manner herein provided and in such way as may be required by the dairy and food commissioner in the enforcement of the dairy and food laws. Of the eight agents or inspectors herein provided for, three shall be creamery, dairy and food inspectors, whose duties, in addition to the general duties hereinbefore provided, shall be to inspect creameries, dairies, foods and drugs, under the direction and supervision of the dairy and food commissioner; four shall be cheese factory, dairy and food inspectors, whose duties, in addition to the general duties hereinbefore provided, shall be to inspect cheese factories, dairies, foods and drugs, under the

direction and supervision of the dairy and food commissioner, and one shall be chief food inspector. The second assistant dairy and food commissioner and the creamery, dairy and food inspectors herein provided for, shall be expert creamery butter makers, skilled in the technical work of creameries, competent judges of creamery products and versed in modern scientific and practical dairy husbandry. The cheese factory, dairy and food inspectors herein provided for shall be expert cheese makers, skilled in the technical work of cheese factories, competent judges of cheese factory products and versed in modern scientific and practical dairy husbandry. The chief food inspector shall be experienced in modern grocery business. The assistant chemist shall be a competent analytical chemist and shall devote his time exclusively to the work of the commission. The annual salary of the second assistant commissioner shall be sixteen hundred dollars; the annual salary of the assistant chemist, of the creamery, dairy and food inspectors and of the chief food inspector shall be each twelve hundred dollars; the compensation of each of the cheese factory, dairy and food inspectors shall be one hundred dollars per month. The aforesaid salaries and compensation shall be paid in the same manner as is provided by law for the payment of salaries of other state and employees. There shall also be paid to the second assistant commissioner and to each of the agents or inspectors and assistant chemist herein provided for, their necessary and actual expenses incurred in the discharge of their official duties, on the approval of the dairy and food commissioner and the governor, of verified and itemized accounts therefor.

Section 2. The officers designated in section 1 of this act shall have all the powers that are conferred by law upon any agent, inspector or assistant of the dairy and food commissioner.

Chapter 228, 1905.

Relating to the manufacture or sale of lemon extract and vanilla extract. Section 1. Any person who shall manufacture for sale, sell, or offer or expose for sale or have in his possession with intent to sell as and for lemon extract, or extract of lemon, or essence of lemon, or lemon essence, or spirits of lemon, or under any designation which includes any of the aforesaid names any preparation other than a solution containing not less than five percentum, by volume, of pure lemon oil in ethyl alcohol; or any person who shall manufacture for sale, sell, or offer or expose for sale or have in his possession with intent to sell as and for vanilla extract, or extract of vanilla, or tincture

of vanilla, or vanilla tincture, or under any designation which includes any of the aforesaid names any preparation which shall contain any flavoring or coloring ingredient other than those derived from pure vanilla bean, shall forfeit to the state of Wisconsin the sum of not less than twenty-five dollars nor more than one hundred dollars. Providing nothing in this act shall prohibit the manufacture of the above specified articles for sale and shipment without the state.

**AMENDMENTS TO THE WISCONSIN DAIRY AND FOOD
LAWS, AND NEW DAIRY AND FOOD LAWS
ENACTED BY THE LEGISLATURE
OF 1907.**

Chapter 77, 1907.

Relating to label on baking powder. Section 1. Section 4601b, statutes of 1898, is amended to read: Section 4601b. Any person who shall, by himself, his servant or agent or by the servant or agent of any other person, make or manufacture baking powder or any mixture or compound intended for use as a baking powder, or sell, exchange or deliver, or have in his possession with the intent to sell or exchange or expose or offer for sale or exchange such baking powder, or any mixture or compound intended for use as a baking powder unless each receptacle or package in which the same is kept for sale or sold, has securely affixed in a conspicuous place upon the side thereof, and plainly separated from other reading matter, a white or light colored label, upon the outside face of which label shall be printed in the English language, with black ink, in type not smaller than eight point, bold-faced, gothic capitals, the name and address of the manufacturer of such baking powder, and the words: "This baking powder is composed of the following ingredients and none other," and immediately thereafter upon the same label, in color, style and manner above specified, the name of each ingredient contained in such baking powder, using the name by which each ingredient is commonly known, shall be punished as provided in the next preceding section, provided that for the purposes of this act, alum in any form or shape or any aluminum salt shall be designated by the term alum.

Chapter 99, 1907.

Relating to standard measure for the use of the Babcock test in determining butter fat in milk and cream.

Section 1. Section 1, chapter 43, laws of 1903, is amended and made a section of the statutes of 1898, to read: Section 1494aa.

1. In the use of the Babcock test, the standard milk measures or pipettes shall have a capacity of 17.6 cubic centimeters, and the standard test tubes or bottles for milk shall have a capacity of 2 cubic centimeters for each 10 per cent. marked on the necks thereof; cream shall be tested by weight and the standard unit for testing shall be 18 grams, and it is hereby made a misdemeanor to use any other standards of milk or cream measure where milk or cream is purchased by or furnished to creameries or cheese factories and where the value of said milk or cream is determined by the per cent of butter fat contained in the same, or wherever the value of milk or cream is determined by the per cent. of butter fat contained in the same by the Babcock test.

2. In sampling cream or milk from which composite tests are to be made to determine the per cent. of butter fat contained therein, no such sample or sampling shall be lawful unless a sample be taken from each weighing and the quantity thus used shall be proportioned to the total weight of the cream or milk tested.

3. Every person, corporation or company operating a creamery when using the Babcock test as a standard to determine the value of any milk or cream received or bought by such person, corporation or company to be manufactured into butter, shall, when paying for such milk or cream, include in every statement or check issued to any patron in payment thereof a statement of the number of pounds of butter fat and the number of pounds of butter made for the period of time for which payment is made.

Chapter 78, 1907.

Relating to obstructing performance of dairy and food commissioner's duty and prescribing penalty. Section 1. Section 4607h, statutes of 1898, is amended to read: Section 4607h. Any person who shall obstruct the dairy and food commissioner of this state or either of his assistants, chemists or inspectors in the performance of their duty by refusing him entrance to any place he is authorized to enter or by refusing to deliver to him a sample of any article of food, drink or drug made, sold, offered, or exposed for sale by the person to whom request therefor is made if the value thereof is tendered, shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than twenty-five dollars

nor more than one hundred dollars or by imprisonment in the county jail not less than ten days nor more than sixty days.

Chapter 168, 1907.

Relating to sale of adulterated articles. Section 1. Section 4600, statutes of 1898, as amended by chapter 207, laws of 1905, is amended to read: Section 4600. Any person, who shall, by himself, his servant or agent, or as the servant or agent of any other person, sell, exchange, deliver or have in his possession with intent to sell, exchange, offer for sale or exchange any drug or article of food which is adulterated, or any candy containing intoxicating liquor, shall be fined not less than twenty-five dollars, nor more than one hundred dollars or by imprisonment in the county jail not less than thirty days nor more than four months. The term "drug" as used in this section shall include all medicines for internal or external use, antiseptics, disinfectants and cosmetics. The term "food" as used herein shall include all articles used for food or drink or condiment by man, whether simple, mixed or compound.

Chapter 173, 1907.

Relating to the misbranding of articles of food. Section 1. There is added to the statutes of 1898 a new section to read: Section 4601aa. Any person, firm or corporation by himself, officer, servant or agent, or as the officer, servant or agent of any other person, firm or corporation, who shall manufacture or solicit or take orders for delivery, or sell, exchange, deliver or have in possession with the intent to sell, exchange or expose, or offer for sale or exchange any article of food within the meaning of section 4600, statutes of 1898, which is misbranded within the meaning of this section shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than twenty-five dollars nor more than one hundred dollars, or by imprisonment in the county jail not less than ten days nor more than sixty days. The term "misbranded," as used herein, shall apply to articles of food, or articles which enter into the composition of food, which, or the package or label of which shall bear any statement, design or device regarding such article or the ingredients or substances contained therein which shall be false or misleading in any particular; or if in package form, and the contents are stated in terms of weight or measure, they are not plainly and correctly stated on the outside of the package; and to any food product which is falsely branded as to the state, territory or country in which it is man-

ufactured or produced. Any article of food shall also be deemed to be misbranded if the contents of the package as originally put up shall have been removed in whole or in part and other contents shall have been placed in such package. The term "label," as used in this section and in section 4601, statutes of 1898, or in any other section of these statutes, relating to the adulteration or misbranding of food, unless otherwise specifically described and provided therein, shall apply to any printed, pictorial or other matter upon or attached to any package of a food product or any container thereof.

It is hereby made the duty of the dairy and food commissioner of this state, by himself, or assistants, chemists, inspectors and agents, to see that the provisions of this section are enforced and for this purpose all the powers conferred upon the said commissioner, his assistants, chemists, inspectors and agents, by section 1410a, 1410b, 1410d, of the statutes of 1898, or by any other provision of these statutes are hereby conferred upon said dairy and food commissioner, his assistants, chemists, inspectors and agents, so far as the same may be applicable.

Chapter 205, 1907.

Relating to standards of purity for food products. Section 1. There is added to the statutes of 1898 a new section to read. Section 4601—4a. In all prosecutions arising under the provisions of these statutes for the manufacture or sale of an adulterated, misbranded or otherwise unlawful article of food, drink, condiment or drug, the latest standards of purity for food products, established by the United States secretary of agriculture, shall be accepted as the legal standards, except in cases where other standards are specifically prescribed by the laws of this state.

Chapter 206, 1907.

Relating to the duties of the dairy and food commissioner, laboratory expenses of the dairy and food commissioner. Section 1. Section 1410d, statutes of 1898, is amended to read: Section 1410d. The governor may authorize the commissioner or his assistants, chemists or inspectors, when not engaged in the performance of other official duties, to give such aid in farmers' institutes, dairy and food and farmers' conventions and the agricultural department of the state university as may be deemed advisable. For the necessary expenses of making the analyses contemplated in the foregoing sections the commissioner may incur an annual expense of not

to exceed one thousand dollars, the accounts for which, when verified and itemized, and approved by the governor shall be audited by the secretary of state.

Chapter 306, 1907.

Relating to wrongful use of milk and fraudulent accounts by butter or cheese manufacturers. Section 1. Section 1494a, statutes of 1898, is amended to read: Section 1494a. Any butter or cheese manufacturer who shall knowingly use or allow any other person to use for the benefit of himself or any other person than he who is entitled to the benefit thereof any milk or cream from the milk brought to him, without the consent of the owner thereof, or who shall refuse or neglect to keep or cause to be kept a correct account (which shall be open to the inspection of any person furnishing milk to him and to the dairy and food commissioner of this state, his chemists, assistants, inspectors and agents) of the amount of milk daily received, or of the number of pounds of butter, and the number and aggregate weight of cheese made by him each day, or of the number of cheese cut or otherwise disposed of and the weight of each, shall be guilty of a misdemeanor, and upon conviction be punished by a fine not less than twenty-five dollars nor more than one hundred dollars, or by imprisonment in the county jail not less than ten days nor more than sixty days.

Chapter 370, 1907.

Relating to the sale of vinegar and fixing standards therefor. Section 1. Section 4607i of the statutes is amended to read: Section 4607i. No person shall sell, manufacture for sale, offer or expose for sale or have in his possession with intent to sell as apple, orchard or cider vinegar, any vinegar which has not been made exclusively by the fermentation of pure apple juice, known as apple cider; or vinegar which contains any foreign substance whatsoever; or vinegar which shall contain less than four per centum by weight of absolute acetic acid; or vinegar which shall be found to contain less than one and six-tenths per centum by weight of pure cider vinegar solids upon full evaporation at two hundred and twelve degrees Fahrenheit and no person shall sell, offer or expose for sale or have in his possession with intent to sell any cider vinegar unless each barrel, cask, keg, or other original package or original container, containing the same, be plainly stenciled or branded or labeled, with the words "Cider Vinegar," together with the name and place of business of the manufacturer thereof, and the strength

of the vinegar contained in said barrel, cask, keg or other original package or original container, containing the same, which strength shall be denoted by the per centum by weight of absolute acetic acid contained in said vinegar. And no person shall manufacture for sale, offer or expose for sale or have in possession with intent to sell, or sell, any vinegar which shall be adulterated within the meaning of sections 4600 and 4601 of the statutes of 1898, and laws amendatory thereof; or any vinegar which shall contain less than four per centum by weight of absolute acetic acid; or vinegar which shall contain any artificial coloring matter or any preparation of lead, copper, sulphuric or other mineral acids, or any acid made from the distillation of wood or any ingredient injurious to health. And no person shall sell, offer or expose for sale or have in his possession with intent to sell any vinegar (except cider vinegar) made by fermentation without the intervention of distillation unless each barrel, cask, keg, or other original package or original container, containing the same, be plainly stenciled or branded or labeled, with the name and place of business of the manufacturer of said vinegar and the strength of the vinegar contained in said barrel, cask, keg, or other original package or original container, containing the same, which strength shall be denoted by the per centum by weight of absolute acetic acid contained in said vinegar, together with the words "Fermented Vinegar" and the true name of the fruit or substance from which said vinegar is made. And no person shall sell, offer or expose for sale or have in his possession with intent to sell any vinegar made wholly or in part from distilled liquor unless each barrel, cask, keg, or other original package or original container, containing the same, be plainly stenciled or branded or labeled, with the words "Spirit Venegar," together with the name and place of business of the manufacture or dealer thereof and the strength of the vinegar contained in said barrel, cask, keg, or other original package or original container, containing the same, which strength shall be denoted by the per centum by weight of absolute acetic acid contained in said vinegar. And no person shall sell, offer or expose for sale or have in his possession with intent to sell any vinegar unless the stencil, brand or label hereinbefore required shall in the case of barrel, cask or keg be in black letters and figures at least one inch in height on one head of said barrel, cask or keg, and in case of other original package or original container in black letters and figures not smaller than eight-point Brevier caps on the outside of each original package or original container thereof.

Any person who shall be found guilty of violating any of the provisions of this section shall be guilty of a misdemeanor and on conviction shall be punished by fine not less than twenty-five dollars nor more than one hundred dollars or by imprisonment in the county jail not less than ten days nor more than sixty days.

Chapter 386, 1907.

Relating to the appointment of additional employes by the dairy and food commissioner, prescribing their qualifications and duties and providing their compensation.

Section 1. There is added to the statutes a new section to read: Section 1410—1. In addition to the officials and appointees otherwise provided by law for the dairy and food commission, the dairy and food commissioner may, with the advice and consent of the governor, appoint one secretary; one assistant chemist; one cheese factory, dairy and food inspector; and one creamery, dairy and food inspector, whose duties shall be to assist in promoting the work of the dairy and food commissioner in the manner herein provided and in such way as may be required by the dairy and food commissioner in the enforcement of the dairy and food laws. The duties of the cheese factory, dairy and food inspector, in addition to the general duties hereinbefore provided, shall be to inspect cheese factories, dairies, foods and drugs under the direction and supervision of the dairy and food commissioner. He shall be an expert cheesemaker, skilled in the technical work of cheese factories, a competent judge of cheese factory products and versed in modern scientific and practical dairy husbandry. The duties of the creamery, dairy and food inspector, in addition to the general duties hereinbefore provided, shall be to inspect creameries, dairies, foods and drugs under the direction and supervision of the dairy and food commissioner. He shall be skilled in the technical work of creameries, a competent judge of creamery products and versed in modern scientific and practical dairy husbandry. The assistant chemist shall be a competent analytical chemist. The annual salary of the said assistant chemist shall be fifteen hundred dollars; the annual salary of the said secretary and of the creamery, dairy and food inspector shall be twelve hundred dollars each. The compensation of the cheese factory dairy and food inspector shall be one hundred dollars per month. The aforesaid salaries and compensation shall be paid in the same manner as is provided by law for the payment of salaries of other state officers and employes. There shall also

be paid to the assistant chemist and to each of the inspectors herein provided for, their necessary and actual expenses incurred in the discharge of their official duties, on the approval of the dairy and food commissioner and the governor, of verified and itemized accounts therefor, and the said officials shall have all the powers that are conferred by law upon any agent, inspector or assistant of the dairy and food commissioner.

Chapter 478, 1907.

Relating to labeling stock foods. Section 1. There is added to the statutes of 1898 a new section to read: Section 4438g—1. 1. All mixed or compounded animal stock foods offered for sale in this state either in bulk or in small packages shall have printed upon sack or package in plain letters all of the different ingredients of which it is composed.

2. Any person who shall violate this section shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than ten nor more than fifty dollars.

3. It shall be the duty of the state dairy and food commissioner to enforce the provisions of this act.

Chapter 557, 1907.

Relating to the sale of syrups, molasses, glucose mixtures and maple syrup mixtures, and to protect the public health. Section 1. Sections 1 and 2 of chapter 152, laws of 1905, are amended and made sections of the statutes of 1898, to read: Section 4601—1a. No person, firm or corporation, by himself, officer, servant or agent, or as the officer, servant or agent of any other person, firm or corporation, shall sell, offer or expose for sale or have in his possession with intent to sell any syrup, maple syrup, sugar-cane syrup, sugar syrup, refiners' syrup, sorghum syrup, molasses or glucose, unless the same be true to the name under which it is sold and as defined in the standards of purity for food products as latest promulgated by the United States Secretary of Agriculture, and unless the barrel, cask, keg, can, pail or other original container containing the same be distinctly branded or labeled with the true name of its contents, as defined in the above named standards; and no person, firm or corporation, by himself, officer, servant or agent, or as the officer, servant or agent of any other person, firm or corporation, shall sell, offer or expose for sale or have in his possession with intent to sell any syrup, maple syrup, sugar-cane syrup, sugar syrup, refiners' syrup, sorghum syrup or molasses, mixed with glucose, unless the barrel, cask, keg, can, pail

or other original container, containing the same be distinctly branded or labeled so as to plainly show the true name of each and all of the ingredients composing such mixture, as follows:

First: In case said mixture shall contain glucose in a proportion not to exceed 50 per cent. by weight, it shall be labeled and sold as "Maple Syrup and Glucose," "Sugar-Cane Syrup and Glucose," "Sugar Syrup and Glucose," "Refiners' Syrup and Glucose," "Sorghum Syrup and Glucose," or "Molasses and Glucose," as the case may be;

Second: In case said mixture shall contain glucose in a proportion exceeding 50 per cent. and not more than 75 per cent. by weight, it shall be labeled and sold as "Glucose and Maple Syrup," "Glucose and Sugar-Cane Syrup," "Glucose and Sugar Syrup," "Glucose and Refiners' Syrup," "Glucose and Sorghum Syrup," "Glucose and Molasses," as the case may be;

Third: In case said mixture shall contain glucose in a proportion exceeding 75 per cent. by weight, it shall be labeled and sold as "Glucose flavored with Maple Syrup," "Glucose flavored with Sugar-Cane Syrup," "Glucose flavored with Sugar Syrup," "Glucose flavored with Refiners' Syrup," "Glucose flavored with Sorghum Syrup," "Glucose flavored with Molasses," as the case may be. The labels provided for in this section shall be printed in type not smaller than eight-point Brevier caps and shall bear the name and address of the manufacturer or dealer. In mixtures in which glucose shall be mixed with any syrup or molasses in the proportion of not more than 50 per cent. by weight of the total product, the word "Glucose" shall be printed in type of the same size and style and the same color as may be used in printing the name of any syrup or molasses with which the glucose may be mixed, and said mixture shall be so labeled and sold. In mixtures in which glucose shall be mixed with any syrup or molasses in the proportion of not more than 75 per cent. and not less than 50 per cent. by weight, the word "Glucose" shall be printed in the same color and in type of the same style but one-third larger than the size of the letters which may be used in the printing of the name of any syrup or molasses with which it may be mixed, and such mixture shall be so labeled and sold. In all mixtures in which glucose is used in the proportion of more than 75 per cent. by weight, the name of the syrup or molasses which is mixed with the glucose for flavoring purposes and the words showing that said syrup or molasses is used as a flavoring, as provided in this section, shall be printed on the label of each container of such mixture in the same color, and in the same style of type but

not larger than ten-point caps. The mixtures or syrups designated in this section shall have no other designation or brand than herein required that represents or is the name of any article which contains a saccharine substance; and all brands or labels required shall be an inseparable part of the general or distinguishing label, and the general or distinguishing label shall be the principal and conspicuous sign under which it is sold; nor shall any of the aforesaid glucose, syrups, molasses or mixtures contain any substance injurious to health, nor any other article or substance otherwise prohibited by law in articles of food.

Section 4601—2a. No person, firm or corporation, by himself, officer, servant or agent, or as the officer, servant or agent of any other person, firm or corporation, shall solicit or take orders for delivery, or sell, exchange, deliver or have in possession with intent to sell, exchange or expose, or offer for sale or exchange, any maple syrup mixed with sugar-cane syrup, sugar syrup, refiners' syrup, sorghum syrup or molasses, unless the same be labeled and sold so as to show the true name of each and all of the ingredients contained therein and unless each barrel, cask, keg, can, pail or other original container, containing the same, be distinctly branded or labeled and sold so as to plainly show the true name of each and all of the ingredients composing such mixture, as follows:

First: If said mixture shall contain 50 per cent. or more by weight of maple syrup, it shall be labeled and sold as "Maple Syrup and Sugar-Cane Syrup," "Maple Syrup and Sugar Syrup," "Maple Syrup and Refiners' Syrup," "Maple Syrup and Sorghum Syrup," or "Maple Syrup and Molasses," as the case may be;

Second: If said mixture shall contain not less than 25 per cent., nor more than 49 per cent., by weight, of maple syrup, it shall be labeled and sold as "Sugar-Cane Syrup and Maple Syrup," "Sugar Syrup and Maple Syrup," "Refiners' Syrup and Maple Syrup," "Sorghum Syrup and Maple Syrup," or "Molasses and Maple Syrup," as the case may be;

Third: If said mixture shall contain less than 25 per cent., by weight, of maple syrup, it shall be labeled and sold as "Sugar-Cane Syrup flavored with Maple Syrup," "Sugar Syrup flavored with Maple Syrup," "Refiners' Syrup flavored with Maple Syrup," "Sorghum Syrup flavored with Maple Syrup," or "Molasses flavored with Maple Syrup," as the case may be.

All labels provided for in this section shall be printed in English, in type not smaller than eight-point Brevier caps and

shall bear the name and address of the manufacturer or dealer. In mixtures in which maple syrup shall be mixed with molasses or any or either of the syrups designated in this section in the proportion of not less than 50 per cent. by weight of the total product, the word "Maple" shall be printed in type of the same size and style and in the same color as may be used in the printing of the name of any other syrup or molasses with which the maple syrup may be mixed, and said mixture shall be so labeled and sold. In mixtures in which maple syrup shall be mixed with molasses or any or either of the syrups designated in this section, in the proportion of not less than 25 per cent. and not more than 49 per cent., by weight of the total product, the word "Maple" shall be printed in the same color, and in type of the same style, but not larger than two-thirds of the size, of the letters which may be used in printing the name of any syrup or molasses with which maple syrup may be mixed, and such mixture shall be so labeled and sold. In all cases in which maple syrup shall be mixed with any of the syrups designated in this section, in the proportion of less than 25 per cent., by weight of the total product, the word "Maple" and the words showing it to be used as a flavor, as provided in this section, shall be printed on the label of each container of such mixture in the same color and in the same size and style of type, but not larger than ten-point Brevier caps. The mixtures or syrups designated in this section shall have no other designation or brand than herein required that represents or is the name of any article which contains a saccharine substance; and all brands or labels required shall be an inseparable part of the general or distinguishing label, and the general or distinguishing label shall be the principal and conspicuous sign under which it is sold; nor shall any of the aforesaid glucose, syrups, molasses or mixtures contain any substance injurious to health, nor any other article or substance otherwise prohibited by law in articles of food.

4601—3a. Whoever shall do any of the acts or things prohibited, or neglect, or refuse, to do any of the acts or things required by this act, or in any way violate any of the provisions of this act shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine not less than twenty-five dollars nor more than one hundred dollars or by imprisonment in the county jail not less than ten days nor more than sixty days.

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