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Biennial report of the Dairy and Food Commissioner of Wisconsin. For the years 1899-1900. 1901

State Dairy and Food Commissioner

Madison, Wisconsin: Democrat Printing Company, State Printer,
1901

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BIENNIAL REPORT

OF THE

Dairy and Food Commissioner

OF

WISCONSIN

For the Years 1899—1900.

H. C. ADAMS, Dairy and Food Commissioner.



MADISON, WIS.:
DEMOCRAT PRINTING COMPANY, STATE PRINTER,
1901.

WISCONSIN DAIRY AND FOOD COMMISSION.

H. C. ADAMS	Commissioner
C. W. SWEETING	Dairy Expert
A. S. MITCHELL	Chemist
N. J. FIELD	Dairy Inspector
FLORENCE Q. NORTON	Stenographer and Confidential Clerk

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LETTER OF TRANSMITTAL.

MADISON, WIS., Oct. 1, 1900.

To his Excellency, EDWARD SCOFIELD,

Governor of the State of Wisconsin:

I have the honor, in compliance with section 1410, statutes of 1898, to submit herewith the report of this commission for the two years ending September 30, 1900.

H. C. ADAMS,

Commissioner.

RULINGS MADE BY THE COMMISSIONER.

Oleomargarine can be manufactured and sold under its own name and color when properly labeled. Each tub, package and parcel shall be marked by a placard bearing the word "OLEOMARGARINE" printed in plain, uncondensed gothic letters not less than one inch long, and such placard shall contain no other words thereon. (Paragraphs 12 and 13 of this compilation.)

All stores and places of business from which oleomargarine shall be sold must have conspicuously posted a placard to be approved by the DAIRY AND FOOD COMMISSIONER, containing the words, printed in letters not less than four inches in length, "OLEOMARGARINE SOLD HERE." (Paragraph 13 of this compilation.)

Oleomargarine colored in imitation of butter cannot be sold. (Paragraph 13 of this compilation.)

It is unlawful for hotel, restaurant or boarding-house keepers to furnish their guests with butter substitutes without notifying such guests that the substitutes so furnished are not butter. (Paragraph 13 of this compilation.)

A bill of fare furnished guests and containing a statement that oleomargarine is used will be deemed a sufficient notice.

Renovated butter, which is butter of inferior quality melted, regranulated, churned with milk and worked over into the appearance of fresh creamery butter, must be branded "RENOVATED BUTTER" upon each tub, package and parcel. (Paragraph 15 of this compilation.)

No imitation butter or cheese can be used in any of the charitable or penal institutions of this state. (Paragraph 14 of this compilation.)

Cheese.—THE DAIRY AND FOOD COMMISSIONER is authorized to issue to the owner or manager of each factory making FULL CREAM CHEESE a stencil containing the number of the factory and the state brand, "WISCONSIN FULL CREAM CHEESE." (Paragraph 3 of this compilation.)

The manufacture and sale of filled cheese is prohibited. (Paragraph 12 of this compilation.)

The manufacture and sale of skimmed cheese is prohibited, except when such cheese is made ten inches in diameter and nine inches in height. (Paragraph 12 of this compilation.)

Milk—All milk offered for sale or sold must be from healthy cows, of clean and wholesome character, unadulterated, free from preservatives, and must contain not less than three per cent. of butter fat. (Paragraphs 7, 8, 9, 10, 18 of this compilation.)

Lard—Imitation lard products must not be sold under the name lard. Compound's containing lard can be sold when labeled "COMPOUND LARD."

Coffee—Coffee must be true in name. It must not be coated or polished to conceal inferiority. Imitations containing no coffee cannot be sold as coffee compounds, but may be sold under coin names. Compounds of coffee and chicory, or of coffee and any harmless substitute allied to it in either flavor or strength and not used simply as an adulterant may be sold when labeled "COFFEE COMPOUND."

Syrup—Syrup is a product of either corn or sugar cane. When made from sugar cane it is called cane syrup, when made from corn it is glucose syrup. There is little difference in the food value of these syrups. It is questionable whether or not one could be considered as an adulterant of the other, as each falls within the true definition of a syrup, as both the mild Rio and strong Mocha are each true coffees. The sale of glucose as and for cane syrup is a fraud and a violation of law. The sale of a mixture of glucose and cane syrups without other label than that of the general term "syrup" is permitted. Molasses containing glucose must be labeled glucose mixture, as the value of molasses is dependent upon a pungent flavor peculiar to itself, and not found in glucose syrups.

Maple Sugar must be true to name. A compound of corn or beet sugar with maple sugar cannot be sold even when labeled compound, as the chief element of value in maple sugar is the maple flavor, and any admixture of other sugars is for the sole purpose of cheapening the article, and is a clear case of adulteration which cannot be remedied by a label.

Flour—Wheat flour mixed with corn flour may be sold when labeled "COMPOUND FLOUR" or "COMPOUND WHEAT FLOUR."

Corn and wheat flour are closely allied in their chemical and nutritive properties, and a compound of these articles would be recognized by the law as "an ordinary article of food."

Buckwheat flour may be mixed with other flour or self-rising ingredients not injurious to health and sold as "COMPOUND BUCKWHEAT FLOUR."

Jellies—Artificial jellies must not be colored in imitation of natural fruit jellies, but may be sold for what they are when not labeled in a manner calculated to deceive the ordinary purchaser as to their true

character, and when they are free from ingredients deleterious to health.

Honey—Honey adulterated with glucose or any other substance may be sold when labeled "ADULTERATED HONEY."

The sale of honey is regulated by a special law enacted in 1881. It appears in the last revision of the statutes, the revisers evidently holding that it was not repealed by the pure food law of 1897. (Paragraphs 26, 27, of this compilation.)

Mustard—Dry mustard must be pure.

Prepared mustard must be free from starch or adulterant of any kind, and, if consisting of mustard, vinegar and spices, may be sold when labeled "PREPARED MUSTARD."

A preparation of mustard, vinegar, spices and enough filling of starch to make a mustard of mild flavor to meet a legitimate demand which undoubtedly exists, may be sold when labeled "PREPARED MUSTARD COMPOUND." Harmless coloring matter may be used in preparations of mustard only to secure uniformity of appearance.

Spices—All spices must be pure. Any mixture of any foreign article with any spice is an adulteration. An adulteration of spices cannot be remedied by the label "COMPOUND."

Catsup—Catsup must not contain preservatives deleterious to health.

Cream of Tartar must be pure. All compounds are unlawful.

Chocolate and Cocoa, when made only from cocoa mass, sugar and glycerine, may be sold under the name "PREPARED COCOA" or "SWEET CHOCOLATE."

Candy must be free from inert mineral matters, and not colored with substances deleterious to health.

Canned goods must be labeled with grade or quality of the goods and the name and address of the seller or manufacturer. (Paragraph 23 of this compilation.)

Extracts—Artificial extracts can be manufactured and sold only in cases where it is not possible to produce an extract from the fruit itself. Extracts of this class must be labeled "ARTIFICIAL EXTRACTS."

Lemon Extract shall contain at least five per cent. of the pure oil of lemon dissolved in alcohol. Harmless coloring matter will be permitted. The sale of compound lemon extracts is prohibited.

Vanilla Extract shall be made wholly from vanilla beans, and shall contain no artificial coloring. The color of a vanilla extract is an indication of its strength, and coloring in such case would be used for the purpose of concealing inferiority and of making the article appear better than it really is.

When other flavoring substances are used, such as Vanillin, Coumarin or Tonka, the extract should be labeled so as to show the purchaser

its true character, as "COMPOUND EXTRACT OF TONKA AND VANILLIN." The label "COMPOUND EXTRACT OF VANILLA" will not be deemed sufficient notice of the composition of the article.

Vinegar—All vinegar must contain four per cent. of acetic acid. Cider vinegar must contain two per cent. of apple solids. It is unlawful to label spirit vinegars as fruit vinegars. Low wine or spirit vinegars may be colored with harmless coloring matter and sold for what they are. (Paragraph 29 of this compilation.)

Baking Powder—Baking Powders containing alum must be labeled,

"THIS BAKING POWDER CONTAINS ALUM."

The label must be printed in black ink in legible type not smaller than brevier heavy gothic caps, and shall give the name and address of the manufacturer. (Paragraph 24 of this compilation.)

DAIRY AND FOOD LAWS OF WISCONSIN

Of the Office and Duties of the Dairy and Food Commissioner.

1. 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.

2. His powers and duties; legal assistance.

[Section 1410a, Statutes of 1898.] 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 of any drug, and personally or by his assistants to inspect any milk, butter, cheese, lard, syrup, coffee, tea or other article of food or drink 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 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 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 practicing deception or fraud 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.

3. 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 regu-

lations 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 4 for rulings on questions of evidence arising under a similar statute.

4. 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.

5. Farmers' institutes; expense of analyses.

[Section 1410*d*, 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.

6. Obstructing performance of commissioner's duty.

[Section 4607*h*, 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.

Sale of Impure Milk and Cream.

7. Penalty for.

[Section 4607, Statutes of 1898.] Any person who shall sell or offer for sale, furnish or deliver, or have in possession with intent to sell or offer for sale or furnish or deliver to any creamery, cheese factory, corporation or person as pure, wholesome and unskimmed any unmerchantable, adulterated, impure or unwholesome milk shall be punished by a fine of not less than twenty-five dollars nor more than one hundred dollars.

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 negatived 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., 123.

8. Standard for pure; evidence.

[Section 4607a, Statutes of 1898.] In all prosecutions under the preceding section or any other section of these statutes for the sale of unmerchantable, adulterated, impure or unwholesome milk any milk which shall be proven to contain less than three per centum of pure butterfat, when subjected to chemical analysis or other satisfactory test, or that has been diluted, or any part of the cream of which has been abstracted, or that, or any part of it, was drawn from a cow known to the defendant to have been at the time it was drawn within fifteen days before or less than four days after parturition, or which was so known to have any disease, ulcers or other running sores, then and in either such case the milk sold or offered for sale, furnished or delivered or had in possession with intent to sell it, offer it for sale or furnish or deliver it as pure, wholesome and unskimmed shall be held or found to be un-

merchantable, adulterated, impure or unwholesome, as the fact may be. Proof of adulteration or skimming may be made with such standard tests and lactometers as are used to determine the quality of milk or by chemical analysis.

Validity. The supreme court of New York has ruled that a statute which provides that milk which contains less than three per centum 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, 317. 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.

9. 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.

10. 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."

11. Penalty for violating either of the two preceding sections.

[Section 3, chapter 313, laws of 1899.] Any person violating any of the provisions of this act shall, upon conviction, be fined not less than twenty-five nor more than one hundred dollars for each and every offense.

Sale of Imitation Cheese and Butter.

12. Penalty; size of skimmed milk cheese.

[Section 4607c, Statutes of 1898.] 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, 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, consign," "and without the admixture or addition of any fat foreign to said milk or cream," 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 oleo-margarine 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 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. 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. Al-ling*, 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, in 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 to paragraph 13.

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.

13. Notice of sale of imitation butter.

[Section 4607*d*, 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 to paragraph 24. 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 to paragraph 12.

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.

14. Imitation butter and cheese in state institutions.

[Section 4607c, 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.

15. How marked.

[Section 1, chapter 76, laws of 1899.] No person by himself or agent shall sell, exchange or deliver, or expose for sale, or offer for sale 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 be marked distinctly on the outside of each and every package or parcel thereof by a label printed with the words "Renovated Butter," and without having on each and every open tub, package or parcel thereof a placard with the words "Renovated Butter," such placard or brand in each case to be printed in plain, uncondensed gothic capitals not less than one inch long, and such placard shall contain no other words thereon.

16. 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.

17. Penalty for.

[Section 4438*g*, 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 fine of not more than fifty dollars nor less than twenty-five dollars.

Cleanliness of Dairy Cows and Utensils.

18. Penalty for violating law.

[Section 4607*j*, 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.

19. 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 of 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.

Adulteration of Food, Drugs, Liquors, etc.

20. 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,

21. Sale of adulterated articles; definitions.

[Section 4600, 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, 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 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.

22. Adulteration, what is.

[Section 4601, Statutes of 1898.] 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 under or by a name recognized in the United States pharmacopœia, it differs from the standard of strength, quality or purity laid down in the latest current edition thereof; second, if when sold under or by a name not recognized in said pharmacopœia, but which is found in the pharmacopœia 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 the provisions of this or the preceding section shall not apply to mixtures or compounds recognized as ordinary articles of food if the same be distinctly labeled as mixtures or compounds, and from which no necessary ingredient in their preparation is eliminated.

Imitation. The sale of liquid chicory and coffee as "liquid coffee" is within the statute: *State v. Dreher*, 55 Ohio St., 115.

Pharmacopœia. 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. Whisky, being recognized as a drug in the pharmacopœia 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. Hutchinson*, 55 Ohio St. 573.

Pleading. The proviso in 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.

23. Canned goods, labels on.

[Section 4601a, Statutes of 1898.] Any person who shall, by himself, his servant or agent or as the servant or agent of any other person, pack, can or preserve fruits, vegetables or other articles of food, or sell, exchange, deliver or have in his possession with the intent to sell or exchange, or expose or offer for sale or exchange such canned articles, with the exception of goods brought from foreign countries, unless such articles be distinctly labeled with the grade or quality of the same, together with the name and address of the person, firm or corporation packing, canning or preserving the same, or the dealer who sells the same, 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.

Expose for sale. See note to paragraph 12.

24. 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 pres-

ence 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 is 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 to paragraph 12.

25. 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 harmful 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. [Paragraph 23.]

26. Sale of imitation honey.

[Section 4607f, Statutes of 1898.] Any person who shall sell or offer for sale honey or any imitation of honey which

is adulterated with glucose or any other substance, without marking the package or parcel containing the same with the words "adulterated honey" in letters of not less than one-half inch length and proportionate breadth, and placing said words on the upper portion of the package or parcel containing such honey or imitation thereof, shall be punished by fine not exceeding one hundred dollars nor less than ten dollars, or by imprisonment in the county jail not more than six months nor less than ten days.

27. 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.

28. 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 establish-

ment 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.

29. 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.

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.

Stamp the strength. See note to paragraph 24.

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.

30. 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,

31. 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.

32. 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 pharmacopœia, 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.

33. 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.

34. 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.

35. 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.

36. 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.

REPORT OF THE COMMISSIONER.

The dairy industry in Wisconsin is steadily increasing in extent and constantly improving in the character of its products. The state not only contains fifty per cent. more cows than ten years ago, but they average better in breeding and in economic milk-producing quality. We have more cow barns and better ones. The problems of feeding are being carefully and profitably studied. Modern methods and new dairy appliances and machinery are cutting down the percentage of waste in the manufacture of butter and cheese. The old-fashioned "store butter" that filled the groceries of the state with unhallowed odors ten years ago has largely given place to first class creamery and dairy butter that has uniformity, good texture and flavor which will excite appetite rather than destroy it. The improved article is produced at less cost and sold for a higher price than the inferior product. Unprofitable cows are being weeded out, and the cow that can produce 300 pounds of butter per year is becoming a more familiar figure. The 1,000 creameries of the state are turning out annually 60,000,000 pounds of butter that averages good. Private dairies produce 20,000,000 pounds more, of which 30 per cent. or 6,000,000 pounds will grade with the average creamery product, leaving 14,000,000 pounds or something over 15 per cent. of inferior quality.

The total value of the butter product of Wisconsin for the year 1900, is at least \$16,000,000 in round numbers.

The 1,800 cheese factories of the state manufactured during the present year 60,000,000 pounds of cheese, of which 44,000,000 pounds were cheddar cheese and the remaining 16,000,000 pounds were Swiss, brick and Limberger. Wisconsin ranks

second in the list of cheese-producing states, New York being first, and no other state approximating the product of either. The output of our factories for the last twelve months was sold at an average of ten cents per pound, or \$6,000,000.

At least 800,000 people in the towns and cities of the state buy milk and cream. It is a conservative estimate, based upon the per capita consumption of Boston and New York, to assume that each person will consume annually 120 quarts of milk. The average cost to the city consumer is five cents per quart, \$6.00 for each individual per year, or \$4,800,000 for all the cities and towns of the state. Farm consumption averages much more, at least 150 quarts per annum for each person. Milk at the farm is worth at least 2 cents per quart, which would make the annual value of farm consumption \$3,600,000.

The value of the annual increase of the 1,000,000 cows of the state can fairly be estimated at \$2,500,000.

Grouping the various dairy products together with their values, we have the following statement for the year 1900:

Butter, 80,000,000 pounds, worth	\$16,000,000
Cheese, 60,000,000 pounds, worth	6,000,000
Milk and cream consumed by our 2,066,000 people, worth	8,400,000
Increase of stock value	2,500,000
	\$32,900,000

In the statement no account is made of the skimmed milk of creameries and private dairies which is a large item, or of the manurial product of the cow, which is never estimated below \$10.00 per head. Cows are kept upon 160,000 farms in this state. The capitalization of the dairy business is enormous, but is so mixed with other farm industries that it cannot be definitely stated. The 2,800 creameries and factories of the state are worth \$7,000,000. Wisconsin butter goes to all the great markets of the country. It has found its way to the West Indies and into the English market.

Our exports of dairy products of the United States are not increasing. The following table gives the amount and value for five years ending 1899.

REPORT OF THE WISCONSIN

1895.		
	Quantities.	Values.
Butter	5,598,812	\$915,533
Cheese	60,448,421	5,497,539
Milk		219,785

1896.		
	Quantities.	Values.
Butter	19,373,913	\$2,937,203
Cheese	36,777,291	3,091,914
Milk		270,453

1897.		
	Quantities.	Values.
Butter	31,345,229	\$4,493,364
Cheese	50,944,617	4,636,063
Milk		524,968

1898.		
	Quantities	Values.
Butter	25,690,025	\$3,864,765
Cheese	53,167,280	4,559,324
Milk		671,670

1899.		
	Quantities	Values.
Butter	20,247,997	\$3,263,951
Cheese	38,198,753	3,316,049
Milk		1,049,211

The shrinkage in exports of butter is due to the strong domestic demand and to the character of a considerable portion of the product exported. The consumption of butter per capita in the United States is much greater than in any other nation, and the widespread prosperity of recent years has greatly increased the use of this as well as all other staple food products.

Modern dairying, with its improved and more productive methods, has been favored with a rapidly growing domestic market. Secretary Wilson of the United States Department of Agriculture, who has been making a study of the foreign butter market and has made a number of shipments abroad, states that there is much and well-grounded prejudice against our American butter. American oleomargarine is not only sold in foreign markets as butter, but "process butter," melted and reworked, has been exported and sold as the best creamery butter.

It is further claimed that Danish butter has a firmer body and requires a higher temperature to melt it than the American product. The different foreign markets have each their peculiarity, some desiring no salt in butter, others no color, and others different gradations of salt and color. Size and form of packages also affect selling value.

The suggestion of the secretary that there should be governmental inspection of dairy products intended for export is a wise one and should be adopted and urged upon the attention of congress by all friends of the dairy interests and all interested in the extension of our American trade. Our meat inspection system has received the approval of all interests in this country. It has improved the character of our meat exports. It has strengthened and broadened the foreign demand. A similar system applied to dairy products would produce similar results.

Denmark, with an area one-fourth as great as Wisconsin, exports annually \$33,000,000 worth of butter. The government fosters and encourages this industry by inspection, instruction, and by all the aids which laws can give. The domestic demand in this country may not always keep pace with dairy production and it is the part of wisdom for this government through its agents to constantly study foreign markets and educate American producers in the character of the demands of these markets.

We congratulate ourselves, and properly, too, upon our rapid advance in dairy knowledge and methods. We have yet some lessons to learn. In Denmark ninety-five per cent. of the butter made is from milk or cream that has been pasteurized. Diseased dairy stock is relentlessly destroyed. The average Wisconsin cow is not yet good enough. Her average product, measured in butter is approximately 160 pounds per year. It should be at least 250 pounds. Every owner of a cow should test her. If she fails to reach a profitable standard, she should be slaughtered or sold to a beef producer.

The dairyman who guesses at the product of his individual cow is doing business in the dark. Testing is easy and cheap. There is no excuse for ignorance in this matter. Capital

punishment applied to twenty-five per cent. of the dairy cows of Wisconsin would be a Godsend to the dairy interest. Many dairymen are working hard and faithfully to support cows which would support them. Many a man who would laugh at the Mexican idea of ploughing with a forked stick is doing a less intelligent thing by feeding cows that eat more dollars' worth than they produce. The beef cow has no place in the dairy. The general purpose cow does not belong there. The wedge shaped cow with no surplus bone or flesh, with good lung power, strong and capacious digestive machinery, and great capacity for the elaboration of good milk, can be bought or bred.

DAIRY EDUCATION.

The agencies now at work to extend dairy knowledge in the United States are many and strong. The dairy schools are increasing in number and attendance. Forty-three states and territories give dairy instruction in their agricultural colleges or universities. Fourteen states have regular dairy courses or dairy schools. Wisconsin has one of the best schools of this class in the country. For three years it has been crowded to its full capacity. It is sending annually a well-trained body of young men into the farm neighborhoods and into the factories and creameries of the state. They go out equipped with the best modern knowledge of their business. Invention has changed and is constantly changing the manufacture of dairy products, as of all other manufactures. The dairy school keeps abreast of the times. It teaches the latest and best knowledge about soils, tillage, crops, breeding, rations, barns, care of milk, and all the details of making, shipping and selling butter and cheese. It teaches the boys to keep books, to be accurate in accounts, to be definite in their thinking, to be on the alert for new and valuable ideas; in other words, it gives them the equipment in their business which is demanded of men in the great mercantile and manufacturing enterprises of the country. Every student who goes out becomes an educator in the community into which he goes. He becomes a more productive

citizen and causes other citizens to become more productive. The state becomes richer not only in knowledge, but in material wealth, and is amply repaid for its moderate expenditure of money.

The present facilities of the Wisconsin dairy school are inadequate for the requirements of the increasing body of students. No expenditure of money on the part of the state can be more profitably made in behalf of our dairy interests than by giving to the school all of the buildings, appliances and instructive force needed to meet the demands made upon it.

CREAMERIES.

There are 1,000 creameries in Wisconsin. The number is not exceeded in any state in the Union except Iowa. A comparatively small number are proprietary, the owners purchasing milk upon some fixed basis, taking their own risks and profits. A great number are co-operative in part, the manager of the creamery owning it, making and selling the product, deducting a fixed charge for making with other expenses, and dividing the remainder among the patrons.

Complete co-operation means a creamery association, composed of patrons, which owns the creamery building, grounds and machinery, hires a butter maker to make butter for a fixed price per pound, or upon a salary, pays all expenses out of receipts, and divides profits in proportion to butter fat supplied as indicated by the Babcock test. There are grades of co-operation. An unqualified statement of the percentage of the creameries in the state run upon the co-operative plan would be misleading without a general agreement as to the meaning of the term.

It is undoubtedly true that ninety per cent. of our creameries are co-operative to a greater or less degree. The almost universal use of the separator and the Babcock test has given to the creamery patron an assurance that his milk will be paid for upon the basis of the butter fat which it contains, and that all of that butter fat will be extracted from the milk, except an insig-

nificant portion. Our creameries are not all perfect by any means. Some are models of cleanliness, good arrangements, equipment and good business management. Others are unclean and carelessly managed. There is no reason why any creamery should not be well drained and absolutely clean. The hunger of milk, cream and butter for bad odors is proverbial. It costs nothing to keep a creamery clean. It costs the producer heavily when his butter reaches the market lacking in flavor, or tinctured with flavors which do not belong there. The public taste grows more critical. It will pay for the delicate aroma which belongs to good butter. It will not pay for stock-yard odors in any butter. The creamery building may not be susceptible of much architectural beauty, but there is no reason why it should be, as in many cases, offensively ugly. In any event, it can be kept painted and not be a weather-beaten blight upon the landscape. Bits of well-kept lawn in the vicinity are as appropriate and pleasing as the cheerful spots of greenness that relieve the gloom of many railroad stations.

The creamery can be, in many cases it is, and in all it ought to be, an educational institution. It is the daily meeting place of many dairymen, where friendships are made, ideas exchanged, knowledge gained, the dairy business discussed along with all those general questions that interest our people, and it should be made wholesome and attractive in every way.

The creamery business is seriously injured in some localities by the establishment of more creameries than the milk supply will warrant. As a rule, the larger the creamery, the smaller the cost of manufacture. Where competition is close and keen, a form of dishonesty is engendered and encouraged, which consists in making unduly high readings of oil tests for the purpose of drawing patronage from competitors. No punishment is too severe for the creamery manager who does this. The law relating to fraudulent accounts of butter and cheese manufacturers should be amended and the false reading of the oil tests made an offense under heavy penalties. Violations of the law might be difficult to prove, but proof would not be impossible.

Such a statute would make dishonest statements dangerous and rare.

The assistant dairy and food commissioner is largely employed in visiting factories and creameries in response to calls for an official test of their milk supply. Since the last report of this department was issued, he has traveled 25,000 miles, visited 100 factories and creameries, made an examination, in some instances once, in others twice, of the milk and cream supply of thirteen cities, and made, with the assistance of the chemist, a test of 3,900 samples. In addition to this, as time and opportunity allowed, he has taken samples of oleomargarine and other food products.

There is a marked diminution in the amount of milk adulteration. Cities are adopting and enforcing more stringent milk ordinances. Local boards of health are exercising more vigilant supervision over the milk supply of their communities. These causes and the work of this department have combined to give the people a larger proportion of pure milk and cream.

CHEESE.

This state has nearly twice as many cheese factories as creameries. They average much less in cost and in patronage. All that can be said about cleanliness, attractiveness and business methods, as well as competition, of creameries, applies to factories. The cheese industry of the state is being greatly helped by the work of instruction done by the State Dairymen's Association, which has two expert instructors in the field during the cheese-making season. The industry has been greatly stimulated by the high prices of the last two years. The factories are rapidly coming into line in the matter of buying their milk upon the basis of the Babcock test. One great beneficial effect of this is to encourage the breeding of cows that give a maximum of butter fat in their milk and a minimum of water.

The cheese of Wisconsin is regaining its old reputation in the market that it had before the filled cheese blight fell upon it. Its best grade is not outclassed by either the cheese of New

York or Canada. When the cheese factories that are unclean and marked by slovenly management, that sell green cheese in idiotic eagerness for immediate returns, are wiped off the map of the state, Wisconsin cheese will be wanted in every domestic and foreign market.

The development of Swiss cheese, manufactured in the county of Green in particular and in adjoining counties has been remarkable. Green county sold last year \$1,200,000 worth of Swiss, Limberger and other special forms of cheese. The growing reputation of this product has resulted in an almost unlimited demand. The Swiss immigrants who brought from their native mountains to southern Wisconsin little capital, but honesty, industry and a knowledge of agriculture as they knew it at home, laid solidly the foundations of one of the most profitably industries of the state.

There is no filled cheese manufactured in any state in the Union except Illinois. There are seven factories in that state. There are sixty-two retailers in the United States, Illinois having four, Indiana three, Louisiana twenty-nine, Maryland nineteen, Missouri two, New Jersey two, Virginia two, and West Virginia one. In the first six months of 1899 the government tax was paid upon 1,688,650 pounds. In 1898 the total product was 1,402,681 pounds. The national law crippled, but did not destroy the business. The presence of this counterfeit in the market is an injury to honest trade. It is unfortunate that Illinois permits its manufacture. It is probable that the growing sentiment of that state in behalf of pure foods will finally prohibit it.

OLEOMARGARINE.

The manufacturers of oleomargarine and the dealers continue to evade and defy the law of this state relative to counterfeit butter to the extent of their power. Their policy is the same in every state in the Union. Their contempt for public judgment as expressed in law is supreme. They claim to know more about the public interest than state legislatures and more about the constitutionality of laws than courts.

Prosecutions under the oleomargarine law in this state are usually successful, but not always. In one of the larger cities of this state a man was arrested for selling oleomargarine contrary to law. The chain of testimony was absolutely perfect. No witnesses were called for the defense. The attorney for the defendant, who happened to be the mayor of the city in question, stated to the jury that the defendant was a good man; that the law was not intended for enforcement any more than the Sunday closing law, and that for this reason acquittal should be prompt. It was. The jury rendered a verdict in five minutes of "Not guilty." Several cases dragged through the courts of Racine for a year, taken from one court to another upon motion of the defendants' counsel. Finally they landed in the circuit court. At the trial Circuit Judge Fish was not present. At his request his place had been filled by Judge Goodland of Outagamie county. He dismissed the case without trial upon the ground of defective complaints. The complaints were in the form used without objection in the state for six years, and commonly used in Ohio, New York and Massachusetts.

It is not the province of this department to criticise courts. It is its duty to state facts about the administration of the laws which it is charged to execute. The complaints were drawn by John M. Olin, the special counsel of this commission, who won the bitterly contested initial cases under the law of 1895. The complaints in question charged that a sale had been made upon a certain day, of oleomargarine colored in semblance of butter. It did not name the person to whom the sale was made. The judge held that this was required although there was undisputed proof of the sale as described in the complaint. The effect of continued arrests was to stop for a time at least the illegal traffic in Racine. The offending dealers were provided with an attorney by a Chicago oleomargarine firm, and agents of the firm in question offered to guarantee local dealers from any loss resulting from violations of the law.

There is no condemnation too severe for outside firms who send their agents into this state and deliberately conspire to in-

volve our own citizens in illegal business. The temptation to retail oleomargarine is great because the middleman receives much greater profits than in handling butter. The profits of the retailer range between two and eight cents per pound. Naturally he thinks any law which interferes with his business is unconstitutional.

In this state the retail dealer seldom sells oleomargarine for butter. When he violates the law it is usually in selling the colored article in violation of the anti-color clause.

The greatest fraud in oleomargarine sales in this state is the supplying of that article to the guests of hotels, boarding houses, restaurants and lunch counters, in response to calls for butter. In this way the final purchaser is defrauded and given that which he does not call for and does not want.

Oleomargarine sold under its own name and color has a place among legitimate food products. Its friends are not satisfied with this. They claim the right to make it a perfect counterfeit of butter in appearance, well knowing that when so made it will be unconsciously purchased by people who ask for butter. They claim further that the oleomargarine industry will be destroyed if butter color cannot be used. This is a confession that the entire business is based on fraud.

Oleomargarine can be sold uncolored. The uncolored article is now being sold in Racine, Oshkosh and Milwaukee in considerable quantities. It has precisely the same food value as the counterfeit product, and it sells from three to seven cents less. The poor consumers, whose woes are pictured with such graphic power by the able gentlemen representing the oleomargarine trust, get their uncolored substitute at an oleomargarine price, and pay much nearer, and many times quite, a butter price for the colored imitation.

Thirty-two states prohibit the manufacture and sale of oleomargarine colored like butter. If these states could all give stringent enforcement to this prohibition, oleomargarine would be sold in every one of them at a price bearing a proper relation to its cost and at a reduction from present prices of from 16 to 40 per cent.

Seven hundred thousand pounds of oleomargarine were consumed in this state last year. The greater portion was consumed in the lumber camps and mining regions. There is comparatively little sold in central and southern Wisconsin. Orders were taken by agents and the goods shipped direct to the consumer. This is a violation of the spirit but not the letter of present law.

The law should be amended and, like the New York statute, provide that an agent shall be deemed a seller within the meaning of the oleomargarine act.

NATIONAL LEGISLATION.

The need of more stringent national legislation relating to butter counterfeits has been very apparent. At the last session of congress Mr. Grout of Vermont introduced a bill reducing the tax on uncolored oleomargarine from two cents to one-fourth of one cent per pound, and increasing it to ten cents per pound upon the colored article. The bill also provided that when oleomargarine came into a state in original packages it should immediately become subject to the laws of that state. This measure received the endorsement of the entire dairy, and nearly all the farming interests of the nation.

Its purpose was to use the undisputed taxing power of congress to stop a fraud of great magnitude.

The production of oleomargarine last year was 107,000,000 pounds, as shown by the report of the internal revenue department. Over sixty million pounds of this enormous amount were sold in violation of the laws of the states into which they entered. Illinois prohibits the sale of imitation butter, and bought 18,600,000 pounds; Ohio has the same law and took nearly 9,000,000 pounds; Pennsylvania has a prohibitive law, yet 11,000,000 pounds slipped through its meshes.

In the course of the discussion a resolution was introduced into the house of representatives, calling upon the secretary of the treasury to report a statement of the amount of oleomargarine manufactured in a year and the ingredients of such amount.

The resolution passed the house after an adverse report from the powerful committee on ways and means, and after a bitter fight upon the part of the oleomargarine people. The secretary promptly reported as follows:

Treasury Department,
Office of the Commissioner of Internal Revenue,
Washington, D. C., May 14, 1900.

Sir: In compliance with your instructions in responding to House resolution of May 8, 1900, I have the honor to submit herewith data therein called for.

The original forms in which this information is submitted to this office are not only very large in bulk, but voluminous in number, and cannot very well be transmitted; besides they are a part of the records of the Internal Revenue Bureau, and should not, therefore, leave the custody of the Treasury Department.

The data submitted disclose the kind of material used, the amount of each ingredient, and the per cent that each bears to the total amount of oleomargarine produced in the country for the periods named, and it is believed furnishes all the information intended to be called for in the resolution.

Very respectfully,

G. W. WILSON, Commissioner.

The Secretary of the Treasury.

Quantities and kinds of ingredients used in the production of oleomargarine in the United States for the fiscal year ending June 30, 1899; also the percentage each ingredient bears to the whole quantity.

Material.	Pounds.	Percentage each ingredient bears to the whole.
Neutral lard	31,297,251	34.27
Oleo oil	24,491,769	26.82
Cotton-seed oil	4,357,514	4.77
Sesame	486,310	.53
Coloring matter	148,970	.16
Sugar	110,164	.12
Glycerin	8,963	.01
Stearin	5,890	.007
Glucose	2,550	.003
Milk	14,200,576	15.55
Salt	6,773,670	7.42
Butter oil	4,342,904	4.76
Butter	1,568,319	1.72
Cream	3,527,410	3.86
Total	91,322,260	100

This statement was a final and conclusive answer to the claim that the cottonseed oil interests in the south would be seriously injured by any legislation designed to limit the manufacture of counterfeit butter.

Cottonseed oil was shown to form only 4.77% of oleomargarine, and that amount has an annual value of less than \$500,000.

In response to a request from the National Dairy Union, the dairy and food commissioner of this state visited Washington three times, and appeared before the committee on agriculture to testify as to the administration of the oleomargarine law in this state, and generally as to the nature of the oleomargarine business, and the need of further national legislation.

The argument of the oleomargarine attorneys that the coloring of butter and of oleomargarine stood upon the same ethical ground, was met by the reply that butter was not colored to represent another and more valuable article, while oleomargarine is colored exactly for that purpose.

The charge that the Grout bill was class legislation was refuted by reference to the decisions of state supreme courts and the supreme court of the United States which, passing upon the prohibitory color laws of the states, declared that they were constitutional enactments because they were a proper exercise of police powers to prevent fraud upon consumers.

The protection to honest producers of honest products was unquestioned, but incidental.

If the Grout bill shall become a law, the enforcement of the oleomargarine law of this state will be easy and sure.

The following statement of the secretary of the treasury shows the location of manufacturers, wholesalers and retailers, as well as the distribution of the oleomargarine product.

OLEOMARGARINE PRODUCT.

Letter from the secretary of the treasury, transmitting a reply to the resolution of the house of representatives relating to the shipment, distribution, etc., of the oleomargarine product.

January 27, 1900.—Referred to the committee on Ways and Means and ordered to be printed.

Treasury Department, Office of the Secretary,
Washington, D. C., January 26, 1900.

Sir: I have the honor to acknowledge the receipt of resolution of House of Representatives requesting information as to the particular

states in which oleomargarine is shipped and distributed by the producers, the amount in pounds shipped or distributed in each state, and also the number of licenses issued to persons in the several states for the manufacture and sale, either by wholesale or retail, of oleomargarine, stating the number of such licenses issued to persons in each state.

In response to the resolution, I have the honor to transmit herewith the information requested, prepared by the Commissioner of Internal Revenue, who reports that—

The number of licenses issued, of all kinds, and the state in which issued, will be found on page 199 of annual report of commissioner of internal revenue for fiscal year ended June 30, 1899, and a copy of the page is inclosed.

I also transmit copy of a letter of the commissioner, showing the vast amount of labor performed by his bureau in preparing the information.

Respectfully,

L. J. GAGE, Secretary.

The speaker of the House of Representatives.

Treasury Department,

Office Commissioner of Internal Revenue,

Washington, D. C., January 25, 1900.

SIR: I have the honor to submit herewith statement showing the amount of oleomargarine shipped into the several states during the fiscal year ended June 30, 1899, as called for in the House resolution of January 10, 1900, on that subject, transmitted to this office.

In this connection I desire to state that the preparation of the data called for involved a vast amount of work, and that in order to expedite the same and avoid delay in the transaction of the regular business of the office I called for volunteers who would serve an extra hour each until the completion of the work, and had an average of 100 volunteers daily for that purpose, the extra work amounting to about 500 hours, which was performed by the volunteers willingly and cheerfully, thus enabling this office to make a prompt response to the resolution, with the information called for, without delaying the regular business of the bureau in any manner.

Respectfully,

G. W. WILSON, COMMISSIONER.

The Secretary of the Treasury.

Statement, by States and Territories, showing number of establishments for which special tax was paid to carry on, during the fiscal year ended June 30, 1899, the business of manufacturing and dealing in oleomargarine.

States and Territories.	Manu- factories	Wholesale establish- ments.	Retail establish- ments.	Total.
Alabama		2	19	21
Alaska			6	6
Arizona		1	4	5
Arkansas		1	34	35
California				
Colorado		6	89	95
Connecticut			5	5
Delaware		1	47	48
District of Columbia	1	2	58	61
Florida		5	77	82
Georgia		7	54	61
Idaho		1	2	3
Illinois	4	10	² 2,006	2,020
Indiana	3	5	³ 298	306
Indian Territory			21	21
Iowa			3	3
Kansas	2	1	183	186
Kentucky		1	216	217
Louisiana		⁴ 6	134	140
Maine		1	16	17
Maryland		⁵ 7	51	58
Massachusetts		11	97	108
Michigan		4	165	169
Minnesota		6	24	30
Mississippi		5	12	17
Missouri	1	1	229	231
Montana			1	1
Nebraska		1	72	73
Nevada				
New Hampshire		6	13	19
New Jersey	1	7	288	296
New Mexico			12	12
New York			14	14
North Carolina			9	9
North Dakota			18	18
Ohio	2	8	995	1,005
Oklahoma			10	10
Oregon			3	3
Pennsylvania		21	696	717
Rhode Island	3	4	326	333
South Carolina		2	22	24
South Dakota			4	4
Tennessee		3	80	83
Texas		15	147	162
Utah				
Vermont		1		1
Virginia		1	120	121
Washington			5	5
West Virginia		5	167	172
Wisconsin		⁶ 5	18	23
Wyoming			5	5
Total for 12 months ended June 30, 1899	17	163	6,875	7,055
Total for 12 months ended June 30, 1898	15	105	4,289	4,409

¹Includes 1 establishment which was transferred to Kansas.

²Includes 1 establishment which was transferred to Michigan.

³Includes 1 establishment which was transferred to Illinois.

⁴Includes 1 establishment which was transferred to Pennsylvania.

⁵Includes 1 establishment which was transferred to Virginia.

⁶Includes 1 establishment which was transferred to Georgia.

Increase in manufactories, 2; increase in wholesale dealers, 58; increase in retail dealers, 2,586.

Statement as to the particular States in which oleomargarine is shipped and distributed by the producers and the quantity shipped to each State.

	Pounds.		Pounds.
Alabama	226,053	Nebraska	1,024,985
Alaska	18,080	New Hampshire	455,583
Arkansas	380,389	New Jersey	5,875,975
Arizona	78,767	New Mexico	115,850
California	74,923	New York	222,788
Colorado	1,123,537	Nevada	625
Connecticut	134,255	North Carolina	110,244
Delaware	40,475	North Dakota	7,710
District of Columbia	816,848	Ohio	8,830,969
Florida	590,225	Oklahoma	117,398
Georgia	495,004	Oregon	41,250
Illinois	18,638,921	Pennsylvania	11,433,341
Idaho	58,224	Rhode Island	3,594,984
Indiana	3,923,228	South Carolina	258,159
Indian Territory	152,278	South Dakota	55,432
Iowa	79,922	Tennessee	714,640
Kansas	1,658,544	Texas	1,518,264
Kentucky	1,490,577	Utah	8,450
Louisiana	1,043,502	Vermont	2,990
Maine	102,274	Virginia	1,159,400
Maryland	1,791,950	Washington	63,345
Massachusetts	2,083,889	West Virginia	1,206,865
Michigan	2,092,521	Wisconsin	714,742
Minnesota	1,343,865	Wyoming	39,547
Missouri	3,133,313		
Mississippi	104,622	Total	79,695,744
Montana	446,022		

ADULTERATION OF FOODS, DRUGS AND LIQUORS.

The general pure food law of 1897 was the first effort upon the part of the state to stop the adulteration of drugs, liquors and food products, other than those of the dairy.

Nothing of moment has been done by this department in the line of investigating and stopping drug adulteration. The commission is limited to one assistant, one chemist, and one inspector. The numerous and rather imperative demands of factories and creameries and the plain necessity of frequent inspection of city milk supplies, in which the entire population is vitally interested, makes it impossible for this commission with the force at its disposal, to do all of the work which should be done.

No attention has been given to liquors for this reason, and for the additional reason that reports of liquor adulteration are greatly exaggerated, and, furthermore, they can hardly be numbered among the necessities of life.

So far as possible the groceries of the larger cities of the state have been inspected to ascertain whether or not the pure food law is being complied with. There is steady improvement in

this direction. The great majority of the retail merchants want to sell honest goods. A great number of inquiries come to this office from dealers and manufacturers relating to the law and the interpretation of it given by this department.

But few dealers have been prosecuted. A multitude have been warned or instructed and, as a rule, have conformed to the law. An additional inspector, to visit the smaller towns, would be of great value.

The national law has stopped the adulteration of flour. The adulteration of buckwheat flour, which has been common, is diminishing, as shown by the examination of numerous samples by our chemist.

The sale of spirit vinegar for cider vinegar has very generally been stopped.

The demand of this department that lemon extracts shall contain at least 5% of lemon oil is being generally complied with.

There is more fraud in the sale of vanilla extracts, the value of which is not easy to measure and a standard difficult to establish.

The coloring of artificial jellies has been prohibited and none is sold in the leading markets.

The alum baking powder people brand their goods as required by law.

Horse meat is made into sausage in Milwaukee, but there is no law to prevent it, and its sale is not an offense, if not sold under a false or misleading name. The Milwaukee product, however, is made for export.

Absolute standards for all food products should be fixed by specific law. The time may not have arrived when these standards can be wisely determined, but we are not far from it.

PRESERVATIVES.

The addition of preservatives, or any other foreign substance, to milk is a violation of law. There is no reason why any but harmless and natural methods should be used for the preservation of milk. It is the food of infants and invalids, and any

adulteration, whether poisonous like antiseptics or not, may diminish its digestibility.

The law has been effective. Hundreds of tests have been made for the purpose of detecting it in suspected milk supplies, and its presence discovered in only a few cases, which have been promptly and successfully prosecuted.

The use of chemical preservatives in fruit, meat and vegetables has a dangerous tendency. Scientific judgment is not united in condemnation of all preservatives under all circumstances. Whether or not small quantities of the least injurious preservatives are in themselves deleterious, their effect is to diminish the digestibility of the food in which they are used.

This subject, which is of great and increasing importance, and to a considerable degree technical, will be treated more fully in the report herewith submitted by Mr. Mitchell, chemist of the department.

ADDITIONAL LEGISLATION.

The following suggestions are respectfully submitted:

1. The report of the department should be annual instead of biennial. It loses its value when too long delayed. The department deals with important trade interests, with a great number of manufacturers and thousands of grocers, factorymen and farmers. They should have at least an annual statement of its work in prosecuting laws and in interpreting them.

The law now provides for the biennial publication of 20,000 copies of the report, 5,000 to be bound in cloth and 15,000 in paper. Paper bound reports are almost worthless. They usually land in some place where they cannot be found, or in a junk shop. The number of dairy and food commissioner's reports should be limited to an annual issue of 10,000 bound in cloth.

2. The factories and creameries of the state should be required by law to report to this commission their names, post office addresses, valuation, number of patrons, number of cows contribu-

tory, pounds of milk received, pounds of butter or cheese made, cost of manufacture and receipts for product.

A compilation of such reports would be of great value to factories, creameries and their patrons, as well as giving a correct statement of Wisconsin dairy production.

3. There should be an additional inspector of dairy and food products. It is an impossibility to cover the state with proper inspection with the present force. Another inspector would entail little expense upon the state in comparison with the valuable work which he could do.

The chemist of this department is also the state chemist. In the latter capacity he is required to make a great number of water analyses. The necessary work of the department compels him to work over time. He is flooded with requests for analyses of various food products by dealers who want to know what they are selling. He is unable to do all that can be properly required, without an assistant.

A high salaried assistant is not required. One could be obtained at small cost who could do plain detail work and leave the chemist to do many important things which must now be neglected. This is not a plea for additional jobs, but a most earnest request for such assistance in this commission as will greatly increase its value to the state.

4. A forfeiture law should be passed, making violators of the oleomargarine law liable in a civil action for damages. New York, the greatest state in the Union, under the operation of a law of this kind, has practically destroyed illegal oleomargarine business within her limits.

5. The pure food law of the state, after defining the word "food" as used in the act and prohibiting adulteration, with a series of particulars determining in what adulteration shall consist, makes an exception to the law in the following proviso: "Provided, that the provisions of this or the preceding section shall not apply to mixtures or compounds recognized as ordinary articles of food, if the same be distinctly labeled as mixtures or compounds, and from which no necessary ingredient in their preparation has been eliminated."

The question is constantly recurring—"What is recognized as ordinary article of food?" If a commonly adulterated food is "an ordinary article of food," adulteration can go on unchecked when protected by the label "compound." The law should name specifically all of the mixtures and compounds to which this provision is intended to apply.

6. The last legislature passed an act prohibiting the adulteration of linseed oil. This department was charged with its enforcement. As linseed oil is neither a food, drug nor liquor, it would seem as if the state oil inspector should be charged with the administration of the law regulating its manufacture and sale.

The expenses of this commission have been increased during the last two years by transportation charges, which are now paid by the state, and which were formerly a gift of the railroad companies.

Special counsel has been employed in only one case during the last two years.

The dairy inspector, Mr. Field, reports a marked improvement in the condition of dairies supplying milk to Milwaukee and the larger cities.

The assistant dairy and food commissioner, Mr. Chadwick, who retired at the beginning of the present year, did most faithful and efficient work during his entire service. His successor, Mr. Sweeting, has labored zealously in the performance of every duty which has devolved upon him.

Respectfully submitted,

H. C. ADAMS.

REPORT OF ASSISTANT COMMISSIONER.

To the Hon. H. C. ADAMS, Dairy and Food Commissioner of the State of Wisconsin.

Dear Sir:—I herewith present my report as assistant dairy and food commissioner for the year beginning at the date of my appointment, December 1st, 1899, and ending September 30th, 1900.

The greater part of my time has been devoted to securing samples of milk and oleomargarine. These samples have been obtained from nearly every county in the state. It has necessitated traveling over 27,000 miles by rail and over 2,000 by team.

Of milk I obtained a little over 2,000 different samples, which were found above standard, with the exception of a very few cases, who were complained against for adulteration, and all but two of them plead guilty and paid the fine and costs.

I found a few cases where oleomargarine was being sold contrary to the statute, and in very few instances the parties, upon being complained against, plead guilty and paid the fine and costs.

In nearly every instance I found the cheese factories and creameries in excellent condition as regards cleanliness and equipment. The exceptions in the matter of cleanliness arose partly from poor buildings, and partly from the location where the factories were placed, being on low ground, where the whey settled and accumulated about the premises.

In many sections of the state I found factories so closely grouped that a strong competition arose, often to the injury of all parties concerned. This condition would suggest that there is sufficient room for factories in the northern portion of the state, which promises to be an excellent dairy country.

At an estimate, based upon my visits during the year, I would say that not more than ten per cent. of the factories are paying their patrons by the Babcock test. There is need of improvement in this matter, which can best come from the patrons themselves. It does not seem just that the patron with three per cent. milk receive as much for the same as one with five per cent. milk.

I found a number of cities wherein milk inspectors are appointed by the city, who apply the Babcock test sometimes weekly, and sometimes once a month. And I have noticed that the milk in these cities is better in quality than the milk in cities wherein no such officials are appointed. It would seem a feasible and practical plan for other cities to follow.

All of which is respectfully submitted.

C. W. SWEETING,
Assistant Dairy and Food Commissioner.

REPORT OF THE CHEMIST.

PRESERVATIVES.

Chemical preservation of food products has increased so rapidly and in so many directions of late that no form of adulteration now practiced is so much in need of control.

Milk is preserved with borax, boric acid and formaldehyde; butter and cream cheese with boric acid and borax; sausage, Hamburger steak and chopped meats with borax, boric acid, nitre, sodium sulphite and bi-sulphite, and the fluorides; fruit juices, cider and non-alcoholic beverages with salicylic acid; soda water syrups and crushed fruit with salicylic and benzoic acid; beer with salicylic acid, sulphites and fluorides; hams and bacon with borax and boric acid, used both in the brine and in a dry state for packing; oysters, clams and fresh, dry and smoked fish, with boric acid and compounds containing it. Game is dressed with similar preservatives before shipment. Catsups and meat dressings commonly contain salicylic acid; and canned goods, such as corn and tomatoes, are similarly dosed with formaldehyde and sulphites. Moreover, in non-alcoholic beverages sugar is frequently substituted by coal tar products, saccharine and dulcol, substances which have an intense sweetening power but no food value.

It would seem that no perishable food product has escaped. Honest methods of food preserving, by use of sugar, salt and vinegar, by drying with or without smoking, sterilizing by heat and preserving by refrigeration, are as feasible now as ever and the methods of artificial refrigeration and sterilization are much improved.

Perishable fruit is carried across the continent and from the tropics. Dressed meats are sent abroad and milk into the southern states by refrigeration. Buffalo meat might be obtained in Chicago where it was held frozen for nearly five years after the slaughter of the herd in that city at the close of the World's Fair. These facts show that actual necessity for the use of chemicals seldom exists.

The claim that the use of chemicals has been sanctioned by precedent in the use of salt and vinegar is not valid.

Salt, though a mineral, differs from other chemicals such as borax. It is present in the blood and vital fluids of all animals and, though it does not add to the bodily energy, it is as necessary to life as are oxidizable foods. Borax, on the contrary, is an element foreign to our system.

Vinegar is utilized and oxidized in the body as a food, adding to the sum total of vital energy.

Borax: Borax and boracic acids are perhaps more generally used than other chemicals, and are possibly less objectionable, but are still far from inert.

Upon the subject of deleteriousness we have the following direct evidence concerning boracic acid: Dr. M. K. Robinson, Medical Health Officer, Kent, England, has investigated the sudden illness of five out of seven persons. Milk and other foods were examined. The milk contained boracic acid. The cook had added some upon receiving the milk. The milk furnished by the dairyman was also found to be dosed with the same drug. Thus, the preservative had been added twice, resulting in an overdose. All recovered. Nine fowls were given the remaining blanc mange made from the milk, and five died; the remaining four suffered badly, but recovered. Br. F. J., '99, p. 17.

An infant in Madison, Wis., was treated for a digestive disorder by the local health officer, Dr. Fox. Finally, the milk was sent to me and was found to contain boracic acid. The milk was changed and the child recovered.

In experiments made on men and animals by Forster &

Schlenken, Mattern and Novy, it has been shown that smaller or larger doses interferes with digestion.

C. A. Mitchell in "Flesh Foods" states: "Micherlich has described the toxic effects of boric acid. It is a cumulative poison, and, according to LeFrere, is eliminated from the system but slowly, having been detected in the urine forty or fifty days after it had been taken."

Professor Wing, of Cornell, in his treatise on milk, says, referring to formalin, boracic and salicylic acids: "But all of these, without exception, are more or less injurious to the human system, particularly if used continuously, even though in small quantities."

Numerous successful prosecutions have been obtained for the use of boracic acid in milk in England, and Dr. Otto Hehner, P. S. P., Analyst, England, said in 1890: "We should work for the entire prohibition of all kinds of preservatives. It is time we went back to natural food. I object to being physicked indiscriminately by persons not qualified to administer medicine, while I am in health. I object still more when I am ill. I object still more strongly to have my children physicked in their milk or their bread and butter. It is no consolation to me to know that the physic is not immediately fatal or even violently injurious. The practice is utterly unjustifiable, except from the point of view of the dealer, who wants to palm off a stale or ill-prepared article upon the public."

Dr. Alfred Hill, F. I. C., Health Officer, Birmingham, read a lengthy letter protesting against the use of these preservatives at the April meeting of the British Society of Health Officers. As a result the following resolutions were passed (Anal. May, p. 140): "That the incorporated Society of Medical Officers of Health strongly disapproves of the practice of adding preservative chemicals to foods. (2) That if preservative chemicals are added to any food a full disclosure as to the nature and amount thereof should be made to the purchaser." The prominent British analysts, Dr. Otto Hehner and Mr. Cassel have endorsed this stand.

Dr. Wiley, Chief Chemist, United States Department of Agriculture, takes a similar stand, and Drs. V. C. Vaughan and A. B. Prescott, of Ann Arbor, have testified that in their belief preservatives were deleterious and should only be used under proper labels.

The use of borax is prohibited in France, Germany, Austria, Holland, Spain and Italy. The medical authorities of France are strongly opposed to the use of all preservatives, and France prevents the importation of bacon preserved with the use of borax. Still, France, Germany and Holland permit the use of this substance in goods for export. Here they take exactly the stand of the vendors. The vendors are the only ones deriving benefit from the use of preservatives.

The Commissioner-in-Chief of Sanitation of Austria, Dr. M. Gruber, has recommended to the effect that it shall be made unlawful to introduce or sell as food preservatives salicylic, boric, sulphurous, fluoric, and benzoic acids, or any of their salts, as well as formaldehyde. As to the latter, its employment for preserving food should be absolutely prohibited.

Sulphuro s Acid and Sulphites: The evidence at hand upon their physiological action is meagre. Polli found that from eight to twelve grams were not injurious to adults. On the other hand, one gram of magnesium sulphite has caused disorders of digestion (Bernatzik and Braun). (B. F. J., Vol. 1, p. 94.)

Dr. Bernard Fischer, Director Municipal Laboratory, Breslau, Annual Report for 1897, reports two samples of meats as containing over 0.1 per cent. of sulphur dioxide. With reference to the use of sulphurous acid and its compound for "preserving" purposes for meat and meat preparations, Dr. Fischer remarks that the maximum amount of sulphur dioxide to be allowed is fixed at 0.1 per cent., and that this limit was laid down in 1894 upon medical authority. The researches of Kionka have demonstrated that sulphurous acid is not by any means to be regarded as an innocuous substance for food preservation, inasmuch as it acts as a blood poison. Relatively small quantities may be injurious to the human organism, in that it induces

bleeding of the capillaries. Dr. Jacobi limits 0.06 sulphur dioxide or 1.2 gm. sodium sulphite to a pound of meat.

Another phase of meat preservation is shown upon the cuts of the makers' circulars. Meat trimmings are sprinkled and thrown aside by butchers until a batch is secured. Then all is ground to sausage or Hamburger steak. The user only is benefited by using meat which otherwise must have been sold fresh. The chemist countenancing these methods will say preserved meat is better than tainted meat, containing possibly poisonous ptomains, but they must admit that it is not to be preferred to sound, fresh meat. The only possible exception might be in case of such pickled or dried fish as are very prone to produce these poisonous decomposition products—mackerel and codfish, for example—and here labeling could do no harm.

Formaldehyde: F. D. Simons, England, states that in his experiments it retards pancreatic digestion. (Br. F. J., p. 141.) Weigle and Merkel have reported that it rendered the albuminoids of milk less digestible, one part in 500, rendering casein insoluble in pepsin and hydrochloric acid. Hence, it retards digestion of both starch and proteids. Attempts to preserve fish with formalin have failed because of its hardening effect. This effect is well known to histologists who use it constantly for hardening specimens.

The coagulation of the albuminoids of milk by minute amounts of formalin has been so marked as to attract the attention of analysts to the abnormal action of their reagents on such milk. Mr. Leo Taylor (Analyst, '99, p. 87) states that when formalin has been added to milk which was being tested by the Leffmann-Beami process, or the Werner-Schmid process, the casein was always found to be difficult to dissolve. Mr. A. E. Ekins corroborated Mr. Taylor with regard to the insoluble condition of milk preserved with formalin.

Dr. Henry Leffmann, of Philadelphia, who is inclined to look leniently upon the use of borax in meat, says: "Formaldehyde possesses the power of rendering nitrogenous matters insoluble and more or less indigestible."

Dr. F. A. Morrison, of Indianapolis, has made an exhaustive

series of experiments upon the effect of formalin in milk, of which he writes as follows: "Our law provides that anything added to milk which shall affect it injuriously as an article of diet shall be considered an adulteration within the meaning of the law. So far as we could discover no one was using a sufficient amount to absolutely poison the consumer, but it occurred to me to examine into the digestibility of milk to which formalin had been added. I made ninety-six experiments with artificial gastric juice upon fresh milk and upon that containing formalin varying from three drops to one-half drop to the pint, and found without exception that it had decreased the action of pepsin; in fact, in some instances, stopped it. These experiments were conducted as regard temperature, etc., in the manner usual in physiological laboratories. My animal experiments, not yet concluded, show that young animals fed upon this milk will not thrive and are subject to intestinal troubles. No longer ago than yesterday the 'laboratory cat' was made quite sick by being fed upon milk which had been collected by our inspectors and on sale in this city. Formalin was present."

Halliburton, the noted English physiological chemist, finds that formalin prevents or retards both gastric and pancreatic digestion and retards the curdling of milk by rennet. He states that it disintegrates blood, is irritating to the skin and can hardly be less so to the much more tender mucous membranes of the alimentary canal.

G. Bruni (Chem. Cent. Bl.) has found that the administration for a few days of non-toxic doses of formaldehyde causes hardening of the tissues with which it comes in contact.

Formaldehyde has failed as a meat preservative because its hardening action, meat, upon standing after its use, becoming unfit to eat and fish growing so hard as to be unsaleable after treatment with a solution as dilute as 1 to 5000 (Bloxam).

Dr. Charles T. McClintock, Physiological Chemist, has testified, basing his knowledge upon his own experiments, that the use of formaldehyde in milk was injurious to health.

Salicylic Acid: The injuriousness of salicylic acid and its salts has been proven beyond debate. The Paris Academy of

Science has forbidden even the smallest addition of salicylic acid or salicylates to food as liable to cause injury where weakness of the kidneys or digestive organs exist.

Sleeplessness, head-ache and palpitation of the heart are some of the minor symptoms resulting from its administration in small amounts, as in cider. (Dr. F. C. Smith, Br. F. J., p. 105.)

By far the greatest injury from its use follows the addition to bottled grape juice, intended solely for invalids having digestive disorders and searching for a delicate food, thus being unwittingly fed a poison that will in a week's time derange a healthy stomach.

The claim that food is sterilized by preservatives as commonly used, is not borne out. The object of antiseptics so added is simply to retard decomposition and the statement that disease germs are thereby destroyed has no foundation in fact.

Numerous cases have been reported from Switzerland where poisoning from meat has occurred when borates were used. The borates not only failed to preserve the meat but served to mask incipient putrefaction.

Antiseptics, when added to milk in small amounts, merely retard the growth of bacteria and, upon being received in favorable soil, there is nothing to prevent their growth, as would be the case with sterilized and even Pasteurized milk.

With the exception of tuberculosis, diseases rarely gain access to the body through milk, unless it be through impure water which has been added to the milk. Hence the argument of preventing typhoid fever and kindred diseases by the use of preservatives should have no weight with honest milkmen.

The stand so well taken by Dr. Whittaker that a food preservative should be presumed guilty until proven innocent, seems to voice the opinion of authorities and courts both in this country and in Great Britain.*

In England, while a special investigating committee appointed

*In another part of this report will be found the decision of the supreme court of Iowa upon the subject of preservatives, a copy of which was furnished by Hon. B. P. Norton, Commissioner.

by parliament, is receiving evidence, prosecutions for the use of borax and formaldehyde are regularly occurring.

The fact is that the presence of preservatives will not bear disclosure to the consumer.

MILK.

The milk delivered at creameries and cheese factories has shown a steady improvement in quality. This is due both to the fact that offenders are more frequently brought to account and to the growing use of the Babcock tester by factorymen. It is easier to refuse a patron's milk at the factory because of its quality, or to pay only its exact value as determined by the fat test, than to accuse him of wilful adulteration.

While the milk at factories, and even in cities, is improving steadily in quality, adulteration of city milk by the addition of preservatives has been rapidly on the increase. As a result, most of the prosecutions in cities for the adulteration of milk have been for this offense.

Agents selling the preservatives argue that "All of the other milkmen use them;" that "they are perfectly harmless;" that "they go off as a gas;" "cannot be detected," "act the same as ice," and worst of all, give circulars purporting to come from mothers advising their use in infants' milk.

Even physicians, the licensed guardians of health, are always to be found who will testify as experts that borax, boric acid and even formalin are given medicinally in much larger doses than used in milk and without serious effect. They argue that they are therefore harmless when so used, ignoring the fact that a medicinal dose is one which will produce a physiological effect.

The question is not whether the substance is poisonous in the dose given, but whether the food so dosed is thereby adulterated to the possible prejudice of the consumer.

"The deleteriousness of preservatives depends upon many factors, the principal of which are:

1st. The chemicals may be poisonous to living protoplasmic cells, thus directly affecting the lining of the alimentary canal.

2nd. The chemicals may act by precipitating the enzymes through the agency of which the digestion of food occurs.

3rd. The chemicals may produce either an acid or an alkaline condition of the digestive juices which is unfavorable to the action of specific enzymes.

4th. They may act upon the albuminoids or starches or fats so as to render them insoluble and indigestible by the enzymes.

For example, formaldehyde in milk may be deleterious in several ways. It may kill the cells of the mucus membrane. It may precipitate the nitrogenous digestive ferments and it may and does so act upon the albuminoids and caseinogen of milk as to make those substances so indigestible that rennet will fail to curdle the milk after its use.

METHODS OF ANALYSIS.

Specific gravity is taken at 60 degrees C. by means of a Westphal balance.

Solids: 5cc are evaporated in flat-bottomed platinum dish upon the water bath and finally in the water oven at 100 degrees C.

Ash is obtained by ignition of the solids.

Fat is determined with the Babcock tester.

Borax may be detected by acidulating the ash with a few drops of concentrated sulphuric acid, thoroughly mixing with 5cc of alcohol. On igniting, the flame will be distinctly green when borax is present. Or, borax may frequently be detected directly in the milk by acidulating slightly with hydrochloric acid. Turmeric paper is moistened with the acid milk and dried over boiling water. Boracic acid produces a red coloration changing to blue with ammonia. The addition of too much acid destroys the bright red color, producing a brown.

Formic aldehyde: This substance may be frequently recognized when concentrated commercial sulphuric acid is added to milk in the Babcock test bottle, a blue coloration forming at the line of contact. (Hehner's test.)

The Massachusetts modification of this test is more sensitive,

the violet color formed being from the charring due to use of sulphuric acid.

In this test 10cc of milk are warmed in a white capsule with 10cc of hydrochloric acid and a few drops of a dilute solution of ferric chloride. The violet color forms before the mixture comes to a boil and is quite permanent. In using this test upon cream long heating or boiling will give suspicious indications in the absence of formaldehyde. Hence, the mixture should not be permitted to boil.

Phloroglucin test: This may also be applied directly to the milk, but is less sensitive than the previous test. .500 gm. of phloroglucin and 10 gms. of caustic potash are each dissolved in a small amount of water, mixed and diluted to 50cc. 10cc of milk is placed in a white capsule and 2cc of the reagent added. Upon mixing, a pink color rapidly develops in the presence of formalin. A strong reaction is given when 1 dram of 40 per cent. formalin is added to 8 gallons of milk.

Several other satisfactory tests may be made upon the distillates from milk and other food products. In the case of milk 100 to 200cc are acidulated with a concentrated solution of citric acid, adding paraffine to control frothing. Phosphoric acid is generally used for the acidulation of canned goods and other food products previous to their distillation. To the distillate

(a) Lieberman's reaction may be applied as follows:

Two or three drops 1 per cent. phenol solution in water are added to 10cc of the distillate and the whole overlaid upon concentrated sulphuric acid. A crimson zone results when formalin is present, delicate to 1 part in 100,000.

(b) 1 gm. of phenol hydrazine hydrochloride and 1.5 gms. sodium acetate are dissolved in 10cc of water. When 4 drops of the reagent and 4 drops of sulphuric acid are added to 1cc of the distillate a green coloration results in the presence of formalin.

(c) Rimini uses 2 drops of the phenol hydrazine solution with 2 drops of a sodium nitro-prusside solution with 1cc of the distillate overlaying upon 1cc of caustic soda solution. A deep blue coloration results, changing quickly to green, yellow and red.

MILK ANALYSES.

May 12, 1899.

	Per cent.
No. 7. Total solids	11.78
Fat	3.20
Solids not fat	8.58
No. 11. Total solids	10.78
Fat	2.8
Solids not fat	7.98
Ash	.65
Watered.	

May 12, 1899. Samples taken at Reeseville, May 5th.

	Per cent.
No. 17. Total solids	12.15
Fat	3.2
Solids not fat	8.95
Ash .....	....
No. 19. Total solids	11.36
Fat	2.9
Solids not fat	8.46
Ash	.64
No. 20. Total solids	12.61
Fat	3.7
Solids not fat	8.91
Ash .....	....
No. 35. Total solids	10.70
Fat	3.00
Solids not fat	7.70
Ash	.47
No. 32. Total solids	11.60
Fat	2.80
Solids not fat	8.80
Ash .....	....

No. 19 probably watered. No. 35 watered.

May 19. Samples taken by W. W. Chadwick, May 16. Sold by L. Meisner, Lake Mills.

	Per cent.
Total solids	11.13
Fat	2.8
Solids not fat	8.33
Ash	.67

REPORT OF THE WISCONSIN

June 21, 1899. Samples milk taken at Albany.

	S. G.
No. 8	1.0315
No. 17	1.031
No. 22	1.030

June 21, 1899. Samples taken at Seymour.

	S. G.
No. 3	1.031
No. 6	1.031
No. 18	1.0325
No. 26	1.031
No. 32	1.031
No. 36	1.034

July 7, 1899. Sample of milk sent by Col. C. Wheeler, Governor, Soldiers' Home, Milwaukee. Said to have been sold by C. L. Dana.

	Per cent.
Specific gravity	1.014
Total solids	10.48
Fat	6.00
Solids not fat	4.48
Ash	.35

This sample consisted of cream, to which was added a little more than twice its volume of water.

July 9, 1899. Sample purchased by W. W. Chadwick of Will Hughes, Janesville.

	Per cent.
Specific gravity	1.030
Fat	2.7

August 16, sample taken by W. W. Chadwick, Aug. 14, delivered by G. Wackholz, Branch, Wis.

Total solids	10.33
Fat	2.6
Solids not fat	7.73
Ash	.56
S. G. 1.027.	
Watered.	

August 30, 1899. Samples taken by W. W. Chadwick at Branch, Wis.

	Per cent. fat.	S. G.
No. 20. J. Gruber	2.6	1.031
No. 30. J. Goedert	3.0	1.305
No. 31. J. Goedert	3.0	1.030
No. 37. J. Hrudke	3.0	1.0305

Aug. 30. Sold by Chas. Eckert, Racine. Bought by W. W. Chadwick.

	Per cent.
Total solids	10.07
Fat	2.80
Solids not fat	7.27
Ash	.65

Watered and preserved with borax.

Sept. 12. Sample delivered by Hushold, Kenosha.

	Per cent.
No. 15. Total solids	11.54
Fat	2.90
Solids not fat	8.64

Sept. 27. Delivered by Capt. Pinhalo, Waucousta.

	Per cent. fat.	S. G.
No. 4	2.65	1.0305

April 1, 1900. Sample bought by C. W. Sweeting.

	Per cent.
Total solids	10.55
Fat	2.60
Solids not fat	7.95
Ash	.68

Watered.

April 13, 1900. Delivered by I. Burgess, Hustisford.

	S. G.	Per cent. fat.
No. 13	1.029	2.7

April 13. Delivered by Wm. Lange, Hustisford.

	S. G.	Per cent. fat.
No. 17	1.029	2.6

April 13. Delivered by Wm. Schwantes, Hustisford.

	S. G.	Per cent. fat.
No. 8	1.0285	3.0

May 18. Delivered by B. Summerfelt, Juneau.

	S. G.	Per cent. fat.
No. 2	1.023	2.8

Watered.

	S. G.	Per cent. fat.
No. 3. F. Butterbrod	1.032	3.0

May 3. Delivered by R. Mules, Oak Hill.

	S. G.	Per cent. fat.
No. 6	1.0348	2.7

Skimmed.

June 26, 1900. Delivered by P. Thom, Farris Corners.

	S. G.	Per cent. fat.
No. 10	1.034	2.6

June 26, 1900. Delivered by W. Pegnes, Farris Corners.

	S. G.	Per cent. fat.
No. 15	1.031	2.8

	S. G.	Per cent. fat.
July 9. Delivered by J. Koci, Francis Creek	1.035	2.15

	S. G.	Per cent. fat.
July 9. Delivered by A. Smelik, Francis Creek ..	1.032	2.6

	S. G.	Per cent. fat.
July, 9. Delivered by F. Streuber, Francis Creek ..	1.033	2.3

	S. G.	Per cent. fat.
July 9. Delivered by A. Marik, Francis Creek (Sample churned.)	1.034	2.7

	S. G.	Per cent. fat.
July 19. Delivered by F. Hallada, Mishicott..	1.030	2.6

	S. G.	Per cent. fat.
July 19. Delivered by J. Hallada, Mishicott	1.030	2.6

	S. G.	Per cent. fat.
July 19. Delivered by Wm. Kracht, Mishicott (Watered.)	1.0235	2.2

	S. G.	Per cent. fat.
July 24. Delivered by L. J. Taffry, Milwaukee (Skimmed.)	1.0335	2.7

	S. G.	Per cent. fat.
July 24. Delivered by F. Krahn, Milwaukee, No. 52	1.028	2.7

	S. G.	Per cent. fat.
Aug. 16. Delivered by J. Teucher, Monroe, No. 4	1.031	3.0

	S. G.	Per cent. fat.
Aug. 28. Delivered by J. Jarck, Hofa Park, No. 4	1.024	2.4
(Watered.)		

		S. G.	Per cent. fat.
Aug. 28.	Delivered by A. Meikle, Hofa Park, No. 27	1.0225	2.6
	(Watered.)		
		S. G.	Per cent. fat.
Sept. 11.	Delivered by Wm. Pagel, Potters, No. 24	1.034	2.8
		S. G.	Per cent. fat.
Sept. 20.	Delivered by Mrs. Zemlock, Neenah	1.027	3.3
		S. G.	Per cent. fat.
Sept. 21.	Delivered by M. Kennon, Fond du Lac	1.030	3.0
		S. G.	Per cent. fat.
Sept. 21.	Delivered by D. Kennon, Fond du Lac	1.030	2.8
		S. G.	Per cent. fat.
Sept. 21.	Delivered by H. Erke, Fond du Lac	1.031	3.2

MILKS EXAMINED FOR PRESERVATIVES.

July 6, 1899.—Three samples sent from Beloit. Two proved to be pure.
Sample of evening's milk, sold by John Yost, Beloit,
July 5th, to W. W. Chadwick, contained formalin.

July 9, 1899.—Janesville city supply.
Sold by R. W. Scott to W. W. Chadwick, contained
formalin.

July 9, 1899.—Sold by Chas. Barnes to W. W. Chadwick, contained
formalin.

July 18, 1899.—Beloit city milk. Two samples found free from pre-
servatives.

July 26, 1899.—Sent by W. A. Jackson, District Attorney, Janesville.
Purchased from H. D. McKinney. Free from pre-
servatives.

Aug. 29, 1899.—Racine city supply.
Taken by W. W. Chadwick:
Wm. Benkert, owner and driver, evening milk No. 4,
contained formalin.
W. H. Lehnery, owner (Geo. Jackson, driver), even-
ing's milk No. 5, contained formalin.
Mrs. M. Pfeiffer, milk contained boracic acid.

- Dec. 14, 1899.—Sample milk sent by H. Halvorsen. Examined for coloring and blood. Free from both.
- June 22, 1900.—Three samples taken at Sheboygan Falls. Free from preservatives.
- July 3, 1900.—Plymouth city milk. Free from preservatives.
- July 24, 1900.—Thinnes Bros., Milwaukee. Milk contained formalin.
- July 24, 1900.—Sample sent from Antigo. No preservatives found.
- July 25, 1900.—Thirty-four samples city milk sent from Milwaukee. Found free from preservatives.
- Aug. 1, 1900.—Thirty samples city milk sent from Milwaukee. Found free from preservatives.
- Aug. 2, 1900.—Eleven samples city milk, Milwaukee. Found free from preservatives.
- Aug. 3, 1900.—Nine samples city milk sent from Milwaukee. Eight found free from preservatives. Sample sold by Champenny Milk & Cream Co. contained formalin.
- Sept. 15, 1900.—Five samples milk taken at Sheboygan Falls. All pure.

PRESERVATIVES AND MILK ADULTERANTS.

- Oct. 25, 1898.—“B” Preservaline, bought by N. J. Field of Dreyfoos & Sandles, Milwaukee. Composed of salt, nitre, boracic acid, and magenta coal tar color.
- Feb. 1, 1899.—“New Method Meat Preserver”, purchased by N. J. Field of Dreyfoos & Sandles, Milwaukee. Composed of sodium sulphite.
- Sept. 13, 1899.—Special “M” Preservaline, Preservaline Manufacturing Co. Consists of formic aldehyde.
- Oct. 13, 1899.—“Laktone Coloring for Milk or Cream.” Sold by Preservaline Manufacturing Co. Coloring matter found to be aniline dye, apparently sulphonated aniline yellow.

CREAM.

The adulteration of cream has consisted in the addition of chemical preservatives such as formaldehyde, boracic acid and borax, and in the addition of compounds intended for thickening and preserving, such as are sold under the term "Cream Albuminoid" and similar titles. These compounds contain gelatin, borax or boracic acid. Artificial coloring is also resorted to and butter colors or a special milk color sold under the title "Laktone" have been used. Annatto has not been met with during the past two years.

EXAMINATIONS OF CREAM.

1899.

- Mar. 25 Purchased of — Gear, Menasha. Aniline color.
 Mar. 6 Taken by W. W. Chadwick at Sheboygan. Not preserved.
 July 6 Taken by W. W. Chadwick, of Wm. Krueger, Beloit. Contained formalin.
 July 5 Bought by W. W. Chadwick of T. P. Witte. Contained formalin.
 Bought of C. H. Hanson, Beloit. Contained formalin.
 Bought of Beloit Creamery Co. Contained formalin.
 One sample examined and found to be pure.
 July 12 Bought by W. W. Chadwick of Melrose Creamery, Fond du Lac. Contained formalin.
 July 14 Bought by W. W. Chadwick of T. P. Witte, Beloit. Contained formalin.
 Aug. 29 Bought of Wm. Leonard, Racine, by W. W. Chadwick. Contained boracic acid.
 Bought by W. W. Chadwick of Wm. M. Phelps. Contained boracic acid.
 Bought by W. W. Chadwick of W. R. Taylor, Racine. Contained boracic acid.
 Ten samples sent from Racine examined and found pure.
 Sept. 12 Three samples of cream, taken at Kenosha. Examined for preservatives. Found to be pure.
 Nov. 26 Sent by Hon. L. H. Parker, Beloit. Said to be colored. No color found.

1900.

- July 24 Seven samples sent by N. J. Field from Milwaukee. Pure.
 Bought by N. J. Field of A. Kern, Milwaukee. Pure.
 July 25 Sent by N. J. Field. Bought of Jos. Nowatny, Milwaukee.
 Two samples taken by N. J. Field. Free from preservatives.
 July 31 Two samples purchased by N. J. Field, Milwaukee. Pure.
 July 21 One sample purchased by C. W. Sweeting, Milwaukee.
 Aug. 2 Nine samples purchased by N. J. Field, Milwaukee. Pure.
 Aug. 3 Bought by C. W. Sweeting of Milwaukee Cream Co., Milwaukee. Contained formalin.
 Aug. 3 Four samples taken by C. W. Sweeting, Milwaukee. Pure.

BUTTER AND OLEOMARGARINE.

For the examination of butter and oleomargarine, official methods have been largely used. The butyro-refractometer and polariscope, with and without the use of selenite, have also been of much assistance in the detection of renovated butter and oleomargarine. For the separation of the azo color generally used in oleomargarine the following process has been employed:

From 15 to 25 grams of the melted and filtered fat have been shaken with alcohol which has been previously saturated with carbon-disulphide. The alcoholic layer containing the coloring matter and a portion of the fat and fatty acids is then evaporated with from 1 to 2cc of strong caustic soda solution (1:1). In this manner the coloring matter is precipitated and the fats and fatty acids saponified at once with the removal of the alcohol. The resultant, soap, is dissolved in water and the coloring matter extracted with ether. Upon evaporation of the ether the coloring matter will be in sufficiently concentrated form to be presentable as evidence and, if desirable, a portion of the ether extract can be evaporated with very dilute sulphuric acid, giving the red coloration characteristic of that color.

Analyses of butter and butter substitutes.

Date.	Name.	Address.	Character of field with polarized light.	BUTYRO-REFRACTOMETER.		Reichert No. (cc. of $\frac{N}{10}$ NaOH.)	Remarks.
				Critical angle	Butter scale.		
1893.							
Nov. 15	Swift & Co.	Ashland	Prismatic	51.	45.3	.6	Oleomargarine, azo color.
Nov. 15	Armour & Co.	Ashland	Monochromatic.	45.5	46.1	29.5	Butter branded oleomargarine.
Nov. 6	Leo. A. Peil	Racine	Prismatic	51.5	43.7	1.8	Oleomargarine, azo color.
Nov. 6	Slot & Wiederbach Co.	Racine	Prismatic	50.0	44.8	.95	Oleomargarine, azo color.
Nov. 6	Christian Slot	Racine	Prismatic	50.5	45.	.75	Oleomargarine, azo color.
Nov. 14	Welsted (sent by)	Brampton, Mch	Prismatic	49.5	41.2		Oleomargarine.
Nov. 30	Hotel Stolte	Reedsburg	Monochromatic.	45.	41.5		Butter.
Nov. 16	Armour & Co.	West Superior.	Prismatic	52.5	45.8	.6	Oleomargarine, azo color.
Nov. 23	John Meehan	Beloit	Prismatic	51.	45.8	.85	Oleomargarine, colored.
Nov. 28	J. B. Smith	Janesville	Prismatic	52.5	45.9	.5	Oleomargarine, colored.
Nov. 23	McGavock Bros	Beloit	Prismatic	51.	45.5		Oleomargarine, uncolored
Nov. 15	Knight Hotel	Ashland	Monochromatic.	45.	46.		Butter.
Nov. 22	The Hub Restaurant	Milwaukee	Monochromatic.	45.5	47.2		Butter.
Dec. 21	Jones House	Oconomowoc	Monochromatic.	46.5	48.		Butter.
Nov. 30	W. A. Stolte	Reedsburg	Prismatic	51.	45.8	1.9	Oleomargarine, colored.
1899.							
Jan. 10	Asbury Restaurant	Milwaukee	Prismatic	45.	45.6		Butter.
Jan. 18	Railway Restaurant	Spooner	Prismatic	45.5	47.3		Butter.
Jan. 18	Columbia Restaurant	West Superior.	Prismatic	42.5	46.2		Butter.
Jan. 17	Columbia Restaurant	Ashland	Prismatic	43.5	46.8		Butter.
Jan. 17	Knight Hotel	Ashland	Prismatic	46.	47.5		Butter.
Jan. 16	Boston Restaurant	Ashland	Prismatic	46.6	47.6		Butter.
Jan. 16	Q. P. Restaurant	Ashland	Prismatic	46.0	47.7		Butter.
Jan. 14	New Clarendon Hotel	West Superior.	Prismatic	46.0	47.4		Butter.
Jan. 16	Hotel Northern	West Superior.	Prismatic	45.	47.1		Butter.
Jan. 16	Arlington Restaurant	West Superior.	Prismatic	47.	47.1		Butter.
Jan. 16	Royal Bakery Restaurant	West Superior.	Prismatic	41.3	45.5		Butter.
Jan. 16	Hopkins Restaurant	West Superior.	Prismatic	45.	46.5		Butter.
Jan. 19	G. W. Carpenter (sent by)	Reedsburg	Prismatic	43.5	45.		Butter.
Jan. 18	Hotel Metropolitan	West Superior.	Prismatic	53.	45.2		Oleomargarine, colored.
Jan. 18	Hotel Occidental	West Superior.	Prismatic	54.5	46.7		Oleomargarine, colored.
Jan. 14	Belt Line Restaurant	West Superior.	Prismatic	56.	47.5		Oleomargarine, colored.

Analyses of butter and butter substitutes.—Continued.

Date.	Name.	Address.	Character of field with polarized light.	BUTYRO-REFRACTOMETER.		Reichert No. (cc. of $\frac{N}{10}$ NaOH.)	Remarks.
				Critical angle.	Butter scale.		
1899.							
Jan. 14	Commercial Hotel.....	West Superior.	Prismatic.....	56.5	48.4	.45	Oleomargarine, azo color.
Jan. 14	Kommers Hotel.....	West Superior.	Prismatic.....	57.	49.1	.....	Oleomargarine, colored.
Jan. 13	Hopkins Restaurant.....	West Superior.	Monochromatic.....	45.	45.2	.....	Butter.
Jan. 13	New Empire Restaurant.....	West Superior.	Mottled field.....	46.5	45.4	25.2	Renovated butter.
Jan. 14	Land & Riv. Co. Restaurant.....	West Superior.	Monochromatic.....	45.	46.	.....	Butter.
Jan. 13	Delmonico Restaurant.....	West Superior.	Monochromatic.....	46.3	46.5	.....	Butter.
Jan. 20	Geo. A. Fell & Co.....	Racine.....	Prismatic.....	52.	46.7	.....	Oleomargarine, colored.
Jan. 20	Swift & Co.....	West Superior.	Prismatic.....	52.2	47.3	.6	Oleomargarine, azo color.
Jan. 26	Mr. Straubel (sent by).....	Madison.....	Prismatic.....	50.	44.8	.....	Oleomargarine.
Jan. 26	John Meehan.....	Beloit.....	Prismatic.....	51.	46.	.....	Oleomargarine, colored.
Jan. 31	Mrs. L. Neindorf.....	Madison.....	Prismatic.....	51.5	46.3	1.3	Oleomargarine.
Feb. 8	Hotel Van.....	Phillips.....	Monochromatic.....	43.	44.1	.....	Butter.
Feb. 8	R. Breitengross.....	Phillips.....	Monochromatic.....	43.	44.2	.....	Butter.
Feb. 8	F. L. Hunt.....	Phillips.....	Monochromatic.....	43.	44.	.....	Butter.
Feb. 10	Clarendon Hotel.....	West Superior	Monochromatic.....	43.5	45.1	.....	Butter.
Mch. ..	Mr. Burmeister (sent by).....	Madison.....	Monochromatic.....	44.	45.6	.....	Butter.
Mch. 1	F. N. Larson.....	Eau Claire.....	Prismatic.....	49.5	45.	.....	Oleomargarine, colored.
Mch. 9	Peter P. Roland.....	Milwaukee.....	Monochromatic.....	.....	46.7	.....	Butter.
Mch. 9	A. H. Grier.....	Milwaukee.....	Monochromatic.....	.....	44.	.....	Butter.
Apr. 12	Phelan House.....	Haywood.....	Monochromatic.....	44.5	44.	.....	Butter.
Apr. 22	R. R. Lunch House.....	Watertown Jct.	Monochromatic.....	55.	46.9	.5	Oleomargarine, colored.
Apr. 11	Carter & Emmons.....	Eagle River.....	Prismatic.....	44.	45.5	.....	Oleomargarine, colored.
Mch. 31	Burmeister (sent by).....	Madison.....	Monochromatic.....	44.	45.6	.....	Butter.
Mch. 10	Watertown Junct. Hotel.....	Watertown Jct.	Monochromatic.....	45.5	45.	.....	Butter.
Apr. 24	Brewster House.....	Shullsburg.....	Monochromatic.....	.....	.....	.....	Butter.
Aug. 3	U. S. Hotel.....	Waupaca.....	Mottled field.....	45.5	47.2	28.5	Butter.
Oct. 16	U. S. Hotel.....	Edgerton.....	Prismatic.....	49.	44.4	2.45	Oleomargarine.
Oct. 17	Wm. Steinmeyer.....	Milwaukee.....	Monochromatic.....	44.5	45.	.....	Butter.
Oct. 27	Hotel Warren.....	Baraboo.....	Prismatic.....	49.3	44.5	3.3	Oleomargarine.
Nov. 17	John L. Daley.....	Milwaukee.....	Prismatic.....	.....	.....	.....	Oleomargarine.
Nov. 20	Ry. Branch Y. M. C. A. Rest.....	Milwaukee.....	Prismatic.....	51.	46.	1.5	Oleomargarine.
Nov. 22	John L. Daley.....	Milwaukee.....	Prismatic.....	51.	46.	1.0	Oleomargarine, azo color.
Nov. 8	A. M. Bailey, Restaurant.....	Oshkosh.....	Monochromatic.....	41.5	44.4	.....	Butter.
Dec. 13	D. C. Adams.....	Milwaukee.....	Monochromatic.....	45.	45.7	.....	Butter.

Dec. 13	D. C. Adams	Milwaukee.....	Monochromatic..	48.	47.8	.....	Butter.
Dec. 13	D. C. Adams	Milwaukee.....	Prismatic	51.	45.7	.....	Oleomargarine, uncolored,
Dec. 14	Sargent's Restaurant.....	Milwaukee.....	Monochromatic..	45.5	46.2	.....	Butter.
Dec. 13	Plankinton House Lunch Room	Milwaukee.....	Monochromatic..	45.	46.5	.....	Butter.
Dec. 14	G. P. Gilpatrick, Restaurant...	Milwaukee.....	Monochromatic..	44.5	46.	.....	Butter.
Dec. 21	Grant Hotel	Kenosha.....	Monochromatic..	45.5	46.4	.....	Butter.
Dec. 28	Williams House.....	Manitowoc.....	Monochromatic..	44.5	46.3	.....	Butter.
Dec. 27	Washington House.....	Sheboygan.....	Monochromatic..	46.5	46.5	.....	Butter.
Dec. 27	City Hotel.....	Sheboygan Falls	Monochromatic..	46	46.7	.....	Butter.
Dec. 12	Milwaukee Health Department.	Milwaukee.....	Prismatic	50.	45.2	.....	Oleomargarine
Dec. 20	A. Wuelff.....	Kenosha.....	Monochromatic..	43.	44.5	.....	Butter.
1900.							
Jan. 2	Wisconsin House.....	Madison.....	Monochromatic..	43.5	45.8	.....	Butter.
Jan. 5	One Minute Lunch House.....	Madison.....	Monochromatic..	44.	45.3	.....	Butter.
Jan. 5	W. S. Davis.....	Williams Bay..	Monochromatic..	44.5	46.5	.....	Butter.
Jan. 5	W. S. Davis.....	Williams Bay..	Monochromatic..	44.	45.	.....	Butter.
Jan. 5	O. P. Southwick.....	Williams Bay..	Monochromatic..	44.	45.	.....	Butter.
Jan. 5	The Hoernig Co.....	Oshkosh.....	Prismatic	48.	50.	.....	Oleomargarine, slightly colored.
Jan. 5	Chas. A. Hoernig.....	Oshkosh.....	Prismatic	57.	48.7	.....	Oleomargarine, azo color.
Jan. 18	Arthur Smith.....	Eau Claire.....	Mottled field.....	14.	45.6	26.5	Renovated butter.
Jan. 19	J. G. End.....	Sheboygan.....	Prismatic	52.	45.7	1.0	Oleomargarine, azo color.
Jan. 24	W. J. Ennison (sent by).....	La Crosse.....	Monochromatic..	43.5	45.1	.....	Butter.
Jan. 16	F. Bailey.....	Racine.....	Mottled field.....	.....	.....	23.6	Renovated butter.
Jan. 22	Chris. Slot.....	Racine Junction	Prismatic .....	.....	.....	1.1	Oleomargarine, azo color.
Jan. 26	Geo. Dabold.....	La Crosse.....	.....	43.	44.7	.....	Butter.
Jan. 26	Justin Lukwitz (Ferguson).....	La Crosse.....	.....	44.	44.8	.....	Butter.
Jan. 26	Justin Lukwitz (Dabold).....	La Crosse.....	.....	43.5	45.	.....	Butter.
Jan. 26	C. A. Rickeman (Est.).....	Racine.....	Monochromatic..	44.7	44.3	.....	Butter.
Jan. 16	Leo. A. Peil Co.....	Racine.....	Prismatic	50.	44.4	1.0	Oleomargarine, azo color.
Jan. 16	Slot & Wiederback Co.....	Racine.....	Prismatic	49.5	44.4	1.3	Oleomargarine, azo color.
Jan. 16	Leo. A. Peil Co.....	Racine.....	Monochromatic..	44.	46.	.....	Oleomargarine, colored.
Jan. 26	.....	.....	.....	.....	.....	.....	Oleomargarine, slightly colored.
Jan. 6	W. T. Barkow.....	Milwaukee.....	Prismatic	50.	45.5	.....	Oleomargarine, azo color.
Jan. 6	Ed. P. Goetz.....	Milwaukee.....	Prismatic .....	.....	.....	1.3	Butter.
Jan. 8	Ed. P. Goetz.....	Milwaukee.....	Monochromatic..	45.	46.	.....	Oleomargarine, colored.
Jan. 26	Russell House.....	Neenah.....	Prismatic	49.	44.6	1.7	Butter.
Jan. 25	Neenah Hotel.....	Neenah.....	Monochromatic..	43.8	44.8	.....	Butter.
Jan. 25	Hotel Gehring.....	Neenah.....	Monochromatic..	44.5	44.5	.....	Butter.
Jan. 25	Landgraf's Hotel.....	Menasha.....	Monochromatic..	43.5	44.7	.....	Butter.
Jan. 25	Windsor Hotel (Thos. W. Lacy)	Milwaukee.....	Prismatic	49.	44.5	1.2	Oleomargarine, azo color.
Feb. 12	W. S. Davis.....	Williams Bay..	Prismatic	49.	44.5	1.6	Oleomargarine, colored.
Feb. 13	K. Mikkleson.....	Stoughton.....	Monochromatic..	43.2	44.2	.....	Butter.
Feb. 13	N. T. Hanson.....	Stoughton.....	Monochromatic..	45.	44.5	.....	Butter.
Feb. 14	John Berg (sent by).....	Ashland.....	Monochromatic..	44.5	46.	.....	Butter.
Feb. 14	John Berg (sent by).....	Ashland.....	Monochromatic..	45.	46.3	.....	Butter.
Feb. 19	Frank Raund (sent by).....	Milwaukee.....	Monochromatic..	46.	47.7		Butter.

Analyses of butter and butter substitutes.—Continued.

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REPORT OF THE WISCONSIN

Date.	Name.	Address.	Character of field with polarized light.	BUTYRO-REFRACTOMETER.		Reichert No. (cc. of $\frac{N}{10}$ NaOH.)	Remarks.
				Critical angle.	Butter scale.		
1900.							
Feb. 19	M. Currie	Milwaukee.....	Monochromatic..	48.	49.2	.....	Butter.
Feb. 16	H. Weber's Restaurant.....	Milwaukee.....	Monochromatic..	45.	46.4	.....	Butter.
Feb. 22	John Linahan	Milwaukee.....	Monochromatic..	43.	44.4	.....	Butter.
Mch. 6	Waukesha Butter Co.....	Waukesha..	Mottled field....	47.	47.7	.....	Renovated butter.
Mch. 6	Waukesha Butter Co.....	Waukesha.....	Mottled field....	46.	47.3	.....	Renovated butter.
Mch. 12	Hotel Meehan.....	Darlington.....	Prismatic.....	50.5	45.9	2.3	Oleomargarine.
Mch. 13	Central Hotel.....	Albany.....	Monochromatic..	46.	46.3	.....	Butter.
Mch. 22	Swift & Co.....	Ashland.....	Prismatic.....	56.	48.	.5	Oleomargarine, colored.

RENOVATED BUTTER.

The identification of renovated butter has been largely through the use of the microscope, with and without the selenite, by the examination of the physical properties of the material during melting, and by the comparatively low Reichert number generally yielded. It is almost invariably the case that when a small portion of renovated butter is melted in a capsule, the fat will separate sufficiently clear to be examined at once in the refractometer without previous filtration. Upon comparing the sample with genuine butter, the relatively small amount of flocculence due to curd will be readily noticed.

As suggested by Doolittle and Hess, the percentage of nitrogen, showing the relative amount of casein present, is of value.

CHEESE.

For the examination of cheese official methods have been used. For the quantitative determination of the fat, the use of anhydrous copper sulphate for a desiccating agent as suggested by Short, has been adhered to. The fat for qualitative examination may usually be obtained by melting a few ounces of the chopped cheese enclosed in muslin over a water bath. Sufficient dry fat may readily be obtained for this purpose.

1899.

Mar. 8 Two samples manufactured by Waukesha Butter & Cheese Co. were examined for foreign fats and found to be normal.

1900.

Mar. 31 Sent by Udell & Co., Sheboygan. "Young America" cheese, suspected of being skimmed.

No. 1 contained 33.3 per cent. fat.

No. 2 contained 34.2 per cent. fat.

June 6 Sample left at office, said to contain potato starch. Found to be pure and free from all starch.

LARD.

In the examination of lard, only the detection of the addition of vegetable oil, such as cottonseed and corn oil, and of paraffine has been attempted. The Zeiss butyro-refractometer has proved

of great assistance in sorting the pure products from the compounds.

For the detection of cottonseed oil, Bacchi's test and Halphen's test have been relied upon. The most satisfactory solutions have been found to be as follows:

Bacchi's test: 10cc of oil were boiled for at least fifteen minutes in a test tube in boiling water with 2cc of a reagent prepared as follows: 1 gm. of silver nitrate dissolved in 100cc of 95 per cent. of alcohol and 20cc of ether, to which one drop of concentrated nitric acid was added.

Halphen's test: 5cc of oil were mixed with an equal amount each of amyl alcohol and a 2 per cent. solution of sulphur in carbon-di-sulphide, finally heating in brine bath at approximately 110 degrees centigrade for fifteen minutes.

By means of Bacchi's test less than 5 per cent. of cottonseed oil can be detected in a mixture; and by means of Halphen's test less than 1 per cent. can be detected. Bacchi's test also responds to a less degree with corn oil, the presence of which may be confirmed by the following color reaction: 10 drops of oil are dissolved in 10 cubic centimeters of carbon-di-sulphide and one drop of concentrated sulphuric acid added. A violet color will develop after an interval of twenty-four hours.

Nine samples examined and found to be pure.

VINEGAR.

Methods of Examination:

Acetic Acid: 20cc are diluted according to color and titrated with normal caustic soda solution, using phenolphthaline as an end reagent.

Solids and Ash: 10cc are weighed in platinum and dried upon the water bath and oven at 100° C. Ash is determined by careful ignition of the solids.

Coloring Matter: Coal tar colors may be detected by boiling white, washed wool directly in the vinegar, generally without a mordant.

Caramel: The residue from 10cc is dissolved in 5cc of water

and 10cc of paraldehyde is added with enough alcohol, drop by drop, to complete solution. The caramel is deposited after standing twelve hours as a brownish, sticky mass, bitter in taste and reducing in reaction.

A more thorough removal of caramel from vinegar, beverages and similar organic mixtures may be made as follows:

Evaporate to dryness, adding methyl alcohol. Extract under a reflux condenser for two hours with methyl alcohol, removing the caramel (or boil out with methyl alcohol where the residue is small). Mix the filtered extract with an excess of amyl alcohol precipitating the caramel. (Fradiss, Analyst 1899, p. 13.)

Characteristics of Cider Vinegar: Upon neutralization with caustic soda cider vinegar darkens deeply. A voluminous flocculent precipitate is produced by the addition of a solution of subacetate of lead. The solids of cider vinegar are dark in color and dry in bubbles. Malt solids generally dry smooth and are lighter in color.

Cider extract is optically inactive, but boiled cider extract is levo-rotatory. Glucose-containing substances are readily shown by dextro-rotation. (Doolittle and Hess.)

Analyses of Vinegar

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REPORT OF THE WISCONSIN

Date.	Sample sent by —	Postoffice.	Sold by —	Sold as —	Acetic acid per ct.	Solids per ct.	Malic acid.	Comments.
1898.								
Oct. 27	J. E. Hankey	Trempealeau.	Red Cross V. Co., St. Louis	"Stand'rd Family"	3.81	.33	.....	Col'd dist. con'd.
Oct. 27	J. E. Hankey	Trempealeau	Red Cross V. Co., St. Louis	White wine	3.34	.....	.....	Condemned.
Oct. 28	O. W. Lloyd	Randolph....	.....	Cider	4.35	.26	None	Condemned.
1899.								
Jan. 3	C. H. Kinneke	Milwaukee....	.....	White distilled....	6.19	.....	.....	Passed.
Jan. 19	J. B. Smith	Janesville....	Barrett & Barrett, Chicago	Cider	4.89	1.94	Present .....	.....
Jan. 19	J. B. Smith	Janesville....	H. J. Heinz & Co., Pittsb'g	Cider	5.23	2.63	Large amt....	Passed
Apr. 19	B't by N. J. Field .....	.....	Freundenfeldt & Co., Mil.	"Wine vinegar"	8.59	.....	(Ash .064)	Phos. acid abse't.
Apr. 19	H. M. Johnson & Co.	Glenwood .....	.....	Cider	4.30	1.59	None	Condemned.
Apr. 19	C. Snoeyenboo & Son	Baldwin	Illinois V. Man. Co., Chic.	Cider	4.02	1.17	None	Condemned.
May 12	John Anderson	Elroy .....	.....	Cider (preserved)..	.72	3.31	Large amt....	Cont salicylic ac.
May 12	B't of Carter & Emm'ns	Eagle River..	Roundy-Peckham Co., Mil	Cider	4.86	2.15	Present	Passed
May 25	H. Peterson	Eau Claire....	F. C. Johnson, Kishw'ukee	Cider	4.41	1.34	Small amt....	Foreign solids.
May 25	Callaghan Bros	Green Bay .....	.....	Cider	4.35	2.55	Present	Passed.
June 3	Milwaukee Vinegar Co	Milwaukee....	Milwaukee Vin. Co.	Cider	4.15	4.11	Small amt....	Foreign solids.
July 5	McNulty Bros	Spring Green.	.....	Cider	3.09	.....	Large amt....	Deficient in acid.
July 7	Eau Claire Grocer Co.	Eau Claire....	Sprague, W. & Co., Chic..	Warner's cider	4.65	2.47	Present	Passed.
July 26	Benson & Williamson	Racine .....	.....	.....	3.48	.....	.....	Condemned.
Sept. 15	P. L. Munger	Waupaca .....	.....	Cider	2.69	2.46	Slight amt....	Condemned.
Sept. 15	Wm. Steinmeyer Co.	Milwaukee....	Genesee Fruit Co.	Cider	4.17	2.50	Present	Passed.
Sept. 21	Shepard & McFayden	Beaver Dam ..	.....	Cider	5.07	.56	None	Not cider.
Sept. 21	Shepard & McFayden	Beaver Dam ..	.....	Cider	4.77	.44	.....	Not cider.
Sept. 21	Du Frenne Bros. & Co.	Middleton....	.....	Distilled 80 grain ..	7.47	.....	.....	75 grain.
Sept. 21	Du Frenne Bros. & Co.	Middleton....	.....	Distilled 40 grain ..	3.96	.....	.....	Low in acid.
Oct. 5	A. Deitl .....	.....	.....	Cider	7.83	.64	None	Colored distilled.
Oct. 5	A. Deitl .....	.....	.....	Distilled white	8.67	.....	.....	.....
1899.								
May 20	Thos. Powell	Eau Claire....	Burlington Vin. Wks.	Guar'nteed rye m'lt	4.14	.32	.....	Colored. Dis-
			Burlington, Ia.	.....				tilled.
May 20	Felix Derounin	Eau Claire....	Gedney & Co., St. P ..	Cider	4.26	2.84	None	Foreign sugars.
Aug. 26	S. D. Seavey Co	W. Superior..	Chicago Vin. Wks. ....	.....	8.07	.53	None	Caramel color.
Aug. 26	B. Lukwitz	La Crosse....	Marked "A"	Cider	4.71	1.61	Present	Below standard.
Aug. 26	B. Lukwitz	La Crosse	Marked "B" .....	.....	4.35	2.15	Present	Passed.
1900.								
Mch. 22	Wm. Steinmeyer Co.	Milwaukee....	.....	Clar'nd'n Pure Cid.	4.02	2.55	Present	(Ash .31). Passed
Mch. 31	Geo Frey	La Crosse....	.....	White distilled	3.57	.....	.....	Below standard.
Mch. 31	State Board of Control	Madison .....	.....	White distilled	7.51	.....	.....	.....
Mch. 31	State Boare of Control	Madison .....	.....	Cider	4.44	2.18	Present	Passed.
Apr. 11	Balch & Tragsdorf	Eau Claire....	.....	Cider	4.26	2.47	Present	(Ash .27).
July 13	Chippewa Val. Mer. Co	Chip. Falls ..	Mich. Cider Co., Chicago.	Cider	4.17	2.63	Moderate amt	C'nt'ins for. s'lids
Aug. 18	Ed. H. Schmidt	Menomonie ..	.....	Cider	4.35	2.57	Present	Passed.
Aug. 18	Ed. H. Schmidt	Menomonie ..	.....	Cider	4.32	2.00	Present	Passed.
Sept. 6	J. Lukwitz	La Crosse....	.....	White distilled....	4.04	.....	.....	Passed.
Sept. 6	W. & H. Wollschlager	Wonewoc	S. A. Low & Co., Freeport.	Cider	4.41	2.42	Present	Passed.
Sept. 6	W. & H. Wollschlager	Wonewoc	S. A. Low & Co., Freeport.	40 Gr. distilled	3.72	.....	.....	Below standard.

HONEY.

1900.

- Feb. 8 A. B. Bishop, Milwaukee. Polarization direct, -12.7 ; after inversion, -21 . Pure.
- Feb. 22 Sent by N. France, Platteville. Polarization direct, -10.2 ; after inversion, -16.2 . Pure.
- July 5 Sent by ———, Milwaukee. Polarization direct, -6.8 ; after inversion, -21.6 . Probably pure.

MOLASSES.

1898.

- Dec. 12 Sent by McAlpin Grocery Co., Beloit. Adulterated with glucose.
- Dec. 20 Sent by Geo. M. Haire, Weyauwega. Consists almost wholly of glucose syrup.

SYRUP.

1898.

- Dec. 27 Sample taken by N. J. Field from Nat. Ross, Jr., 263 South Water St., Milwaukee. Barrel branded "Crystal Drips." Consists largely of glucose syrup. Proved to be compound glucose syrup.

1898.

- Oct. Sent by A. H. Elliot, Beloit. Sold as glucose syrup. Polarization direct, $+122.4$; after inversion, $+109$. This sample consists of glucose syrup approximating 10 per cent. of cane syrup.
- Sent by A. H. Elliot, Beloit. Sold as sorghum syrup. Polarization, $+120.6$; after inversion, $+106.8$. This consists of compound glucose syrup.

1899.

- Feb. 22 Sent by M. S. Meacham, grocer, Beloit. Sold as "Sorghum syrup." Polarization direct, $+119.2$; after inversion, $+107.4$. Largely glucose.
- Maple syrup, sent by Home Bros., Milwaukee. Purchased from P. R. Gale, Stowe, Vermont. Polarization direct, $+1.7$; after inversion, -18.5 . Consists largely of invert sugar.
- Same as above. Second lot. Polarization direct, $+62.6$; after inversion, -24.2 . Genuine.

1900.

- Sept. 28 Maple syrup, sample "A," sent by ———. Polarization direct, $+64.0$; after inversion, -19.8 . Pure.
- Maple syrup, sample "B," sent by ———. Polarization $+36.4$; after inversion, -18.5 . This is probably a manufactured imitation, composed in part of invert sugar.

CANDY.

1900.

July 1 Five samples of candy bought of various retailers in Milwaukee, examined as to coloring matter and sulphites. All were colored with harmless colors.

Sample purchased of Siebert, Good & Co. contained sulphites. Four were free from such compounds.

LEMON FLAVORING EXTRACTS.

Date.	Brand.	Sent by	Rotation	Alcohol per cent. by weight.	Comments.
1898					
Oct. 15	"Dieter's Double"....	Bo't of J. Michelstetter.	+ 1.2	51.38	Condemned.
Nov. 28	"Acme".....	Bo't of Wellauer, Hoffman & Co. Mil.	+ 13.1	70.44	Oil 3.7 per ct. Condemned.
Nov. 23	"Standard".....	Bo't of A. Dahlman, Milwaukee.	+ 18.6	86.04	Passed.
Dec. 1	"Cream of Fruit"....	Bo't of Pruden & Son, Racine.	+ 19.2	.....	Oil 5.4 per ct. Tropoeolin color. Pass- ed.
1899					
Jan. 14	"Rival".....	B. Jenks, Berg & W. Whitehall	+ 13.8	76.04	4.2 per ct. oil. Condemned.
Jan. 14	.....	Bo't of John Berg, Ashland.	+ 26.0	88.36	7.8 per ct. oil.
Jan. 19	Van Duzer's.....	Milwaukee Tea Co.	+ 13.7	85.	4.8 per ct. oil. Passed.
Jan. 19	Dieter & Co. "Straight"	.....	+ 14.2	74.8	5.6 per ct. oil. Passed.
May 5	White House, Manfg. by Gould, Wells & Blackburn.	Sold by Purcell Bros., Madison.	.....	76.88	5.6 per ct. oil.
May 5	Wilson Bros., Edger- ton.	Bo't of Pat. Regan, Madison.	+ 10.5	70.6	2.9 per ct. oil. Colored.
May 5	Corbin, May & Co....	Bo't of E. W. Haw- ley & Son, Madison.	+ 10.7	68.35	3.2 per ct. oil. Colored.
May 5	Souder's Regular, (old)	Bo't of H. Breiten- bach, Madison.	+ .5	39.8	Tropoeolin color.
May 5	Chapman's Rolling Pin.	Bo't of Aug. Haak, Madison.	.....	70.92	5.4 per ct. oil.
May 12	Cowles Manfg. Co....	Otto Lautz, M'rinette	+ .3	.....	Condemned.
May 4	C. R. Groff's Pure Concentrated.	.....	- 0.2	16.6	Oil none. Condemn'd.
May 13	Roundy, Peckham & Co.'s "Pure."	.....	.....	.....	Contains tr'ce of oil only.
May 12	"Royal Crown".....	Mfg. by Lambert & Lowman.	.....	39.80	Oil tr. Color trocopolin.
May 12	"Rolling Pin".....	Mfg. by Chapman, Smith & Co.	+ 9.6	79.32	3 per ct. oil. Condemn'd.
May 16	"Clearquill".....	Mfg. by Corbin, May & Co., Chicago.	+ 12.4	.....	Cont. much floating oil.
May 23	Gurnee's Concentra- ted.	Mfg. by Puhl, Webb & Co.	+ .1	32.25	Condemned.
May 26	"Standard of Excel- lence."	Mfg. by Mrs. M. A. Gilkey.	0.0	32.3	Oil none. Condemn'd.
May 23	Groff's Absolutely Pure	Everson & Co., Hud- son.....	+ 13.3	86.42	4.4 per ct. oil.
May, 26	"McMurray's Super- fine."	Mfg by Wm. Mc- Murray & Co.....	+ 9.5	69.6	Color tropoe- olin. Below standard.
May 24	"Ivory".....	Twohy Mer. Co., West Superior.....	.....	.....	Oil traces only.
May 24	"Twohy's Pure".....	Twohy Mer. Co., West Superior.....	.....	39.	Oil traces only.
June 1	"Excelsior Triple," E. B. Miller & Co...	Williman, Hansen & Co., Ashland.....	+ 9.4	71.25	Oil 2.9 per ct.

LEMON FLAVORING EXTRACTS—Continued.

Date.	Brand.	Sent by	Rotation	Alcohol per cent. by weight.	Comments.
1899.					
June 1	T. J. Anderson & Co., West Superior.	N. J. Field.....	— .3	37.67	Colored. oil.
June 1	Dieter's Double (old)	J. B. Matthews & Co., Ashland.	+ 1.6	57.42	Contained cit- ral.
June 1	Dieter's Double (new).....	O. Jorgensen, Ash- land.	+ 15.2	86.42	5.7 per ct. oil precipitated
June 1	Gurney's Concentrat- ed.	Moen & Petersen, Chippewa Falls....	+ 3.3	17.92	Contains cit- ral.
June 1	Ivory—Twohy Mer- cantile Co.	M. J. Fiebelkorn, Ashland.....	+ .1	.....	Traces of oil.
June 1	Pedro - Wright- Clarkson Mer. Co., Duluth, Minn.	Geo. H. Sheldon, West Superior.....	+ .1	22.92	Traces of oil.
June 1	Harold's Cowles Mfg Co.	Geo. J. Neher, Eau Claire.	+ .3	41.7	Traces of oil.
June 1	Dr. Little's Cowles Manfg. Co.	P. P. Mullman, Green Bay.	.....	75.40	3.9 per ct. oil.
June 3	Steele Wedeles Co. Chicago	Paul Findlay.	.....	83.7	5.9 per ct. oil. Tr'poelin oil.
June 3	Seneca Chemical Works.	.....	+ .2	19.2	Traces of oil.
June 3	McMurray's Honest Bottle. Wm. Mc- Murray & Co., St. Paul.	.....	— .3	32.0	C'tained cit- ral. Colored.
June 3	Hatch's Honest Bot- tle. Wm. M'Murray & Co., St. Paul.	.....	— .3	32.0	C'tained cit- ral. Colored.
June 3	Wyborg's Honest Bottle. Wm. Mc- Murray & Co., St. Paul.	.....	— .3	32.0	C'tained cit- ral. Colored.
June 3	Revolution. W m. Hoyt & Co.	Osceola Merc. Co. Osceola, Wis.	— .1	53.5	Colored. Con- tained citral
June 3	Standard.....	.....	.....	31.3	Oil, none.
June 3	Bengal.....	.....	+ 11.3	82.73	3.3 per ct. oil.
June 12	National Pure Fruit. National Extract Works, Milwaukee.	Schuller Bros., Mil- waukee.	+ 3.7	.....	3.0 per ct. oil.
June 12	National Pure Fruit.	Bo't of National Ex- tract Works.	5.3	72.0	1.8 per ct. Colored.
June 13	Livesay's.....	Bo't of G. Wagner, Milwaukee.	+ 13.7	.....	4.3 per ct. Col- ored.
June 13	Economy (old). Dur- and-Casper Co.	.....	.0	37.1	Trace of oil. Colored.
June 13	Special. Schorndor- fer & Eberhard.	Bo't of C. Krouse....	.0	37.67	Traces of oil. Colored.
June 13	Pure Perfection, Schorndorf & Eb- erhard.	Bo't of Hensel Bros. Milwaukee.	+ 10.3	79.7	2.2 per ct. oil.
June 19	I. Adler's.....	Bought of F. Fischer Milwaukee.	+ 13.7	92.4	4 4 per ct. oil.
June 19	Triple.....	Amsterdam Kaffee Co., Milwaukee.	+ 24.2	94.3	7.7 per ct. oil.
June 19	Ware's. C. F. Ware & Co.	Bo't of W. L. Le- Selle, Milwaukee.	+ .1	30.4	Trace of oil.
June 19	Economy. A. J. Hil- bert & Co.	Bo't of N. Y. Tea Co. Milwaukee.	+ 15.2	89.2	5.9 per ct. oil.
June 19	Mfg. Roundy, Peck- ham & Co.	Bought of C. Rostad, Milwaukee.	+ 16.7	83.4	5.2 per ct. oil.
June 19	Our Own Lemon.....	Bought of Savage & Sons, Milwaukee.	+ 6.3	65.8	1.4 per ct. oil.
July 7	Purity. Thompson, Taylor & Co.	Eau Claire Grocer Co	+ 20.4	79.7	5.3 per ct. oil. Sugar.
July 8	Ivory.....	Twohy Mer. Co., West Superior.	+ 20.4	75.2	5.6 per ct. oil.
Aug. 4	J. A. Tolman Co.....	Foster Lumber Co....	+ .1	30.5	Oil trace.

LEMON FLAVORING EXTRACTS—Continued.

Date.	Brand.	Sent by	Rotation	Alcohol per cent. by weight.	Comments.
Aug. 22	Seely's	T. H. Johnson, Milwaukee.	+ 3.9	65.4	1.2 per ct. oil. Colored.
Aug. 30	Harrold's. Cowles Manfg. Co.	Rezek Bros., Antigo	— .2	42.8	Oil trace. Colored.
Aug. 30	Seely's	F. H. Johnson, Milwaukee.	+ 3.9	62.8	1.2 per ct. oil.
Aug. 30	Manufg. by J. A. Tolman & Co.	.....	— .2	30.6	Contains citral.
1900.					
Jan. 2	Made by Mrs. Titchener, Racine.	E. Bergwell, Milwaukee.	+ 1.8	.....	Oil traces.
Jan. 2	.....	Bought at Clark's Bazaar, Eau Claire	+ .3	.....	Oil, none.
Mch. 17	Bengal	McMurray & Co., St. Paul.	+ .2	34.3	Oil traces.
Apr. 25	Bengal. Manfg. by Griggs, Cooper & Co	.....	+ .4	34.1	Oil traces. Colored.
Sept. 1	Mfg. by E. D. Wilde.	Bought of D. C. Adams, Milwaukee	+ .5	41.1	2 per ct. oil.
Sept. 25	.....	State Board of Control.....	+ 13.2	67.5	3.7 per ct. oil. Naphthol yellow.

EXTRACTS OF VANILLA.

1899.

- May 24 Sent by Twohy Mercantile Co., West Superior. "Ivory Extract of Vanilla." Contains cumarin. Falsely labeled.
- June 1 Sent in by N. J. Field. Bought of T. J. Anderson Co., West Superior. Cumarin absent. Pure, but weak.
- "Pure Concentrated Extract Vanilla," manufactured by N. Hosmer, Chicago. Sent by E. P. Curry, Ashland. Contains cumarin. Adulterated.
- June 2 "McMurray Honest Bottle. True Extract Vanilla Compound." Contains cumarin. Not properly labeled.
- One sample vanilla examined. Pure.

FRUIT SYRUPS.

The following fruit syrups were intended for use in soda water and purchased of retail druggists.

	Color.	Flavor.	Preservative.
French's Pineapple.....	Natural.....	Natural.....	Benzoic acid.
French's Raspberry.....	Natural.....	Natural.....	Benzoic acid.
French's Orange.....	Natural.....	Natural.....	None.
J. Hungerford Smith's Raspberry.	Aniline.....	Natural.....	Salicylic acid.
(Made by druggist) Raspberry.	Natural.....	Natural.....	None.
(Made by druggist) Strawberry.....	Natural.....	Natural.....	None.
Hance Bros. & White Grape.....	Natural.....	Natural.....	Salicylic acid.
Hance Bros. & White Cherry Ripe	Natural.....	Natural.....	Salicylic acid.
Hance Bros. & White L. A. W. (Mint)..	Aniline.....	Natural.....	None.

CREAM OF TARTAR.

1898

- Nov. 22 Sent by Johannes Bros., Green Bay. Manufactured by Santa Clara Manufacturing Co., Omaha, Neb. "Guaranteed Pure." Contains calcium acid phosphate.

1899.

- Sept. 21 Sent by American Candy & Biscuit Co., Green Bay. Purchased at Omaha. Contains calcium acid phosphate and corn starch.

Thirteen other samples of cream of tartar purchased principally from retail druggists have been examined and found to be pure.

BAKING POWDER.

1898.

- Dec. 1 Tolman's Baking Powder, sent in by Inspector N. J. Field. Alum phosphate powder, improperly labeled.

1899.

- Jan. 3 Eagle Brand Baking Powder. No firm name. Grand Rapids, Mich. Alum phosphate powder, improperly labeled.

- Sept. 21 Sent by E. Blakeslee. "Pure Food Baking Powder." Alum phosphate, not properly labeled.

- Nov. 22 "Pure Food Baking Powder." Sent by Geo. Kroncke, attorney for J. A. Koltes, Dane, Wis. Alum baking powder, not properly labeled. Suit was commenced by the company to recover payment for this powder, which was returned. At time of trial suit was withdrawn under threat of prosecution.

Four samples examined and found to be pure.

BUCKWHEAT.

Fifteen samples of buckwheat flour have been examined. Four of these proved to be pure. The adulterated samples are reported below in detail:

- Dec. 28 Sent by M. B. Burlingame, New London. No. 1, pure. No. 2, adulterated with wheat flour.

1899.

- Jan. 10 Sent by John Mahar, Belleville, Wis. Pure.

- Feb. 8 Sent by ———. Contains small amount of wheat flour; probably accidental.

- Mar. 6 Sent by G. L. Miller, Madison. Pure.

- Nov. 1 Sent by Oshkosh Spice Co. Large amount of wheat flour.

- Dec. 14 Washington Milling Co., Eau Claire. Contains wheat middlings.

1900.

- Jan. 3 J. Lammers, Gibbsville, Wis. Contains wheat starch and middlings.

- Jan. 4 Husin Bros. & Timm Co., Plymouth. Contains wheat flour.

- Jan. 4 Onino River Mills, Waldo, Wis., "Warranted pure." Contains wheat middlings.
- Jan. 11 Said to be sold by N. J. McIntyre, Eau Claire. Contains wheat flour.

FLOURS.

1899.

- Apr. 19 Corn meal, sent by Mr. Fleming, Madison. Supposed to have caused illness. Found to be pure and normal.
- July 5 Rye flour, sent by J. A. Reick, Hartford, supposed to have caused illness. Found to be pure.
- July 8 Wheat flour, sent by Dr. F. B. Doherty, Crivitz, Wisconsin. Reported to contain arsenic or Paris green. Arsenic was absent. It contained a small amount of a green aniline dye, probably an accidental impurity.
- Oct. 10 Rye flour, sent by C. W. Pinkham, Fond du Lac. Found to be pure.

1900.

- Feb. 22 Wheat flour, sent by C. W. Sweeting. Proved to be a low grade wheat flour, but pure.
- Four samples examined and found to be pure.

MUSTARD.

1898.

- Oct. 13 Sent by Johannes Bros., Green Bay. Pure, but colored.

1899.

- May 3 Sent by G. A. Kitzman, Rice Lake. Said to be sold by Eau Claire Grocer Co. Adulterated with wheat flour and turmeric.
- July 26 Prepared mustard, sent by Chas. Grasse, Sheboygan. Said to be manufactured by Columbia Mustard Mills, Chicago. Contains starch.
- Four other samples of mustard have been examined and found to be pure.

PEPPERS.

1898.

- Sept. 5 Back Pepper, labeled "Chicago Mills Perfectly Pure Spices," "Best Quality Guaranteed." Contains wheat starch in form of middlings, and charred matter.
- Sept. 5 White Pepper. Same brand as above. Contains wheat starch or middlings.

1899.

- Nov. 18 Bought of J. E. Donnelly & Co., Oshkosh. Contained coconut shells.

ALSPICE.

Sent by C. E. Lewis, Fond du Lac. Adulterated with wheat flour. Eight samples of pepper examined and found to be pure.

CATSUPS.

1898.

Sept. 5 "Sunnyside" Catsup, sent by D. C. Adams, Milwaukee. Salicylic acid absent. Aniline color found.

1900.

June 6 Tomato Catsup, purchased at Fair Store, Madison. Curtis Bros.' "Blue Label." Preserved with salicylic acid.

GINGER.

Two samples examined and found to be pure.

LINSEED OILS.

1899.

Sept. 21 Sent by Aug. Schmidt & Co., Madison. Pure.

1900.

June 6 Sent by E. B. Heimstreet, Janesville. No. 1, pure linseed oil. No. 2, contained 31 per cent. paraffine oil.

July 1 Sent by S. Bordwell, Plainfield, Wis. Pure.

Aug. 20 Sent by Oshkosh Paint Co. Passed as pure.

Aug. 21 Sent by I. F. Leppere, Green Bay. Passed as pure.

July 3 Sent by E. B. Heimstreet, Janesville. Sold by American Linseed Oil Co., Cleveland, to Getchell-Lubeck Co., Grand Rapids. Contains 34.2 per cent. mineral oil.

SUGAR.

1899.

Sept. 23 Sent by Murrish & Sons, Mazomanie, Wis. Sack branded "New York Sugar Refinery." Strongly tinted with ultramarine blue. Otherwise pure.

GRANULATED SUGAR.

1900.

Jan. 3 Sent by H. J. Grell Butter & Egg Co., Johnson's Creek. Contained 95.5 per cent. sucrose and approximately 4 per cent. of wheat flour. Contamination probably occurred through accident.

Jan. 3 Sent by P. Burbach, Milwaukee. Contained 99.6 per cent. sucrose. Pure.

MISCELLANEOUS.

1899.

- Mar. 25 Yeast, two samples, sent by F. H. Johannes, Green Bay. Manufactured by Fleischman & Co., and A. Bergenthal Co., Milwaukee. Examined for preservatives, none found.
- Mar. 28 C. R. Groff & Co.'s Powdered Lemon Extract. Starch, slightly flavored with oil of lemon. Claimed to be twice as strong as liquid.
- May 4 "Cream Malto," manufactured by Fauerbach Brewing Co. Sent by M. S. Dudgeon, District Attorney, Dane Co. Guaranteed less than 2 per cent. alcohol. Contained 3.86 per cent. by weight.
- June 7 Peil's Cornstarch. Pure.
- June 7 "Natronia" bi-carbonate of soda. Commercially pure.
- July 7 Ice cream, bought by N. J. Field of C. S. Holt, Milwaukee. Preservatives absent.
- Oct. 23 Sample cocoa. Passed.

1900.

- Jan. 3 "Diamond" Baking powder. Pure.
- Jan. 3 "Arm and Hammer" saleratus. Pure bi-carbonate of soda.
- Jan. 6 Two samples rice flour, purchased Birkel & Clark, Milwaukee. Both pure.
- Jan. 6 Marunta arrow root starch, purchased of Birkel & Clark, Milwaukee. Pure.
- Feb. 13 Churned lump of fat found in milk by J. E. Amend, Ripon. Proved to be pure fat.
- March 17 Brewster's Royal sweet chocolate. Contained dextrinized wheat starch.
- Apr. 6 Beef, Wine and Iron, manufactured by Spencer Manfg. Co. Bought of Espenhain Dry Goods Co., Nov. 15, 1899. Contained no iron or beef extract.
- Apr. 6 Sample Beef, Wine and Iron. Passed as pure.
- Apr. 21 Beef, Wine and Iron. Bought of Gimbel Bros., Milwaukee. Passed as pure.

WATER ANALYSES.

Sent by Dr. C. A. Boorman, Health Officer, Centralia, Wis.,
said to be the tap water of the city supply:

	Parts per 100,000.
Total residue	8.70
Mineral residue	3.90
Volatile residue	4.80
Chlorine	.175
N as Nitrates	.005
N as Nitrites	.0000
Saline ammonia	.001
Albuminoid ammonia	.015
Residue darkened deeply upon ignition.	

The large amount of volatile mater and albuminoid ammonia shows the water to contain considerable organic matter, but it seems to be a harmless kind, and the water is free from sewage pollution.

Sent from Centralia by C. A. Boorman, M. D., Health Officer;
source Wisconsin river; collected October 12:

	Parts per 100,000.
Total residue	9.50
Mineral residue	5.30
Volatile residue	4.20
Chlorine	.175
Ammonia, saline	.0015
Ammonia, albuminoid	.015
Nitrites	.0000
Nitrates	.010
Residue blackened on ignition.	

Unusually pure for river water.

Sent from Arbor Vitae, by H. B. Rosenberry, Health Officer;
 "driven well, 100 feet from outhouse;" collected October 13:

	Parts per 100,000.
Total residue	12.20
Mineral residue	6.60
Volatile residue	5.60
Chlorine	1.050
Ammonia, saline	.002
Ammonia, albuminoid	.006
Nitrites	.0000
Nitrates	.140

While the ammonias are low in this water, still the large amount of chlorine and nitrates are sufficient to characterize the water as suspicious. I should, however, hesitate to condemn it on this analysis.

Sent by U. P. Stair, marked "Driven well, 26 feet deep, Fort Atkinson:"

	Parts per 100,000.
Total residue	60.00
Mineral residue	35.90
Volatile residue	24.10
Chlorine	2.800
Ammonia, saline	.003
Ammonia, albuminoid	.009
Nitrites	trace
Nitrates	.455
Water darkened considerably upon ignition.	
Exceedingly conspicuous.	

While most of the impurity is in an oxidized condition, still I would consider this water dangerous.

Sent by P. G. Gebhard, Stettin, Wis., Marathon county, received Nov. 16, 1898:

	Parts per 100,000.
Total residue	34.60
Mineral residue	21.80
Volatile residue	12.80
Chlorine	6.250
Saline ammonia	.003
Albuminoid ammonia	.017
Nitrogen as nitrates	very large amount
Nitrites	none
Water darkened slightly upon ignition.	

The nitrates were too high to estimate by usual method.

Oct. 28, 1898. Sent by C. P. Bunsen, Health Officer, Galesville:

	Parts per 100,000.
Total residue	22.80
Mineral residue	18.70
Volatile residue	4.10
Chlorine	.200
Ammonia, saline	.048
Ammonia, albumioid	.003
Nitrites	.0000
Nitrates	.005

I am at loss to account for the large amount of free ammonia shown in this water. The very low chlorine nitrites and nitrates seem to preclude the possibility of the presence of sewage contamination, and I should consider the water pure. Possibly ammonia was previously contained in the bottle.

Sent by Dr. R. C. Merriman, Marinette, Nov. 16, 1898:

	Parts per 100,000.
Total residue	86.10
Mineral residue	69.60
Volatile residue	16.50
Chlorine	4.400
Ammonia, saline	.026
Albuminoid ammonia	.001
Nitrites	.0002
Nitrates	.010

The free ammonia and chlorine are unusually high. The presence of nitrites is also suspicious. I believe this water to be considerably polluted.

Sent by Dr. Rosenberry, Arbor Vitae, Nov. 18, 1898:

	Parts per 100,000.
Chlorine	1.150
Saline ammonia	.0015
Albuminoid ammonia	.004
Nitrates	large amount
Nitrites	trace

Impure,

Nov. 18, 1898. Water sent by Dr. F. B. Bentley, Portage, Wis.:

	Parts per 100,000.
Total residue	31.80
Mineral residue	21.0
Volatile residue	10.80
Chlorine	1.650
Saline ammonia	.006
Albuminoid ammonia	.020
Nitrates	.070
Nitrites	.0005

My opinion is that this water is unfit for use.

Nov. 23, 1898. Water sent from Platteville, marked "City Supply Well No. 1.:"

	Parts per 100,000.
Total residue	74.30
Mineral residue	39.90
Volatile residue	34.40
Chlorine	5.70
Ammonia, saline	.000
Ammonia, albuminoid	.006
N. as nitrites	.0000
N. as nitrates	1.050

Sample No. 2, Hayden's well:

	Parts per 100,000.
Total residue	86.00
Mineral residue	44.50
Volatile residue	41.50
Chlorine	5.50
Ammonia, saline	.000
Ammonia, albuminoid	.005
Nitrates	faint trace
Nitrates	1.450

The nitrates and chlorine are unusually high in both of these waters. There is not much difference in their purity, both showing much "past pollution," but chemical analysis does not prove them dangerous.

Dec. 9, 1898. Sent by Dr. J. C. Reynolds, Lake Geneva:

	Parts per 100,000.
Total residue	52.30
Mineral residue	25.10
Volatile residue	27.20
Chlorine	2.200
Saline ammonia	.014
Albuminoid ammonia	.006
Nitrites	.0005
Nitrates	large amount

This water has received considerable contamination in the past, but much of it is completely oxidized. The free ammonia and nitrites will stamp this water as dangerous, however. This together with the least suspicion of its being the cause of trouble should be sufficient to condemn it.

Dec. 23, 1898. Sent by R. S. Pelton, Waupaca. Water No. 1 (white bottle):

	Parts per 100,000.
Total residue	22.70
Mineral residue	14.40
Volatile residue	8.30
Chlorine ..	.200
Ammonia, saline	.001
Ammonia, albuminoid	.002
Nitrogen, as nitrites	none
Nitrogen, as nitrates	.015

This water is usually pure.

Water No. 2: (blue bottle).

	Parts per 100,000.
Total residue	23.76
Mineral residue	12.80
Volatile residue	10.96
Chlorine ..	.175
Ammonia, saline	.003
Ammonia, albuminoid	.005
Nitrites ..	traces
Nitrates	.030

This water shows a slight amount of organic matter, but it does not seem to be from sewage.

Sent by C. A. Caswell, Fort Atkinson, December 23, 1898:

No. 1. Water from .50 ft. well:

	Parts per 100,000.
Chlorine	1.250
Ammonia, saline	.000
Albuminoid ammonia	.002
Nitrites ..	none
Nitrates	large amount

No. 2. Water from flowing well:

	Parts per 100,000.
Chlorine	.200
Ammonia, saline	.000
Ammonia, albuminoid	.000
Nitrites ..	.000
Nitrates	.010

Sediment consists mostly of iron oxide in the form of ochre with carbonates of lime and magnesia. The sludge and probably also the water, when it is first drawn, contains sulphureted hydrogen, a gas having a strong and disagreeable odor somewhat like rotten eggs. This is deemed rather beneficial than otherwise, when present in pure water, owing to its contained sulphur.

Sent by F. E. Shaykett, Brandon, collected January 5, 1899, from well ten rods from barnyard:

	Parts per 100,000.
Total residue	38.10
Mineral residue	30.10
Volatile residue	8.00
Chlorine	.500
Ammonia, saline	.005
Ammonia, albuminoid	.004
Nitrates	.025
Nitrites	.0000

While this water shows a small amount of seepage, I do not consider it dangerously polluted.

April 10, 1899. Three samples of water from A. J. Kreitzer, Sturgeon Bay:

Well No. 1, 120 ft. deep.

	Parts per 100,000.
Total residue	29.00
Mineral residue	21.40
Volatile residue	7.60
Chlorine	.250
Ammonia, saline	.002
Ammonia, albuminoid	.005
Nitrates	.025
Nitrites	.0000

Well No. 2, 125 feet deep.

	Parts per 100,000.
Total residue	41.80
Mineral residue	25.90
Volatile residue	15.90
Chlorine	2.325
Ammonia, saline	.002
Ammonia, albuminoid	.010
Nitrates	.025
Nitrites	none

Well No. 3, 65 feet deep.

	Parts per 100,000.
Total residue	42.40
Mineral residue	32.70
Volatile residue	9.70
Chlorine	2.275
Ammonia, saline	.004
Ammonia, albuminoid	.009
Nitrates	.150
Nitrites	none

Water No. 1 seems to be quite pure. Numbers 2 and 3 seem to be slightly polluted with sewage, as shown by the increase in albuminoid ammonia and the large amount of resultant mineral matter, as chlorine and nitrates.

April 25, 1899. Samples of water sent by Dr. F. B. Dodson, Berlin, have been examined with results as follows:

Well Water Polish Par. School.

	Parts per 100,000.
Total residue	62.70
Mineral residue	41.20
Volatile residue	21.50
Chlorine	1.450
Ammonia, saline	.004
Ammonia, albuminoid	.018
Nitrites	.0002
Nitrates	large amount

Dr. Dodson's Well.

	Parts per 100,000.
Total residue	43.70
Mineral residue	25.90
Volatile residue	17.80
Chlorine	3.550
Ammonia, saline	.0025
Ammonia, albuminoid	.007
Nitrites	.0001
Nitrates	moderate amount

The water from Dr. Dodson's well is undoubtedly contaminated and dangerous.

The Parochial School well should evidently be condemned.

April 25, 1899. Emil Maurer, Arcadia:

	Parts per 100,000.
Total residue	62.70
Mineral residue	33.50
Volatile residue	29.20
Ammonia, saline .....	.....
Ammonia, albuminoid .....	.....
Chlorine	9.400
Nitrites	.0004
Nitrates	very large amount

Oxides of nitrogen given off upon ignition. This water is badly polluted.

May 5, 1899. Water from well of Chris. Matzke, Juda, Wis.:

	Parts per 100,000.
Total residue	31.40
Mineral residue	20.20
Volatile residue	11.20
Chlorine	.225
Ammonia, saline	.000
Ammonia, albuminoid	.001
N. as nitrites	none
N. as nitrates	.050

I consider this water pure.

Water from well of C. S. Youngs, Monroe, Wis.:

	Parts per 100,000.
Total residue	73.00
Mineral residue	38.00
Volatile residue	35.00
Chlorine	3.450
Ammonia, saline	.002
Ammonia, albuminoid	.010
N. as nitrites	none
N. as nitrates	large amount

This water is undoubtedly contaminated.

May 19, 1899. Sample of water sent by Dr. T. J. Redelings, Marinette, Wis., said to be from city water during epidemic of typhoid, and which is derived from Green Bay, the intake being 1200 feet from shore:

	Parts per 100,000.
Total residue	16.30
Mineral residue	10.50
Volatile residue	5.80
Chlorine	.450
Saline ammonia	.003
Albuminoid ammonia	.019
N. as nitrates	.050
N. as nitrites	none

For Lake Michigan water, this sample shows considerable contamination. The chlorine is nearly double that of the normal Lake Michigan water. The albuminoid ammonia may come from other sources than sewage, but as it distills over rapidly, it probably comes from easily decomposed matter. This, with the chlorine, indicates undoubted contamination.

May 26, 1899. Sample of water sent by Dr. H. B. Johnson, from Tomah, marked "Tap," collected May 23; source unknown:

	Parts per 100,000.
Total residue	9.80
Mineral residue	6.20
Volatile residue	6.30
Chlorine	3.25
Ammonia, saline	.001
Ammonia, albuminoid	.006
Nitrites	.0000
Nitrates	moderate amount

The water did not darken or emit odor upon ignition. From a chemical standpoint, this water must be considered pure.

June 1, 1899. Samples of water sent by Dr. Chas. Gorst, Health Officer, Baraboo:

No. 1.

	Parts per 100,000.
Total residue	31.10
Mineral residue	24.10
Volatile residue	7.00
Chlorine	.250
Ammonia, saline	.006
Ammonia, albuminoid	.009
N. as nitrites	.0001
N. as nitrates	.150

No. 2.

	Parts per 100,000.
Total residue	31.30
Mineral residue	23.20
Volatile residue	8.10
Chlorine	.225
Ammonia, saline	.001
Ammonia, albuminoid	.002
N. as nitrites	faint trace
N. as nitrates	.050

Water No. 1 shows considerable more organic matter than No. 2, but insufficient to warrant condemnation from a chemical standpoint. The chlorines are usually low in both waters, indicating comparative freedom from sewage.

June 2, 1899. Sent by W. H. Decker, Superior, Wis.:

	Parts per 100,000.
Total residue	27.50
Mineral residue	20.40
Volatile residue	7.10
Chlorine	.575
Ammonia, saline	.009
Ammonia, albuminoid	.009
Nitrites	.0000
Nitrates	.010

The exceedingly high discoloration and slime are due to deposition of iron, probably caused by a low form of plant life frequently growing in pipes. While this water cannot be considered pure, it is probably not sufficiently impure to be actually dangerous.

June 2, 1899. Samples of water sent by Dr. T. J. Redeling, Marinette:

No. 1, 20 ft. from largest sewer outfall.

	Parts per 100,000.
Total residue	18.00
Mineral residue	8.80
Volatile residue	9.20
Chlorine	.475
Ammonia, saline	.0015
Ammonia, albuminoid	.050
N. as nitrites	.0003
N. as nitrates	.010

No. 2, near mouth of river, main channel, half way between sewer and intake.

	Parts per 100,000.
Total residue	13.70
Mineral residue	5.80
Volatile residue	7.90
Chlorine	.400
Ammonia, saline	.002
Ammonia, albuminoid	.036
N. as nitrites	none
N. as nitrates	.015

No. 3, Green Bay, near intake pipe. (Winds favorable for best possible specimen.)

	Parts per 100,000.
Total residue	14.70
Mineral residue	7.50
Volatile residue	7.20
Chlorine	.275
Ammonia, saline	.002
Ammonia, albuminoid	.0185
N. as nitrites	trace
N. as nitrates	.010

No. 1 is very highly colored and darkened deeply. No. 2, highly colored and darkened deeply. No. 3, light colored and darkened deeply upon ignition. The variation in the chlorine and nitrates shows much current action, but all samples show much pollution.

June 3, 1899. Sample of well water sent by Wm. Wilber, Monroe:

	Parts per 100,000.
Total residue	80.50
Mineral residue	42.40
Volatile residue	38.10
Chlorine	1.700
Ammonia, saline	.005
Ammonia, albuminoid	.004
Nitrites	.0002
Nitrates	large amount

This water shows considerable oxidized soil leaching, but does not seem to contain much sewage of a dangerous character.

June 17, 1899. Sample of water sent by Dr. Louis Falge, Reedsville, June 8, from well 35 feet deep, 100 feet from privy, 200 feet from barn:

	Parts per 100,000.
Total residue	47.20
Mineral residue	31.20
Volatile residue	16.00
Chlorine	2.350
Ammonia, saline	.015
Ammonia, albuminoid	.019
Nitrites	trace only
Nitrates	.250

This water shows considerable contamination, apparently from soil leaching, and I consider it dangerous.

June 17, 1899. Sample of water sent by Dr. L. E. Spencer, Wausau:

No. 1.

	Parts per 100,000.
Chlorine	.175
Ammonia, saline	.002
Ammonia, albuminoid	.019
Nitrites	none
Nitrates	.070

No. 2.

Chlorine	.200
Ammonia, saline	.001
Ammonia, albuminoid	.014
Nitrites	none
Nitrates	.075

No. 3.

Chlorine	.175
Ammonia, saline	.001
Ammonia, albuminoid	.015
Nitrites	none
Nitrates	.075

No. 4.

Total residue	9.00
Mineral residue	5.80
Volatile residue	3.20
Chlorine	.150
Ammonia, saline	.0015
Ammonia, albuminoid	.014
Nitrites	faint trace
Nitrates	.070

This water is entirely free from sewage contamination, and the bad taste and odor is due to the growth of long vegetable filaments which live upon the iron present in the water.

June 24, 1899. The sample of water sent by Dr. H. M. Morgenroth, of Berlin, taken from well 60 feet from outhouse:

	Parts per 100,000.
Total residue	152.10
Mineral residue	77.60
Volatile residue	74.50
Chlorine	16.300
Ammonia, saline	.004
Ammonia, albuminoid	.016
Nitrites	.0002
Nitrates	very high

This is such water as might be drawn from a well near a slaughter house or packing house, or where the soil was saturated with salt, nitre and organic matter. The water is unusually impure from a chemical standpoint.

June 24, 1899. Sample of water sent by Dr. T. J. Redelings, Marinette, and marked "No. 1;" collected June 15th:

	Parts per 100,000.
Total residue	14.30
Mineral residue	7.90
Volatile residue	6.40
Chlorine	.300
Ammonia, saline	.006
Ammonia, albuminoid	.011
Nitrites	none
Nitrates	.030

June 24, 1899. The sample of water sent by Jesse A. Clasen, M. D., from well at Neosho:

	Parts per 100,000.
Total residue	30.60
Mineral residue	21.20
Volatile residue	9.40
Chlorine	.450
Ammonia, saline	.002
Ammonia, albuminoid	.006
Nitrites	none
Nitrates	moderate amount

This water shows considerable soil leaching, but does not show sufficient pollution from a chemical standpoint to warrant condemnation.

August 3, 1899. Sent by Edgar Colman, Milwaukee:

	Parts per 100,000.
Total residue	67.00
Mineral residue	51.10
Volatile residue	15.90
Chlorine	1.200
Ammonia, saline	.005
Ammonia, albuminoid	.004
Nitrites	none
Nitrates	.030

This water appears free from sewage contamination.

August 4, 1899. Sample sent by Dr. L. B. Collier, Health Officer, Merrill, Wis., from Merrill waterworks:

	Parts per 100,000.
Total residue	13.70
Mineral residue	8.00
Volatile residue	5.70
Chlorine	.250
Ammonia, saline or free	.003
Ammonia, albuminoid	.019
Nitrogen as nitrates	.040
Nitrogen as nitrites	none

Backened slightly upon ignition. The water seems to contain vegetable matter but I do not believe it to be polluted with sewage.

August 11, 1899. Two samples of water from Green Bay:

No. 1.

	Parts per 100,000.
Total residue	32.70
Mineral residue	24.00
Volatile residue	8.70
Chlorine	1.600
Ammonia, saline	.006
Ammonia, albuminoid	.003
Nitrates	.020
Nitrites	none

No. 2.

	Parts per 100,000.
Total residue	30.00
Mineral residue	21.00
Volatile residue	9.00
Chlorine	1.600
Ammonia, saline	.004
Ammonia, albuminoid	.003
Nitrates	.020
Nitrites	none

The chlorine is quite high showing the land water but otherwise the waters are quite pure from a chemical standpoint.

August 11, 1899. A bottle of water without label, mark or comment but put up as ordered, apparently, has been tested with results as follows:

	Parts per 100,000.
Total residue	42.50
Mineral residue	31.80
Volatile residue	10.70
Chlorine	3.300
Ammonia, saline	.114
Ammonia, albuminoid	.052
Nitrites	.0002
Nitrates	very large amount

(Sewage after treatment.)

August 18, 1899. Sample sent from Medford, by E. Le-Sage, M. D. No. 1, 400 feet below sewer inlet. No 2, taken below tannery:

No. 1.

	Parts per 100,000.
Total residue	13.30
Mineral residue	7.00
Volatile residue	6.30
Chlorine	.650
Ammonia, saline	.021
Ammonia, albuminoid	.023
Nitrogen as nitrites	.0008
Nitrogen as nitrates	.040

No. 2.

Total residue	17.70
Mineral residue	9.90
Volatile residue	7.80

	Parts per 100,000.
Chlorine	2.050
Ammonia, saline	.182
Ammonia, albuminoid	.066
Nitrogen at nitrites	none
Nitrogen as nitrates	.035

No. 1 shows considerable sewage and is not fit to drink. No. 2 is very badly contaminated, and wholly unoxidized. It is certainly dangerous.

Sept. 29, 1899. Sent by Mrs. Mary E. Griffin, Oshkosh, Wisconsin:

	Parts per 100,000.
Total residue	41.00
Mineral residue	30.30
Volatile residue	10.70
Chlorine	1.100
Ammonia, saline	.002
Ammonia, albuminoid	.022
Nitrates very low, less than	.050
Nitrites	none

I do not believe this water to be unwholesome. It is such water as is frequently found where the gathering area is a semi-fossilized peat body or where there is much peat-like material in the soil. The oil probably comes from the same source.

Sept. 29, 1899. Well water of Kilbourn City, sent by Dr. C. H. Phillips:

	Parts per 100,000.
Total residue	8.00
Mineral residue	5.40
Volatile residue	2.60
Chlorine	.150
Ammonia, saline	.001
Ammonia, albuminoid	.003
Nitrates	.100
Nitrites	.0001

I believe this water to be fairly safe.

Four samples of water sent by Dr. E. H. Townsend of New Lisbon, all of which were sent in pint, cork-stoppered bottles, leaving insufficient for chemical analysis after the removal of the bacteriological samples. Qualitative tests were made of these waters, with the following results:

J. H. Marsh's well, New Lisbon:

	Parts per 100,000.
Nitrites	.0001
Nitrates	very heavy
Chlorine	large amount

Clark's well, New Lisbon:

Nitrites	none
Nitrates	very low
Chlorine	lowest of samples sent
Gave a precipitate of ferric oxide.	

Town well, New Lisbon:

Nitrites	.0004
Nitrates	very large amount
Chlorine	very large amount

School well, New Lisbon:

Nitrites	none
Nitrates	very large amount
Chlorine	large amount

Town well is evidently polluted, and Marsh's well dangerous.

Oct. 7, 1899. Sent by Dr. E. H. Townsend, New Lisbon,
Wis.:

Town well:

	Parts per 100,000
Total residue	40.00
Mineral residue	19.10
Volatile residue	20.90
Chlorine	3.600
Saline ammonia	.006
Albuminoid ammonia	.009
N. as Nitrites	.0002
N. as Nitrates	large amount

This water shows considerable sewage pollution and I believe it to be dangerous

School well:

	Parts per 100,000.
Total residue	40.50
Mineral residue	27.90
Volatile residue	12.60
Chlorine	3.350

	Parts per 100,000.
Saline ammonia	.001
Albuminoid ammonia	.002
N. as Nitrites	none
N. as Nitrates	large amount

This water shows considerable soil washings but no sewage.

October 26, 1899. Sent by Edgar Colman, Milwaukee:

	Parts per 100,000.
Total residue	67.20
Mineral residue	57.20
Volatile residue	1.150
Saline ammonia	.0005
Albuminoid ammonia	.0015
Oxygen consumed	.060
Nitrites	none
Nitrates	.030

This water seems to be free from sewage pollution. The growth which probably causes the disagreeable odor and taste is *Crenothrix Kuehniana*.

October 26, 1899. Sent by Robert H. Moth, Supt. Water Works, Kenosha, Wis.:

	Parts per 100,000.
Total residue	18.00
Mineral residue	14.80
Volatile residue	3.20
Chlorine	.350
Ammonia, saline	.0015
Ammonia, albuminoid	.009
Oxygen consumed	.155
N. as Nitrates	.020
N. as Nitrites	.0000

The residue darkened slightly on ignition. Shows slight pollution.

Nov. 10, 1899. Sent by Dr. S. S. Craig, East Troy, Wisconsin:

	Parts per 100,000.
Total residue	48.90
Mineral residue	33.90
Volatile residue	15.00
Chlorine	.850
Ammonia, saline	.000
Ammonia, albuminoid	.004
Nitrates	moderate amount
Nitrites	faint trace

This water shows a small amount of pollution.

Nov. 10, 1899. Sent by Mr. Florian Lampert, Oshkosh, Wisconsin:

	Parts per 100,000.
Total residue	39.90
Mineral residue	32.40
Volatile residue	7.50
Chlorine	1.025
Saline ammonia	.009
Albuminoid ammonia	.001
Nitrates ..	.020
Nitrites	none

I believe this water to be entirely free from any contamination.

Nov. 10, 1899. Samples of water sent by Dr. F. E. Stevens, Bristol, Wis.:

	Parts per 100,000.		
	No. 1.	No. 2.	No. 3.
Total residue	62.40	89.40	90.80
Mineral residue	37.40	69.10	60.60
Volatile residue	25.00	20.30	30.20
Chlorine	5.500	3.675	8.275
Ammonia, saline.	.0015	.0005	.0005
Ammonia, albuminoid. ..	.008	.019	.007
Nitrates	large am't	very large am't	large am't
Nitrites	.0002	.0007	.0001

All of these waters are badly polluted with sewage. No. 2 is much the worst.

November 16, 1899. Sent by Joseph Hammel, Medford:

	Parts per 100,000.
Total residue	15.10
Mineral residue	11.10
Volatile residue	4.00
Chlorine ..	.150
Saline ammonia	.002
Albuminoid ammonia	.004
Nitrites	none
Nitrates	.060

Pure.

Nov. 25, 1899. Sent by Dr. William Reimer, Health Officer, St. Francis P. O., Milwaukee, Wis. Sample said to be from well on the property of Mr. Bucholz;

	Parts per 100,000.
Total residue	54.00
Mineral residue	33.40
Volatile residue	20.60
Chlorine	3.100
Saline ammonia	.004
Albuminoid ammonia	.0175
Nitrites	.0003
Nitrates	large amount

In my opinion this water shows considerable sewage contamination, and its use should be discontinued.

Dec. 14, 1899. Samples sent from Horicon. Sample said to be from the well at the schoolhouse; open well, 39 ft. deep, 60 ft. from outhouse; collected by P. F. Klahr:

	Parts per 100,000.
Total residue	54.50
Mineral residue	34.30
Volatile residue	20.20
Chlorine	2.150
Ammonia, saline	.000
Ammonia, albuminoid	.006
Nitrates	large amount
Nitrites	trace

Sample said to be from drilled well; outhouse 40 ft. distant:

	Parts per 100,000.
Total residue	56.00
Mineral residue	38.80
Volatile residue	17.20
Chlorine	3.450
Ammonia, saline	.001
Ammonia, albuminoid	.007
Nitrates, less than	.050
Nitrites	none

Neither of these waters seem to be seriously polluted. The one from school house shows considerable soil leaching (past pollution).

Dec. 14, 1899. Sent by Mr. M. F. Fugina, city attorney, Fountain City, Buffalo Co., Wis. The sample of water left with me was insufficient for complete examination. The water contained:

	Parts per 100,000.
Chlorine	.150
Nitrates, less than	.050
Nitrites	none

In an impure water all of these substances would have been present in a larger amount. This is evidently pure.

Dec. 15, 1899. Sample of water from the well of C. Schwarz of Green Bay:

	Parts per 100,000.
Total residue	30.50
Mineral residue	24.00
Volatile residue	6.50
Ammonia, saline	.018
Albuminoid, ammonia	.001
Chlorine	2.050
Nitrates	.050
Nitrites	.001

While this water shows rather high chlorine and considerable free ammonia, the albuminoid ammonia and nitrates are less than is usual in polluted water. I should consider the water fairly safe.

Dec. 15, 1899. Sample of water sent by D. W. Lynch, M. D., West Bend; said to be from drilled well 60 ft. deep; typhoid on premises:

	Parts per 100,000.
Total residue	38.50
Mineral residue	26.20
Volatile residue	12.30
Chlorine	.175
Ammonia, saline	.001
Ammonia, albuminoid	.007
Nitrates	.040
Nitrites	none

From a chemical standpoint this water does not seem to be polluted.

Jan. 20, 1900. Sent by E. A. Bass, M. D., Montello, Wisconsin. Sample of water sent me has been analyzed with results as follows:

	Parts per 100,000.
Total solids	25.00
Mineral solids	15.00
Volatile solids	10.00
Chlorine	1.200
Saline ammonia	.001
Albuminoid ammonia	.040
Nitrates	large amount
Nitrites	.0005

The residue darkened considerably upon ignition and shows considerable organic matter. A large amount of nitrate chlorides and nitrites indicate serious sewage contamination.

Jan. 26, 1900. Sample of water sent me by Frank J. Olle, Kewaunee, Jan. 22nd, marked "Well No. 1, brick well, 24 ft. deep.

	Parts per 100,000.
Total residue	111.80
Mineral residue	67.50
Volatile residue	44.30
Chlorine	12.350
Saline ammonia	.003
Albuminoid ammonia	.015
Nitrites	.0025
Nitrates	very large amount

Gave brown fumes of oxides of nitrogen upon ignition.

This water is very badly polluted and should be condemned.

Jan. 31, 1900. Sample of water from Barron, Wis., marked "city water," bearing no name of sender:

	Parts per 100,000.
Total residue	11.70
Mineral residue	7.80
Volatile residue	.175
Ammonia, saline	.006
Ammonia albuminoid	.005
Nitrates, less than	.040
Nitrites	none

Darkened slightly upon ignition. This is a soft water and apparently not a deep ground water. It contains some vegetable organic matter and seems to be entirely free from sewage pollution and perfectly wholesome.

March 17, 1900. Sent by R. W. Pringle, Supt. of Schools, Appleton, Wisconsin:

	Parts per 100,000.
Total residue	20.80
Mineral residue	14.80
Volatile residue	6.00
Chlorine	.450
Saline ammonia	.006
Albuminoid ammonia	.015
Nitrites	trace
Nitrates	.035

This water must be regarded as suspicious.

March 23, 1900. Sample of water sent by Dr. C. C. Blanchard of Delavan; taken from the drug store hydrant, water being from reservoir supplied from springs. Three or four outhouses are within ten or fifteen rods of the reservoir:

	Parts per 100,000.
Total residue	46.00
Mineral residue	31.50
Volatile residue	14.50
Chlorine	1.250
Ammonia saline	.003
Ammonia albuminoid	.004
Nitrites	none
Nitrates	large amount

The residue did not darken upon ignition. This water shows considerable mineral pollution or "past pollution," and enough organic matter to class it as suspicious.

March 31, 1900. Sent by H. O. Arndt, Sheboygan, Wisconsin; city water tap:

	Parts per 100,000.
Total residue	16.40
Mineral residue	11.60
Volatile residue	4.80
Chlorine	.300
Saline, ammonia	.002
Albuminoid ammonia	.012
Nitrites	none
Nitrates	.045

If the city supply is derived from Lake Michigan, these results show reasonable purity; but this amount of albuminoid ammonia, if present in a ground water, would be sufficient to cause suspicion of contamination.

April 6, 1900. Sample of water from school well, sent direct by Prof. A. J. Austin, Princeton:

	Parts per 100,000.
Total residue	23.90
Mineral residue	14.30
Volatile residue	9.60
Saline ammonia	.006
Albuminoid ammonia	.009
Chlorine	1.525
Nitrites	none
Nitrates	.030

The water has a very disagreeable odor, and darkened slightly upon ignition.

This water contains considerable organic matter and has an abnormally high chlorine content. As a sub-soil water it must be considered suspiciously impure.

May 29, 1900. Sample of water sent by Dr. G. Harkness, Waukesha, said to be from the Plymouth Rock Spring:

	Parts per 100,000.
Total residue	55.90
Mineral residue	37.00
Volatile residue	18.90
Chlorine ..	2.400
Ammonia, saline	.003
Ammonia, albuminoid	.009
Nitrites	.0002
Nitrates	moderately large amount
Oxygen consumed	.180

A deep ground water, such as springs are supposed to yield, should contain chlorine less than .500; albuminoid, due only to surface impurities, less than .005; nitrates should be less than .040; nitrites absent.

This water is undoubtedly polluted by sewage, and I would respectfully recommend that its use be discontinued.

May 29, 1900. Sent by Dr. L. B. Collier, Merrill, Wisconsin:

	Parts per 100,000.	
	No. 1.	No. 2.
Total residue	10.40	23.10
Mineral residue	5.30	9.10
Volatile residue	5.10	14.00
Chlorine ..	.800	2.050
Ammonia, saline	.088	.0025
Albuminoid ammonia	.010	.004
Nitrites ..	.0008	none
Nitrates	.060	moderately large amount

Water No. 1 is badly contaminated, but the contamination, as evidenced by the low chlorine, low nitrites, and high free ammonia, is due to the decomposition of vegetable matter.

Water No. 2. As this is said to be from a "drive well," the high nitrates and high chlorine, with the low ammonias and ab-

sence of nitrites, show considerable soil leaching of matter which is probably harmless. It is such a water as is stated to contain oxidized or past pollution.

June 8, 1900. Sent by J. Buckeridge, Health Officer, Beloit:

	Parts per 100,000.
Total solids	29.40
Mineral residue	21.80
Volatile matter	7.60
Chlorine ..	.275
Saline ammonia	none
Albuminoid ammonia	.008
Nitrites ..	.0007
Nitrates	moderate amount

The quantity of organic matter in this water is exceedingly small, but the presence of such relatively large amounts of nitrites indicate sewage contamination.

July 3, 1900. Samples of water sent by the Health Officer at Stevens Point, marked "City Water, Stevens Point, No. 1 and No. 2:"

No. 1.

	Parts per 100,000.
Total residue	8.80
Mineral residue	4.00
Volatile residue	4.80
Chlorine ..	.100
Saline ammonia	.0015
Albuminoid ammonia	.0185
Nitrites ..	none
Nitrates ..	.020

No. 2.

Total residue	9.10
Mineral residue	4.60
Volatile residue	4.50
Chlorine ..	.125
Saline ammonia	.008
Albuminoid ammonia	.026
Nitrites ..	none
Nitrates ..	.020

Water No. 1 was quite brownish in color and blackened somewhat upon ignition. No. 2 was slightly brownish and blackened less. Both of these samples showed unusually high albuminoid

ammonia and brownish color, indicating dissolved vegetable matter. The chlorine, absence of nitrites and low nitrates, indicate almost entire freedom from sewage contamination.

July 21, 1900. Sample of water taken from the tap at Taylor Bros.' drug store, Stevens Point, Wis.; collected by C. Von Neupert, Sr., M. D., July 17:

	Parts per 100,000.
Total solids	10.10
Mineral solids	5.00
Volatile solids	5.10
Saline ammonia	.0015
Albuminoid ammonia	.034
Chlorine	.125
Nitrites	none
Nitrates	.030

This water had quite a high color, equal to about two degrees, and upon ignition the solids gave a woody smell. It is my opinion that this water is entirely free from sewage contamination, and that the high amount of organic matter is of vegetable origin, probably from logs. I am confident that the water is wholesome.

Aug. 10, 1900. Samples sent by Dr. F. H. Thebodo, Health Officer, Green Bay:

No. 1, From water tap.

	Parts per 100,000.
Total residue	127.50
Mineral residue	92.00
Volatile residue	35.50
Chlorine	30.70
Ammonia, saline	trace
Ammonia, albuminoid	.008
Nitrites	trace
Nitrates	very large amount

No. 2. From water tap.

	Parts per 100,000.
Total residue	31.80
Mineral residue	23.80
Volatile residue	8.00
Chlorine	1.600
Ammonia, saline	.0015
Ammonia, albuminoid	.005
Nitrites	none
Nitrates	.040

No. 3. From well.

	Parts per 100,000.
Total residue	49.00
Mineral residue	41.00
Volatile residue	8.00
Chlorine	.550
Ammonia, saline	.014
Ammonia, albuminoid	.028
Nitrites ..	none
Nitrates ..	small amount

I can hardly believe that No. 1 and No. 2 are from the same system at one time. No. 2 seems to be fairly pure in spite of high chlorine. No. 1 does not seem to be fit for use. No. 3 seems to be free from sewage but to be derived from soil containing peat and ochre. It is probably not injurious but may give off a very disagreeable odor.

Aug. 20, 1900. Sent by Rev. E. G. Nachtsheim, Milwaukee:

	Parts per 100,000.
Total solids	224.00
Mineral solids	101.00
Volatile matter	123.00
Chlorine ..	13.000
Saline ammonia	.0015
Albuminoid ammonia	.018
Nitrites ..	trace
Nitrates ..	large amount

This water is unfit for domestic use.

Aug. 21, 1900. Samples of water from Mondovi, taken August 15th, by S. G. Gilman:

No. 1, Gilman's well, taken from pump.

	Parts per 100,000.
Total residue	23.70
Mineral residue	18.50
Volatile residue	5.20
Chlorine ..	.175
Ammonia, saline	.001
Ammonia, albuminoid	.002
Nitrites	faint trace
Nitrates ..	.110

No. 2, from Meyers' flowing well.

	Parts per 100,000.
Total residue	12.00
Mineral residue	8.30
Volatile residue	3.70
Chlorine	.125
Ammonia, saline	.0005
Ammonia, albuminoid	.005
Nitrites ..	none
Nitrates ..	.015

The Meyers' water is exceedingly pure. The water from the Gilman well is comparatively pure, but shows some pollution by the increase in nitrates and the trace of nitrites present. I should judge it to be comparatively safe, however.

Sept. 6, 1900. Sample of water sent from Waupun, said to be from tank supplied from two artesian wells:

	Parts per 100,000.
Total residue	36.00
Mineral residue	24.50
Volatile residue	11.50
Chlorine ..	.600
Saline ammonia	.001
Albuminoid ammonia	.010
Nitrates ..	.050
Nitrites ..	.0015

The residue blackened somewhat upon ignition. This water does not seem to be seriously polluted, but the albuminoid ammonia and nitrates are higher than is usual in artesian waters and the presence of nitrites is certainly suspicious.

Sept. 8, 1900. Sent by Dr. Thomas Miller, Health Officer, Oconomowoc, Wisconsin:

Artesian Well No. 1.

	Parts per 100,000.
Total residue	32.00
Mineral residue	22.00
Volatile residue	10.00
Chlorine ..	.175
Saline ammonia	.0005
Albuminoid ammonia	.0025
Nitrites ..	.0020
Nitrates ..	.020

The high nitrites present in this water was due to long standing in the heated season before analysis.

No. 2. Marked "Dead end of main."

	Parts per 100,000.
Total residue	32.80
Mineral residue	22.40
Volatile residue	10.40
Chlorine	.150
Saline ammonia	.0005
Albuminoid ammonia	.003
Nitrates	.020
Nitrites	.0015

The high nitrites were due to the long standing of this sample, and I should consider this water wholesome.

No. 3. From pump back of bank, much used.

	Parts per 100,000.
Total residue	67.20
Mineral residue	50.70
Volatile residue	16.50
Chlorine	5.700
Saline ammonia	.112
Albuminoid ammonia	.017
Nitrites	.003
Nitrates	very large amount

This water is badly polluted.

Sept. 8, 1900. Samples of mineral spring water sent for sanitary analysis by Dr. T. H. Thebodo, Green Bay, taken Sept. 4th:

No. 1 Allouez Mineral Spring, sent in original bottle.

	Parts per 100,000.
Total residue	110.40
Mineral residue	71.50
Volatile residue	38.90
Chlorine	22.300
Saline ammonia	.000
Albuminoid ammonia	.0045
Nitrites	.0001
Nitrates	large amount

The presence of the albuminoid ammonia and nitrites, together with the very high chlorine and nitrates, indicate some contamination. The water should at least be considered suspicious.

No. 2. Salvator Spring.

	Parts per 100,000.
Total residue	40.30
Mineral residue	29.20
Volatile residue	11.10
Chlorine ..	1.000
Saline ammonia	.000
Albuminoid ammonia	.0005
Nitrites ..	.0000
Nitrates, less than	.040

This water is extremely pure.

Sept. 19, 1900. Sent by L. B. Collier, M. D., Merrill; collected September 10th from tap:

	Parts per 100,000.
Total residue	14.00
Mineral residue	6.60
Volatile residue	7.40
Chlorine ..	.400
Ammonia, saline	.001
Ammonia, albuminoid	.020
Nitrites ..	none
Nitrates ..	.080

The water seems to contain considerable organic matter, but I believe it to be wholesome. Where filtered water contains high chlorine, nitrites, nitrates, free and albuminoid ammonia, from a chemical standpoint such a water is polluted; still, if the filtration is perfect, pathogenic bacteria may be entirely absent and the water wholesome, owing to the results of the filtration, but still contain all of the chemical elements which would cause us to consider the water as polluted by sewage. Under such circumstances, an opinion based upon chemical analysis should carry little weight.

Sept. 30, 1900. Sent by Mr. J. E. Ames, Bowers, Wisconsin:

	Parts per 100,000.
Total residue	98.00
Mineral residue	79.30
Volatile residue	18.70
Chlorine ..	.550
Ammonia, saline	.068
Ammonia, albuminoid	.036
Nitrites ..	none
Nitrates, less than	.040

This water contains considerable organic matter and a very large amount of mineral matter. I do not believe the pollution to be from sewage, but, in my opinion, when a well water contains albuminoid ammonia in amounts over .015, together with considerable free ammonia, it cannot be used with safety. This water is very impure.

Sept. 30, 1900. Sent by J. K. Schreiner, Westby, Vernon Co., Wis., October 2nd, from cistern filled from well suspected of causing typhoid:

	Parts per 100,000.
Total residue	21.80
Mineral residue	12.10
Volatile residue	9.70
Chlorine ..	.175
Ammonia, saline	.0015
Ammonia, albuminoid	.001
Nitrites ..	none
Nitrates ..	.080

From a chemical standpoint, this water seems to be unpolluted.

Sept. 30, 1900. Sent by John Dorwin, Durand, Pepin Co., Wis.; said to be from well 103 feet deep:

	Parts per 100,000.
Total residue	31.40
Mineral residue	21.00
Volatile residue	10.40
Chlorine . . .	.150
Ammonia, saline	.008
Ammonia, albuminoid	.0055
Nitrites ..	none
Nitrates ..	.050

The saline and albuminoid ammonia may be sufficient to characterize the water as suspicious, but ordinarily such a water would be passed as reasonably pure.

MILK TESTS.

Oct. 11, 1898. Prairie du Chien city Story Factory, Oct. 15, 1898. Evansville.

	% butter fat.
Ahrens & Son	2.4
Herman Prey	2.4
Wm. Pringle	3.0

Oct. 1, 1898. Mt. Vernon.

	% butter fat.
Karl Colby	4.8
John Kittleson	4.0
John Way	5.4
Michael Hobbs	4.2
Martin Hobbs	4.2
Herman Hankel	4.5
Mary Messerschmidt	5.1
Knud Boc	5.4
Sam Wittwer	4.0
Henry Rigge	4.3
Henry Rigge (morn)	4.3
Wm. Lust	4.0
Albert Herring	4.0

Oct. 20, 1898. River Falls.

	% butter fat.
John Tedt	3.7
A. Allen	4.0
Aug. Kruske	3.5
Chas. Lange	3.8
Jas. Crinion	3.6
G. Wodill	3.7
Frank Hauf	4.3
Fred Bowman	3.6
Pat Hughes	4.2
E. Zekalla	4.5
Chris Hemling	4.6
Fred Hinzman	4.4
J. Brounk	4.2
Carl Pahl	3.6
John Carlin	3.6
Mike McDonald	3.7
Alb. Dehnest (eve)	3.8
Alb. Dehnest (morn)	4.5
Charlie Miller	5.2
Charles Sewart	4.9

	% butter fat.
R. L. Montgomery	4.7
J. L. Colby & Co.	4.5
J. Gerard	4.2
F. Leclerc	4.0
R. H. Colby	4.9
W. F. Cleveland	4.2
A. Tisserand	4.3
Wm. Manion	4.2
G. Falvre	4.9
Mrs. M. Pearnott	5.5
H. Vanwie & Co.	5.4
W. Short	4.0
A. Farrell	3.1
J. Babler	3.0
Geo. Faulkes	3.8
W. Ace	4.0
G. R. Colby	3.4
J. Brulling	4.0
Mrs. L. K. Smith	3.8
D. Connor	4.2
F. Hilderbrandt	3.7
W. Grady	5.0
Pat Grady	5.4
A. Schonling	4.8
F. Payne	4.5
J. Scanland	3.6
J. Moore	4.0
W. Fletcher	4.5
P. Bratvold	4.4
W. Fitzgerald	4.6
J. D. Clark	4.1
T. J. Hughes	4.2
H. O. Gray	4.6
J. S. Williamson	4.7
B. G. Martin	4.5
J. Byrnes	4.0
H. Byrnes	4.4
J. Hammer	4.2
O. C. Johnson	4.5

Nov. 3, 1898. Milwaukee city milk supply.

	% butter fat.
Adam Noble (morn)	4.2
Adam Noble (night)	5.0

	¢ butter fat.
Wm. Groenert (morn)	3.8
Wm. Groenert	4.2
John Shehan	4.0
J. P. Shehan	4.9
Mrs. A. Zimmerman	4.6
Aug. Mousolt	3.6
V. Brant (eve)	3.4
V. Brant (morn)	3.3
Wm. Kilps (night)	3.9
Wm. Kilps (morn)	3.6
J. Kowalkowski	3.8
J. Heninger (morn)	4.0
J. Heninger (night)	4.1
Herman Randow (morn)	4.6
Herman Randow (night)	4.0
Jos. Thiege (night)	3.8
Jos. Thiege (morn)	4.1
Dreves (morn)	3.6
J. Ries	4.4
P. W. Schenk	3.2
L. Braun, Jr.	4.1
J. J. Leach (night)	3.5
J. J. Leach (night)	3.6
J. J. Leach (morn)	4.0
J. J. Leach (morn)	4.4
C. T. Ahlert (morn)	4.0
A. Gruettner (nigh.)	4.1
A. Gruettner (morn)	4.0
Geo. Wolff	3.3
H. Barloga	3.9
H. Lodde	3.4
H. Lodde	4.4
F. Szebsdat (morn)	4.4
A. G. Vogel	4.0
A. Karth (eve)	3.9
A. Karth (morn)	3.6
Herman Baumann, Jr. (morn) ..	4.8
Great Western Dairy	3.0

Feb. 1, 1899. Juda.

Chas. Rheineck, Jr. 4.0

March 11, 1898. Deerfield.

S. S. Bui	3.4
I. O. Britson	3.7
John Redman	4.2
N. A. Lee	3.5
H. Quammen	3.9
K. Schenk	4.2
P. Nelson	3.6
J. Berge	3.3
M. Severson	4.4
C. O. Surom	4.1
C. Legreid	3.8
Mrs. C. Swenson	3.9
Ole Johnson	3.6

	¢ butter fat.
C. O. Johnson	4.2
John Chris Johnson	3.8
Andrew Severson	3.3
A. Larson	3.5
P. B. Grinde	3.1
N. Resland	4.1
O. Simonson	3.3
J. A. Prescott	4.0
L. L. Nelson	3.1
J. L. Nelson	3.4
L. Quammen	4.2

March 10, 1899. Samples milk sent
by Col. Wheeler, taken by Soldiers'
Home, Milwaukee.

	¢ butter fat.
1.	2.4
2.	2.4

March 11, 1899. Samples milk taken
at Soldiers' Home, Milwaukee, by N. J.
Field, delivered by Chas. Dana.

	¢ butter fat.
1.	4.8
2.	2.4
3.	2.9
4.	3.0
5.	2.4
6.	2.4
7.	5.0
8.	3.3
9.	2.0
10.	2.0

March, 1899. Johnson's Creek.

	¢ butter fat.
Geo. C. Mansfield Co.	3.2

March 25, 1899, Oconomowoc.

	¢ butter fat.
A. Stone	3.6
W. A. Jones	3.3
Peter Hendrickson	4.0
E. S. Stone	3.8
Aug. Bratz	3.6
W. B. Fay	4.2
John McDonald	4.2
Gus Vogt	3.5
Wm. M. Jones	4.0
Isaac Denton	3.5
W. E. Bailey	3.4
F. Rohlafl	4.0

March 31, 1899. Wausau, Wis. City
milk supply.

	% butter fat.
C. B. Anderson (Morn)	4.0
Kline Bros. (Night)	3.6
G. W. Witter (Morn)	4.4
G. W. Witter (Night)	4.0
G. W. Witter (Morn)	4.0
Wm. Kasten (Night and Morn)	3.7
Wm. Kasten (Morn)	4.0
J. T. Winkley (Morn)	3.8
Mrs. C. Dreher (Night)	3.2
Mrs. C. Dreher (Night)	3.4
G. W. Witter, per Harry Witter (Night)	below standard
G. W. Witter, per Harry Witter (Morn)	3.7

Composite test of samples taken at
Lake Mills, April 20.

No.	%
1	4.4
2	3.2
3	3.6
4	3.6
5	5.9
6	3.3
7	3.4
8	3.6
9	3.7
10	3.4
11	3.3
12	4.2
13	3.6
14	4.2
15	3.6
16	3.6
17	3.6
18	3.5
19	3.1
20	3.2
21	3.6
22	3.4
23	not enough
24	3.4
25	3.7
26	3.9
27	3.4
28	3.6
29	3.6
30	3.2
31	3.9
32	3.6
33	3.9
34	not given
35	sour

% butter fat.

36	3.8
37	3.8
38	3.8
39	3.6
40	4.0
41	4.4
42	4.0
43	3.2
44	3.0
45	3.8

Johnson Creek, April 24.

% butter fat.

A. Helpap	3.4
E. Lydow	3.3
E. Platz	3.6
W. Linnes	3.8
C. Trachte	3.4
C. Kuntz	3.7
C. Oesterlich	3.9
E. Winters	3.5
J. Strehlman	3.9
C. Strauss	3.0
M. Buchach	3.8
W. Rediske	3.4
F. Schroeder	4.2
G. Yaeck	4.0
Ed. Butler	3.7
F. C. Sydow	3.5
Ed. Schoechert	3.6
John Witte	3.5
C. Schuenke	3.8
L. Ellse	3.4
H. Pitterly	3.6
W. Platz	3.7
J. Knispell	3.8
H. Munzel	3.7
W. Teich	4.2
R. Shimrick	3.9
J. Binzen	4.2
G. Eichmann	3.7
Mrs. G. Rabbach	3.6
G. Rabbach	4.1
W. Ohm	3.6
Mrs. Kopinus	3.4
W. Scherer	3.8
J. Rittig	3.8
W. Ulm	3.5
F. W. Lydow	3.6
C. Stark	3.6
A. Last	3.2
H. Petig	4.1
A. Stark, Sr.	4.2
H. Schenk	3.4
G. Sauerhammer	3.1
F. C. Lehmann	3.5

	% butter fat.
F. Klittbach	4.0
H. Razer	3.4
E. Witte	3.5
C. Kircherger	3.9
J. Gillis	3.4
F. Borchard	3.1
J. Flath	3.6
A. Stark, Jr.	3.6
H. Gillis	3.4
F. Brueck	3.5
T. Shinnick	4.0
G. Kind	3.8
A. Wilke	3.7
H. Trachte	4.2

Johnson's Creek, April 27.

	% butter fat.
Fred Hamman	3.2
A. Schenke	3.4
A. Feldt	3.0
H. Windorf	3.4
C. Peterman	3.4
A. Komrad	3.8
Fred Alberts	3.7
H. Furni	3.3
W. Bradlow	3.7
A. Albrecht	3.3
C. Schaller	3.1
F. Klukow	2.9
A. Klukow	3.4
C. Bahling	3.7
L. Wegand	4.0
E. Holne	2.9
H. Barf (churned a little) ..	4.7
F. Swap	4.0
John Fink	3.3
F. Bailey	3.5
M. Reimel	3.9
C. Else	3.8
L. Else	3.4
A. Last	3.6
M. Beterman	3.1
A. Ambrow	3.5
D. Spangler	3.3
W. Bodel	3.9
G. Bodel	3.2
F. Will	3.4
W. Pasthae	3.6
J. Fisher	3.5
C. Opperp (from can)	3.9
C. Opperp (from spout)	3.9
F. Rabbe	3.5
C. Went	3.1
A. Schoechert	3.3
Fred Wolf	3.9
J. F. Greel (from can)	4.0

	% butter fat.
J. F. Greel (from spout)	4.0
W. Kottke	3.7

Rosendale, May 4.

	% butter fat.
A. Kline	4.0
Wm. Brinkman	4.0
W. D. Ballard	3.6
T. Madigan	4.0
J. Smith, Sr.	3.8
Wm. Deering	4.2
W. Hilsbring	4.1
F. Born	3.9
A. Bierman	3.7
F. Paul	3.5
L. Graves	4.1
Mrs. P. Fisher	3.2
F. Jaegers	3.5
C. Smith	3.6
H. Budahn	3.7
J. Smith, Jr.	3.7
H. Haberkorn	4.2
H. Giffey	3.4
Wm. Barker	3.4
C. Oldenberg	3.6
W. Powell	3.2
Mrs. Gleason	4.8
A. Jagdfelt	3.8
E. Griffith	3.6
C. Smolt	4.0
L. Grant	4.2
Wm. Cowhan	3.8
C. Sizer	4.0
C. Knapp	3.3
Mrs. J. Harvey	4.2
Mrs. M. Harvey	3.3
J. Harvey	3.8
A. Smith	4.1

Reeseville, May 5.

	% butter fat.
C. Baker	3.4
Wm. Klaehn	3.8
W. Kisow	3.6
F. Grossman	4.0
J. Schan	3.7
W. Otto	3.5
Wm. Lenz (eve)	3.1
Wm. Lenz (morn)	3.8
A. Krueger	3.3
A. Drager	3.8
Chris. Kolm (eve)	2.8
Chris. Kolm (morn)	3.7
Wm. Winter	3.6
A. Quady	3.5
A. Kohn	3.0

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	% butter fat.
F. Huebner	3.3
H. Yerdere (eve)	3.1
H. Yerdere (morn)	4.4
C. Kluetzmann (eve)	2.9
C. Kluetzmann (eve)	3.7
Otto Strobel	3.2
Pat Dowd	3.4
F. C. Groening	3.9
T. Wolfgram	3.6
F. Kohls	3.5
Mrs. Louisa Reese	3.0
C. Doering	3.3
M. T. Hasleu (eve)	3.2
M. T. Hasleu (morn)	4.2
C. Hahn	3.0
Herman Krueger	4.0
C. Hasleu	2.8
Mrs. A. Kohls	3.4
Chris. Lee	3.4
M. C. Ready	3.0

Union Creamery Co., Lake Mills, May 16.

	% butter fat.
C. Mundt	3.7
C. Behm	3.6
J. Scheel	3.9
Wm. Ludeman	3.8
A. Arndt	4.4
Wm. Schrank	4.0
L. Meissner	2.8
C. Royce	3.1
Wm. Christ	4.0
Wm. Finder	4.0
L. Eke	3.5
F. Wendt	3.7
Frank Wallace, Sr.	4.0
J. Drager	4.5
W. Punzel	3.4
G. Schultz	3.2
A. Weber	3.9
W. Engsborg	3.8
C. Finger	3.8
A. Nadler	3.5
G. Helpap	3.8
Mrs. Wm. Micheal	4.6
H. Rehbaum	5.0
G. Berkholtz	3.4
W. Schifler	3.9
Frank Wallace, Jr.	3.7
C. Pirwitz	4.0
W. Laschinsky	3.8
J. Crossman	4.1
C. Genrich	3.8
H. Mason	3.3
Reed & Coombe	3.6

	% butter fat.
A. Bartel	4.0
E. Wilson	4.2
G. Rutherford	4.7
M. Rutherford	3.2
F. Stasberg	4.0
A. Thayer	4.0
C. Zanft	4.0
L. Bethke	4.1
R. Alexander	3.4
C. Berger	3.6
Skim milk Sep. No. 1, small amount.	
Skim milk Sep. No. 2, small amount.	

May 16, 1899. Samples of milk sent by C. A. Stellmacher, West Rosendale, Wis.

	% fat.
Composite sample	3.6
Single sample	3.8

May 20, 1899. Sent by S. Baehler, Cambria.

No.	%
3	3.5
8 (badly clotted)	2.4

Samples sent by Chris. Yoss, of Wadams Grove, Ill., June 2.

	% butter fat.
Schek	2.9
Beismeier (churned)	3.2
Brechtel	3.0
Kerow	3.5
Buss	3.7
Weeker (churned)	4.6
Howard (badly churned)	3.9
Bombright	4.3
Eisenbols	3.5
Maister (churned)	3.9
Corning (churned)	2.6
No. 12 soured, no name.	

Milton creamery, June 2, 1899.

	% butter fat.
E. Hundon	3.5
C. Dittberner	3.3
N. Prell	3.5
N. J. Mickleson	4.0
H. Schultz (filthy)	4.0
H. Bentz	4.0
J. Vollmer (filthy)	3.7
G. Bacon	4.0
G. Wenslaff	3.8
V. Prox	4.0
R. Froderich	4.2
H. Froderich	3.4

	% butter fat.		% butter fat.
H. Krelfoth	3.1	Mr. Johnson	4.2
W. Waterman	3.6	Ed. Carter	3.7
L. Wolfram	4.6	Effie Gunderson	4.3
Fred Helle	4.2	Mrs. Pettis	3.6
Mrs. C. Shoenfeldt	3.9	Amos Cox	4.0
B. F. Hudson	3.6	Mrs. Quackenbush	4.3
A. Craig	3.6	C. Anderson	3.5
Fred Johnson	3.5	H. Atwood	3.8
W. Ind	4.0	F. Klinberg	3.8
P. Shroder	3.9	Ed. Perkins	3.7
A. M. Miller	3.3	Wm. Quaulman	4.2
T. Dumphy	3.4	H. G. Nelson	3.2
R. McDowell	4.1	Alf. Perkins	4.1
Mrs. J. H. Mickleson	3.6	Ben Hanson (morn)	4.0
F. Dunn	4.0	Joan Halom	3.5
A. Willmath	4.2	C. M. Knutsen	3.4
L. M. Krippner	3.0	Ole Bensen	4.0
D. Maquart	4.0	M. Gilmore	3.2
H. D. Clarke	4.0	E. Day	3.6
T. Vickerman	3.3	Mrs. Lottie Kelly	3.5
W. Vickerman	3.5	A. Cole	4.0
J. E. Patterson	4.0	John Lynch	3.6
E. A. Holmes	3.6	Wm. Buchwald	3.9
C. A. Rice	3.8	Mrs. Junma (churned)	4.0
W. Smith	3.8	L. Fossum	3.4
W. R. Clelland	4.0	J. K. Naugle (churned)	3.4
J. C. Crandall	4.2	N. Munson	3.7
J. C. Goodrich	4.6	Z. Naugle	4.1
		P. Barnum	3.8
		E. Hanson	3.5
		C. Naugle	3.7

Newark, June 2, 1899.

	% butter fat.		% butter fat.
Nels Kingen	below standard	Skim milk No. 1, slight trace.	
M. Ringen	3.4	Skim milk No. 2, slight trace.	
A. Ringen	3.6		
Mrs. A. Dale	4.0		
E. H. Skinner	4.0		
W. I. Royce	4.2		
L. Mead (churned)	4.0		
F. Muret	3.3		
F. Murlet	4.2		
J. Stokes	3.6		
L. Burtin	3.5		
J. W. Burtin	3.6		
L. Stokes	3.2		
K. H. Logan	3.5		
O. J. Cox	3.6		
John Sullivan	3.9		
T. McCaffrey	4.0		
O. E. Nelson	4.0		
A. Hendrickson	3.8		
L. Geist	4.3		
D. Bullis	4.7		
Mrs. Emery	3.5		
J. Fox	4.0		
J. Gilbertson	4.0		
Wm. Olson	3.9		

Monroe, June 6.

	% butter fat.
Geo. Garwell (eve)	3.2
Geo. Garwell (morn)	3.9
J. G. Pfeiffer (eve)	3.3
J. G. Pfeiffer (morn)	4.0
Oscar DeHaven (eve)	3.4
Oscar DeHaven (morn)	3.8
Tred & Thom (eve)	3.2
Tred & Thom (morn)	3.7
C. Griffith (eve)	3.2
C. Griffith (morn)	3.5
Joshua Klassy (morn)	4.0
Joshua Klassy (morn)	4.0
John Thomas (eve)	3.3
John Thomas (morn)	4.2
Jas. Hughes (mixed)	4.1
C. A. Goddard (eve)	3.6
Connor Bros. (eve)	3.3
Connor Bros. (morn)	3.8
Fred Kramer (eve)	3.5
Fred Kramer (morn)	4.2

	% butter fat.
Henry Elmer (eve)	below standard
Henry Elmer (morn)	below standard
Jos. Elmer (eve)	3.9
Jos. Elmer (morn)	3.5

West Bend Factory, June 8, 1899.

	% butter fat.
Frank Wittemann	3.6
John Peters	3.8
C. Hackbarth	3.9
A. Worf	4.5
H. Schalles	3.8
L. Landvatter	4.1
Matt Ollinger (eve)	3.3
Matt. Ollinger (morn)	4.6
Aug. Scherf	3.7
Charley Gootter	4.0
S. C. Lang	3.8
Frank Eder (eve)	3.4
Frank Eder (morn)	3.8
John Peters	3.9
John Schneider	3.7
D. Thoma (eve)	3.6
D. Thoma (morn)	4.4
John Bauer (eve)	3.6
John Bauer (morn)	4.3
John Bauer (eve and morn)	4.6
John Bauer (morn)	4.3
Otto Miller (eve)	3.3
Otto Miller (morn)	4.1
Matt Hacker	3.5
Herman Quaas	3.6
Wm. Boettcher	3.1
Paul Thoma	3.7
W. Koch (eve)	3.0
W. Koch (morn)	4.3
John Worf	3.7
Frank Kahnt (eve)	4.2
Frank Kahnt (morn)	4.4
Gottlieb Zeiher	3.3
Chas. Wagner	4.0
John Kobelt	3.9
Matt. Jaeger	3.9

Albany, Wis., June 16.

	% butter fat.
E. Bagley	3.8
Frank Feldt (eve)	3.2
Frank Feldt (morn)	3.7
S. Connors	4.1
N. Shaffer	3.4
H. Helm	3.2
William Hudson	3.5
Geo. Peckham (eve)	below standard
Geo. Peckham (morn)	4.2
Mitchell & Price (eve)	3.0

	% butter fat.
Mitchell & Price (morn)	3.3
C. Parkin	4.0
A. E. Hart (eve)	3.3
A. E. Hart (morn)	3.7
C. Heyn (eve)	3.0
C. Heyn (morn)	3.7
F. Popaney (eve)	below standard
F. Popaney (morn)	3.7
R. Miller	3.5
Thomas Hamer (eve)	3.4
Thomas Hamer (morn)	4.4
Geo. Larmer & Turner (eve)	below standard
Geo. Larmer & Turner (morn)	3.8
A. S. Moore	3.3
Geo. Atherton	3.6
H. Dinse	3.3
H. C. Atherton	3.5
W. M. Rice	3.7
Wm. Lewis	3.2
J. H. Putnam (eve)	3.3
J. H. Putnam (morn)	4.1
Wm. Williams	3.4
T. Bufton	3.1
D. Jones	4.0
R. Smout	3.0
Fred Lockwood (eve)	below standard
Fred Lockwood (morn)	4.8
John Davis (eve)	3.2
John Davis (morn)	4.5
S. Davenport	4.0
E. Griffen	3.0
O. Atkinson	3.6
A. Klinesmith	3.6
Wm. Phillips	3.3
H. Eldred	3.0
G. S. Smout	3.1
C. Steindorf	4.0
Geo. Bump (eve)	3.1
Geo. Bump (morn)	3.6
R. Crook	below standard
E. Lewis	3.1
F. Ross	3.8
J. Closner (eve)	3.1
J. Closner (eve)	3.1
J. Closner (morn)	4.2
R. Hamer	3.6
John Lewis	3.7
A. L. Eldred	3.7
J. Bloom (eve)	3.0
T. Francis	3.3
John Caradine	3.5

Monroe, Wis., June 17.

John Disher	3.6
G. Steinmann	3.9

	% butter fat.
A. L. Berryman	3.6
J. U. Elmer	3.9
T. Morris	3.7
A. Voegli	3.4

Seymour, Wis., June 21.

	% butter fat.
Paul Butter	3.7
F. C. Witt (eve)	3.3
F. C. Witt (mixed)	3.1
F. C. Witt (mixed)	4.4
A. Kolleth	3.5
A. Lohmann (eve)	below standard
A. Lohmann (morn)	4.4
Edd Powers	3.8
John Blohm (eve)	3.7
John Blohm (morn)	4.4
H. Krauser	3.3
John Moore (eve)	3.5
John Moore (morn)	4.1
John Moser (eve)	3.5
John Moser (morn)	4.5
Lewis Metzner (eve)	3.0
Lewis Metzner (morn)	3.8
Levi Munger (eve)	below standard
Levi Munger (morn)	4.5
L. Argquite	4.4
T. B. Little	3.8
August Krause (eve)	3.3
August Krause (morn)	3.7
Ben Liebhaber (eve)	3.3
Ben Liebhaber (morn)	4.3
Herman Maas (eve)	below standard
Herman Maas (morn)	3.9
Albert Maas	3.3
Geo. Schaumberg (eve)	3.4
Geo. Schaumberg (morn)	3.9
Herman Helling	3.3
Charles Row (eve)	below standard
Charles Row (morn)	3.2
Philip Knickel	4.6
August Foster	3.1
Herman Pautz	below standard
M. Sigl	3.7
August Maas	4.0
Jacob Heagle (eve)	3.1
Jacob Heagle (morn)	4.1
Wm. Barnetzka (eve)	3.1
Wm. Barnetzka (morn)	3.5
Anton Henes (eve)	3.3
Anton Henes (morn)	4.5

Janesville, city milk supply, July 7.

	% butter fat.
R. W. Scott	3.0
(Formic aldehyd present.)	

	% butter fat.
Will Hughes.....	slightly below standard
Champion Dairy	4.2
S. W. Gould	3.7
(Also bought cream of S. W. Gould, in which no trace of preservaline was found.)	
Chas. Barnes	3.2
(Formic aldehyd present.)	
W. H. Hughes	3.9
C. Knudson	4.1
(Also bought cream of C. Knudson in which no trace of preservaline was found.)	
P. Anderson	3.3
Chas. Damrow	3.2
George Campbell	3.4
E. W. Fisher	3.6
(Also bought cream of E. W. Fisher in which no trace of preservaline was found.)	
S. W. Gould	3.5
E. E. Bullock	4.2
(Also bought cream of E. E. Bullock in which no trace of preservaline was found.)	
W. S. Rice	4.1
E. Birkelund	3.3
J. F. Bemis	4.3
(Also bought cream of J. F. Bemis, in which no trace of preservaline was found.)	

Monroe, Wis., July 10.

	% butter fat.
H. Phelps	3.9
Mike Murphy	3.3
John Meyer	3.5
A. Ackerman (eve)	3.5
A. Ackerman (morn)	3.9
Frank Preston	3.8
John A. Hasse, Jr. (eve)	3.0
John A. Hasse, Jr., (morn)	4.6
Mrs. E. Weismiller (eve) below standard	
Mrs. E. Weismiller (morn)	
.....below standard	
James Andrew (eve)	3.2
James Andrew (morn)	4.2
Mrs. F. Lehnher (eve)	3.3
Mrs. F. Lehnher (morn)	4.0
Wm. Stubbe (eve)	3.8
Wm. Stubbe (morn)	4.6
R. Matzke	3.8
Thomas Smith (eve)	3.7
Thomas Smith (morn)	3.7
Peter Dolan (eve)	4.2
Peter Dolan (morn)	3.8

% butter fat.

Dan Ryan	4.0
R. Crow (eve)	3.0
R. Crow (morn)	4.6
Geo. Durgin (eve)	3.6
Geo. Durgin (morn)	3.6
John Stuissie (eve)	3.8
John Stuissie (morn)	4.8
John Ward	4.2
Ludlow & Griffith	3.8
Wm. Klatt	3.2
John Brandt	3.4
Eugene Thorp	3.5
Wm. Wood	3.8
E. A. West	3.5
A. Heintzleman (eve)	3.7
A. Heintzleman (morn)	3.8
Wm. Pickett	3.5
John Fox (eve)	3.1
John Fox (morn)	3.8
Pat Grady (eve)	3.5
Pat Grady (morn)	3.8
John Buehler (eve)	3.6
John Buehler (mixed)	3.6
John Buehler (morn)	3.6
H. Wagner	4.2
A. J. Keen (eve)	3.3
A. J. Keen (morn)	4.2
Ed. Thorpe	4.0
G. Lehnherr (eve)	3.2
G. Lehnherr (morn)	3.4
Stephen Wood (eve)	4.0
Stephen Wood (morn)	4.2
Paul Disch (eve)	3.2
Paul Disch (morn)	3.7
Fred Kolb	4.0
O. Walters (eve)	3.4
O. Walters (morn)	3.7
Thos. Maher	3.5

Monroe, Wis., July 15.

% butter fat.

David Martin	3.7
Wm. Schneider	3.7
Chris. Stani	3.6
Wm. Rosenthal	3.7
C. Bayshoffer	3.7
C. Tochtorman	3.5
John Steiner	3.5
Geo. Bechtoldt	3.7
Jacob Long	3.3
Delos Wells	3.8
Wm. Kruger	3.4
Joseph Guinter	3.2
D. Stauffacher	3.3

July 17, 1889. Monroe.

% butter fat.

J. M. Davis & Son	3.8
J. Abraham	4.0
Mrs. Julia Sullivan	3.8
Peter Kuble	3.7
John Brennen	4.1
J. C. Davis	3.7
Thos. Hauser	4.2

July 20, 1899. Minnesota Junction.

% butter fat.

J. Drager	4.8
J. Gritzmacher	3.6
J. Hizler	3.4
A. Gronert (eve)	3.4
A. Gronert (morn)	4.3
A. R. Pruger (eve)	3.8
A. R. Pruger (morn)	4.6
F. Rusch (eve)	3.2
F. Rusch (morn)	3.7
Fritz Zimmerman	4.2
Otto Schrieber (eve)	3.6
Otto Schrieber (morn)	4.4
Mrs. Laura Pipher	3.6
Mrs. John Decker	3.6
J. F. Greenfield (eve)	2.2
J. F. Greenfield (eve)	3.0
J. F. Greenfield (morn)	3.8
George Batz	3.9
Fred Benewitz (eve)	3.0
Fred Benewitz (morn)	4.0
Fred Spatholz	3.7
Otto Altman (eve)	3.0
Otto Altman (morn)	4.3

July 26, 1899. Johnson's Creek.

% butter fat.

Geo. C. Mansfield Co. (sent by) ..	2.5
(Sample churned.)	

July 26, 1899. Red Rock.

Jas Kilkelly:

No. % butter fat.

1.	2.8
2.	2.8
(Both samples badly churned.)	

July 27, 1899. Emerald.

% butter fat.

H. C. Peters	3.6
J. Bal	3.4
H. Bal	4.0
Mrs. Amelia Sutherland	3.6
H. Joyce (eve)	3.4
H. Joyce (morn)	3.5

	% butter fat.
John Dornie	3.6
K. Davis (morn)	4.9
K. Davis (eve)	3.6
Robert E. Lee	3.8
James Tricke (eve)	3.0
James Tricke (morn)	4.9
J. A. Johnson ev(e)	3.8
J. A. Johnson (morn)	5.6

Aug. 5, 1899. Darlington.

	% butter fat.
T. Carpenter	3.7
Fred Sauer	4.0
John Thomas	3.6
John Swartz	3.9
R. Hall	3.6
H. Aunsmeier	4.2
Thomas Flood	4.0
Jacob Sauer	3.4
Louis Snyder	3.2
Charlie Nelson	4.4
Sam Hill	3.7
Pat Murphy	4.0
George Doeling	3.0
Henry Kanautz	3.4
Henry Sehale	4.1
J. Colbeck	3.8

Aug. 7, 1899. Monroe.

	% butter fat.
William Wells	4.5
Fred Schroeder	3.7
Julius Knoll	3.6
Charlie Schriener	3.7
Fred Drager	4.0
Fred Brunkow, Sr.	4.0
Mrs. Donner	3.3
David Bringold	4.5
P. Painter	4.2
Charlie Grabow	4.1
Chris. Kapeler	3.3
H. Kottenbeutel	4.6
Fred, Brunkow, Jr.	4.2
M. Miller	4.0
E. Vaultman	4.2
Chris. Fraustchy	4.0
William Schultz	4.5
August Brunkow	4.5

Aug. 9, 1899. Madison city milk.

	% butter fat.
Fred Koch	4.6
B. J. Stevens (v.m. Breet, driver)	4.4
Henry Harbort	3.6
C. H. Messersmith	4.0

	% butter fat.
Spring Farm Dairy (Jos. Pear- son, owner)	4.7
Chas. Baker	3.5
Hadtfield & Nelson (eve)	4.7
Hadtfield & Nelson (morn)	5.2
Perry A. Outhouse (morn)	5.6
Jake Weber	3.9
Lehr Bros.	4.4
Pinster's Dairy	4.6
Alderney Milk Dairy, S. Rota, owner	3.8
Lake Edge Dairy Farm, F. J. Main, owner (eve)	6.6
Maple Lawn Dairy, Wm. McKee, owner	4.2
L. Schlimgen (eve)	5.0
H. H. Davis	4.2
Capital City Creamery, Chas. Nel- son, owner	5.2
Bruns (eve)	4.6
Garden Dairy, Geo. T. Sachs....	3.8
S. T. Brown	3.6
J. Marks	2.4
Wm. Voss	4.0
Carl Gindlach	3.1

Aug. 22, 1899. Watertown city milk supply.

	% butter fat.
C. W. Jake	5.6
Frank H. Lehmann (eve)	9.2
Frank H. Lehmann (morn)	4.0
Clerman Frederick	3.0
A. Marquart (eve)	3.8
A. Marquart (morn)	4.8
J. J. Dobler (eve)	3.1
J. J. Dobler (pasteurized)	4.2
Jahnke Creamery Co.	4.2
Mrs. Tilla Ruebhausen	3.7
Mrs. Tilla Ruebhausen (morn) ..	4.3
Began's Dairy (eve)	3.7
Began's Dairy (morn)	4.6

Aug. 24, 1899. Rangeline.

	% butter fat.
F. Versolski	3.8
Fred Sand	3.7
Mike Sonnenwald (eve)	3.1
Mike Sonnenwald (morn)	3.4
Frank Neiner	3.8
M. Dunchek	4.0
John Dreier	3.5
Aug. Zermehler	3.8
John Tomzyk	3.7
Jac. Wese (eve)	3.7
Jac. Wese (morn)	3.4

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	% butter fat.
Jos. Gokey	4.7
Frank Weier	3.6
Carl Stechmesser	3.7
S. Bishop	3.5
Henry Short	3.6
Chris. Broecker (eve)	3.6
Chris. Broecker (morn)	3.4
H. Steckmesser (eve)	3.1
H. Steckmesser (morn)	4.1
Carl Retzlaff (eve)	4.0
Carl Retzlaff (morn)	4.0
F. Retzlaff (eve)	3.8
F. Retzlaff (morn)	3.8
H. Vogl (eve)	3.9
H. Vogl (morn)	4.2
J. Gates	3.0
Tom Cabot	3.6
H. Zermeuhleu	3.7
J. Jasper	4.6
Anton Skorch	4.5
Peter Pietroske	3.1
Peter Pietroske	3.6
Alb. Deja	3.0

Aug. 26, 1899. Juda.

	% butter fat.
Wm. Kafer	4.0
Fred Miller	3.7
Wm. Baird	4.4
Fred Zuhlke	3.6
Dan Vance	4.0
Geo. Helmstreet	3.9
Albert Keller	3.7
John Michaels (eve)	3.6
John Michaels (morn)	3.8
T. J. Barmore	3.7
Harvey Barmore	3.3

Aug. 29, 1899. Racine city milk supply.

	% butter fat.
Chris. Peterson (eve)	4.3
Chas. Nobles (eve)	3.8
R. M. Walker (eve)	4.2
Wm. H. Lehnert (eve)	4.7
Wm. H. Lehnert	4.1
W. G. Nelson (eve)	3.1
Chas. A. Crane (eve)	3.4
A. Belx (morn)	4.1
R. Bowman (eve)	3.8
Mrs. M. Pfeiffer	3.2
W. R. Taylor (eve)	3.8
L. Leonard	3.8
Nels Hansen (morn)	4.8
Nels Hanson (eve)	4.2
Geo. P. Hercher (morn)	4.5

	% butter fat.
Chris. Tang e.....	3.9
Hans Iverson (morn)	3.7
John G. Johnson (morn)	3.5
F. Krenzke (morn)	7.0
Chris. Tange (eve)	3.5
J. P. Jensen (morn)	3.2
R. Bowman (morn)	3.8
W. M. Phelps (morn)	3.9
W. M. Phelps (eve)	3.7
Chas. Eckert	2.8
N. Johnson	2.2
Nels Johnson	7.8
W. C. Smith & son (morn)	3.7
Geo. Mautz (eve)	3.2
S. Knutson (morn)	3.4

Aug. 30, 1899. Racine city milks.

	% butter fat.
Chris. Peterson (eve)	4.3
Chas. Nobles (eve)	3.8
R. M. Walker (eve)	4.2
W. H. Lenbert (eve)	4.7
W. H. Lenbert (eve)	4.1
W. G. Nelson (eve)	3.1
Chas. A. Crane (eve)	3.4
H. Belx (morn)	4.1
R. Borman (eve)	3.8
Mrs. M. Pfeiffer	3.2
W. R. Taylor (eve)	3.8
L. Leonard (eve)	3.8
N. Hanson (morn)	4.8
N. Hanson (eve)	4.2
G. P. Hershern (morn)	4.5
Chris. Tange (morn)	3.9
Hans Iverson (morn)	3.7
J. G. Johnson	3.5
F. Krenzke (eve)	7.0
Chris. Tange	3.5
J. P. Jensen (morn)	3.2
Nels Johnson (store) (cream)	12.
R. Borman (morn)	3.8
W. M. Phelps (morn)	3.9
W. M. Phelps (eve)	3.7
Chas. Eckert (morn)	2.8
N. Johnson (eve)	2.2
N. Johnson (store)	7.8
W. C. Smith & Sons (morn)	3.7
Geo. Mautz (eve)	3.2
S. Knudson	3.4

Sept. 1, 1899. Verona.

	% butter fat.
Karl Colby	4.8
John Kittleson	4.0
John Way	5.4
Michael Hobbs	4.2

	% butter fat.
Martin Hobbs	4.2
Herman Hankel	4.5
Mrs. M. Messerschmidt	5.1
Knudt Boc	5.4
S. Wittwer	4.0
Henry Rigge (eve)	4.3
Henry Rigge (morn)	4.3
Wm. Lust	4.0
Albert Herring	4.0

Sept. 9, 1899. Monroe.

	% butter fat.
Gus Arthur	4.4
Wm. Blasing	4.0
Thos. Hyland	4.4
Jas. Jones	4.3
Ed. McGraw	4.5
Jas. Conner	4.6
Patrick Flannery	4.0
F. Q. Soper	4.3

Sept. 12, 1899. Kenosha city milk supply.

	% butter fat.
Frank O'Connor (eve)	3.5
Frank O'Connor (morn)	4.9
P. Anderson & Sons	3.9
John Hartung	3.2
A. Sorenson	4.1
E. F. Falk (eve)	4.2
E. F. Falk (morn)	6.2
Wm. Pedley (eve)	4.1
Wm. Pedley (morn)	4.2
Sorenson Bros.	3.1
Peter Barth (eve)	3.6
Peter Barth (morn)	4.3
H. E. Blackman (eve)	3.9
H. E. Blackman (morn)	3.8
John Hushold (eve)	2.9
Rudolph Henschler (eve)	4.4
Rudolph Henschler (morn)	6.9
Fred Barter	4.0
J. White	5.2
Jas. A. Wells (eve)	4.7
Jas. A. Wells (morn)	4.3
L. H. French	5.2
A. B. Pierce	4.4
Chas. Hansis	3.9
J. T. Irwin	4.5

Sept., 19 1899. Sheboygan.

	% butter fat.
G. Koehler (eve)	3.8
Wm. Newman (eve)	4.5
Fred Firzlaff (eve)	3.8
Fred Firzlaff (morn)	4.4

	% butter fat.
Wm. Vershulst (eve)	3.5
Wm. Vershulst (morn)	4.1
Gust Knabe (eve)	4.2
Gust Knabe (morn)	4.0
Val. Herman (eve)	3.6
Val. Herman (morn)	4.0
Geo. Paasch (eve)	3.7
Geo. Paasch (morn)	4.3
W. Brockman (eve)	3.7
John De Troy (eve)	3.5
John De Troy (morn)	3.3
Aug. Kupsch (eve)	3.4
F. Torsch (eve)	3.3
Val. Herman (eve)	3.9
Val. Herman (morn)	3.9

Sept. 20, 1899. Branch.

	% butter fat.
Frank Blimel (eve)	3.8
Frank Blimel (morn)	5.1
Theo. Seiberlich	4.3
F. Seidel (eve)	3.8
F. Seidel (morn)	3.8
F. Kunz (eve)	3.2
F. Kunz (morn)	3.5
H. Witte	3.4
Wm. Wackholz	3.4
C. Gruber	3.9
Anton Gruber (eve)	3.2
Anton Gruber (morn)	4.2
J. Strausky (eve)	3.0
J. Strausky (morn)	3.5
Frank Delsmann	4.2
J. Krucek (eve)	3.5
J. Krucek (morn)	4.2
J. Hutterer (eve)	3.0
J. Hutterer (morn)	4.2
J. Gruber (eve)	below standard.
J. Gruber (morn)	4.2
G. Wackholz	below standard.
V. Sherl	4.2
H. Andholz	3.7
H. Mull	4.2
F. Wacek (eve)	3.4
F. Wacek (morn)	4.8
J. Senerbelt (eve)	3.0
J. Senerbelt (morn)	3.8
John Goldert (eve)	3.0
John Goldert (morn)	3.0
Geo. Sperl (eve)	4.2
Geo. Sperl (morn)	4.8
Geo. Steinbrecker (eve)	3.4
Geo. Steinbrecker (morn)	4.2
W. Fehring	3.4
J. Hrudka	3.0
F. Jachimstal	3.1

REPORT OF THE WISCONSIN

Sept. 20, 1899. Waucousta.

	% butter fat.
Fred Ludwig	3.1
Aug. Ramton	4.2
Aug. Ramton	3.4
Cap. Pinhallo	below standard.
C. Rahn (eve)	4.0
C. Rahn (morn)	4.0
F. Loomis	4.3
John Sook (eve)	3.8
John Sook (morn)	4.2
C. Burnett (eve)	3.4
C. Burnett (morn)	4.6
J. Flanigan (eve)	4.4
J. Flanigan (morn)	4.5
F. Ramton	3.8
Herman Homburg (eve)	4.0
Herman Homburg (morn)	4.2
Ed. McInrhoe	3.6
C. Brautz	4.0
C. H. Allen (eve)	4.6
C. H. Allen (morn)	5.6
C. Odekirk	4.0
J. B. Odekirk	4.4
Fred Kutz	4.4
C. Kutz	3.8
Mike Cavanaugh (eve)	3.2
Mike Cavanaugh (morn)	4.9
Robt. Rahling	4.2
Aug. Kutz	3.6

Sept. 21, 1899. Black Earth.

	% butter fat.
Mrs. Mary Lynch	3.1
Geo. Booth	4.5
T. A. Denny	4.6
Charley Lockwood	4.2
John Lockwood	4.2
John Cooper	6.0
A. Reich	4.6
E. Maquardt	3.6
Jas. Lockwood	4.2
Geo. Lockwood	5.2
Jas. Shields	4.5
T. Thompson	4.4
Jas. Hayden	4.0
Marton Parell	4.3
John Booth	4.1

Sept. 27, 1899. Mackville.

	% butter fat.
Herman Lecker	3.8
John Kearn	3.6
L. Aleish (eve)	3.6
L. Aleish (morn)	3.6
C. Rohmlow (eve)	3.4
C. Rohmlow (morn)	4.8

% butter fat.

G. Longlads	4.4
L. Jaschow	5.0
J. Thies	4.0
W. M. Rohmlow (eve)	3.8
W. M. Rohmlow (morn)	4.2
Wm. Maisfield	3.8
Wm. Maisfield	4.0
Matt Miller (eve)	4.0
Matt Miller (morn)	4.5
N. Reiland (eve)	3.4
N. Reiland (morn)	4.4
J. Bley	4.3
Charley Stoldt (eve)	3.6
Charley Stoldt (morn)	4.2
S. Hoffman (eve)	3.5
S. Hoffman (morn)	5.0
John Donney (eve)	4.0
M. Sommers	4.4
C. Sommers	4.0
Wm. Schmalang	3.7
Otto Lemke	3.4
John Donney (morn)	4.0
S. Leith (eve)	below standard.
S. Leith (morn)	4.0
A. Preston	3.7
W. M. Maisfield (eve)	4.0
W. M. Maisfield (morn)	4.5
H. Kerner	4.4
A. Schebow	4.1
A. Warner	3.0
A. Fisher	4.2
E. Tecklin (eve)	4.0
E. Tecklin (morn)	4.4
Chris. Fetting	4.2
John Calmin	3.4
Fred Kading	4.0
M. Striegal (eve)	3.8
M. Striegal (morn)	4.2
Henry Ulman (eve)	3.0
Henry Ulman (morn)	4.7
Peter Gingler	3.6
C. H. Ulman	4.6
C. H. Ulman	4.9
F. Prestine	3.9
Barney Stuttgen	4.2
John Rehfeld (eve)	3.4
John Rehfeld (morn)	4.8
F. Rohrback (eve)	3.5
F. Rohrback (morn)	4.2

Sept. 29, 1899. Orfordville.

	% butter fat.
S. M. Symstgard	4.3
C. Fossum	4.3
John Angen	5.4
Hans Eggen	4.2

	% butter fat.
Hans Amsteadt	4.5
Peter Amsteadt	5.0
Andrew Enger	4.6
Sever Snistegar	4.4
Peter Lund	4.6
Oscar Fossum	4.2
Martin Runnor	5.7
Hans Jorland	4.9
O. Anderson	4.1
Chris Sagen	4.6
Peter Sagen	5.1

Oct. 23, 1899. Sun Prairie.

	% butter fat.
A. Paulsee	5.4

Nov. 9, 1899. Binghamton.

	% butter fat.
Aug. Roll	3.8
John Casey	3.6
John Casey	4.2
C. Benning	3.7
J. F. Hinz	4.1
Aug. Smith	4.6
Geo. Leisgang	4.1
Geo. Leisgang	4.2
Louis Sasman	3.8
C. Hoerning	5.0
Fred Korth	4.2
Wm. Nussbaum	4.6
John Tischauser	3.6
Wm. Genske	4.1
Geo. Roser	3.5
Wm. Wehrman	3.8
Lyman Smolk	4.3
J. Ruwoldt	4.3
J. Ruwoldt	4.9
L. Mallahn	4.3
Mrs. E. Breidenfeld	4.8
John Eickhoff	4.3
Chas. Wolf	4.0
Wm. Rusch	4.0
F. Wisthoff	3.8
C. Sellberg	4.6
Geo. Welch	4.0
Jas. Wing	below standard.
Aug. Wehrman	3.4
B. Griese	4.0

Nov. 16, 1899, Norwalk.

	% butter fat.
A. Ebert	5.0
Geo. Bohn (eve)	4.3
J. Steinhoff (eve)	4.5
A. Bollwan (eve)	6.0
Henry Dittman (eve)	5.3

	% butter fat.
Frank Seemen (eve)	4.7
Frank Seemen (morn)	4.4
Michael Zeigler (eve)	4.0
I. Hedriche (eve)	4.0
I. Hedriche (morn)	5.3
Anton Haas (eve)	3.3
Anton Haas (morn)	4.6
John Steinhoff (eve)	4.2
John Flaig (eve)	4.5
John Flaig (morn)	4.6
Fred Oswald (eve)	4.2
Frank Schaller (eve)	5.4
Jos. Haas (eve)	4.3
John Zeigler (eve)	4.0
Henry Berendes	4.8
Henry Pnuhl (eve)	4.9

Dec. 20, 1899. Cambridge.

	% butter fat.
J. Nettum	4.4
J. A. Johnson	4.2
R. J. Schmidt	4.3
Wm. Lester	4.0
C. Birkrem	4.0
M. Krarik	4.3
H. H. Prescott	4.5
E. H. Beahm	4.4
O. C. Larson	3.9
J. Johnson	4.6
J. B. Lind	4.4
W. Popplow	4.3
Geo. Greene	4.4
Mrs. Armstrong	4.4
O. Rumph	3.3
C. Goodrich	5.1
G. Rettsloff	4.4
T. Gericke	3.9
W. Krouse	3.9
A. Grager	4.2
J. Goricke	3.9
A. Erikee	5.0
A. Ottow	3.5
H. J. West	5.0
W. Simdon	4.5
C. Simdon	3.3
A. Searnes	4.2
M. Anderson	4.0
C. M. Larson	4.2
J. Longholff	3.5
J. M. Krippner	5.0

Dec. 22, 1899. Monches.

	% butter fat.
P. Kleiser	4.1
G. Schodrom	3.8
F. Whelan	4.0

	% butter fat.
H. Boets	4.9
E. Dempsey	4.2
Wm. Schuch	4.1
S. Good	4.0
H. Webber	3.7
P. Held	4.0
Skim milk	0.1

Jan. 4, 1900. Darlen.

	% butter fat.
W. Blakely	4.0
Mrs. Luideman	4.2
M. O. Brine	4.2
Haistens & Ingersoll	3.6
J. Dodge	4.0
A. D. Failer	4.3
A. Carleson	4.2
D. Clough	4.0
J. Piper	3.8
J. McCabe	3.
T. Brooks	4.7
G. Randall	4.2
R. L. Rumsey	4.3
H. C. Bardley	3.3
P. G. Schneider	3.8
D. Carey	3.9
E. Barrett	4.2
J. Barth	4.2
A. M. McKinney	3.8
C. Liddle	3.4
C. B. Jones	3.7
Alex. F. McKinney	3.7
Blakey Thern	4.
M. Doundsty	4.6
W. Heffely	3.3
C. Gasst	4.
M. O. Connor	3.8
W. Frederick	3.4
J. N. Whalen	3.3
M. H. Gardner	3.
D. Jayner	3.8
C. Weed	3.8
C. Sweet	3.6
F. Cusack	4.4
J. Cusack	3.8
Z. V. Dierser	3.9
J. Thorp	4.9
F. Petters	3.8
E. Haistens	4.
J. Ives	4.
J. Welch	4.4
Welch & McCave	3.7
G. Putnam	3.7
J. Long	3.2
P. Long	4.
J. Steffenheggen	4.

	% butter fat.
F. Gage	3.6
W. Cheney	3.9
J. Stewart	4.8
D. Nelson	3.8
P. Olsen	3.5
V. Arnole	3.9
A. Tompson	3.5
M. E. Cusack	4.
C. Flske	4.5
J. Turner	4.7
C. McKinney	3.6

Jan. 4, 1900. Manchester.

	% butter fat.
Sent by J. F. Groose	3.4

Jan. 4, 1900. Madison.

	% butter fat.
Sent by Frederick Conover, bought of J. P. Woodard	4.7

Jan. 26, 1900. Lark.

	% butter fat.
Sent by W. H. Heinrich	3.0

Jan. 31, 1900. Waterloo.

	% butter fat.
L. Kypke	4.1
A. J. Clark	4.2
A. Kuohn	4.3
C. Hankey	4.0
P. Fox	3.7
A. Riebe	3.9
Mrs. Wilt	4.6
A. Christen	4.0
W. Jordom	3.9
F. Sedl	4.4
P. Sheriden	4.1
H. Hengler	4.3
A. Grumald	4.1
B. Lobeo	3.8
J. Nolton	3.8
H. Godtschalk	4.1
E. Kennedy	4.4
A. Hebel	4.1
A. Ritzlaff	3.8
A. Fettinger	4.4
W. Gramwald	4.2
F. Fink	4.0
H. Blank	4.4
F. Doepppe	3.8
A. Doepppe	4.9
H. Heideman	4.0
H. Blesop	3.8
T. Fitzpatrick	4.0
W. Detert	3.9

	% butter fat.
A. Gue	5.2
J. McCormick	3.5
F. Tomcha	4.4
Wm. Irim	3.8
F. Dallman	4.5
W. Beerbaum	3.9
Skimmed milk	1.05

March 13, 1900. Brodhead.

	% butter fat.
A. F. Anderson	3.8
W. Sumerfelt	4.0
C. Disch	3.4
C. M. Mevins	3.7
J. Demsey	3.6
J. Menor	4.6
F. Mevins	3.5
D. McNair	4.2
F. Stephens	5.0
W. White	4.8
T. L. Douglass	4.0
W. Roesheisen	4.6
F. Stabler	3.6
B. L. Tailor	4.2
J. Kurtz	5.7
T. Swan	4.0
E. Helm	4.2
W. J. Tracy	3.6
P. L. Dedrich	3.7
F. C. Lewis	3.4
A. Smith	4.0
R. J. Bucklen	3.5
P. W. Killwine	3.6
E. Mitchell	3.3
W. Post	3.2
A. Wick	3.3
D. E. Austin	3.8
R. Stabler	3.8
G. H. Swanton	3.7
A. Zelnov	3.6
W. Engebretson	3.7
G. St. John	3.5
T. Smith	4.0
R. J. Day	4.4
A. Lyons	3.6
W. B. Chase	3.8
R. B. Gifford	3.9
A. Olin	3.6
W. Wraight	4.2
W. Borchardt	3.4
W. Smita	4.3
O. H. Veek	3.3
J. S. Richards	3.5
M. Jackson	3.8
M. E. Karney	3.6
H. Glese	3.7

March 22, 1900. Factory of H. & F.
Zacke, Juneau,

	% butter fat.
D. Moulton	4.0
B. Summerfelt	2.8
F. Butterbrod	3.0
Wm. Bartz	3.6
E. Eubel	3.8
A. Schley	3.3
Wm. Scholl	3.8
A. Schoefelt	3.4
G. Stange	3.2
Vat average	3.6

March 31, 1900. Alma Center.

Sent by J. Dudley:

No.	% butter fat.
9.	4.4
10.	4.4

April 5, 1900. Marshall.

Sent by H. Welner:

No.	% butter fat.
1.	4.4
2.	4.2
3.	4.4
4.	4.2
5.	4.5

April 5, 1900. Monroe.

Sent by N. G. Durgin:

No.	% butter fat.
6. (morn)	3.5
7. (eve)	3.3

April —, 1900. Alma Center.

Mrs. McSwan	2.4
R. Sichler	2.8
Joe Adams	2.2

April 24, 1900. Hustisford.

	% butter fat.
E. Randall	3.0
S. M. Randall	3.8
I. Burgess	below standard
A. Schuett	3.2
A. Ludke	3.4
H. Krueger	3.3
Wm. Lange	2.9
Wm. Schwantco	below standard
G. Thomas	3.5
O. Krahn	3.4
W. H. Jones	3.4
S. B. Jones	3.3

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April 27, 1900. Blair.

	% butter fat.
Joe Gilles	4.8
Orrin Terrell	3.2
Wm. Wheaton	3.8
J. Laney	3.0
F. Blencoe	4.2
P. Henderson	3.8
W. Hall	6.0
A. Stoddard	3.8
G. Baker	3.6
J. Schmitt	4.6
M. Schmitt	3.4
B. Judkins	3.6
S. Judkins	3.8
J. Galster	3.5
J. Feyne	3.6
M. Gillis	4.4
Mrs. E. Judkins	4.0
D. Hardison	5.0
E. Stevens	4.0
C. Siehler	3.6
Mrs. McSwain	below standard.
M. Galster	3.6
R. Siehler	below standard.
J. Siehler	3.4
G. Adams	3.4
J. Adams	3.8
M. Lewis	3.8
Wm. Guthrecht	3.4
M. Staffom	3.4
Eben Gorner	3.4
F. Link	4.4
W. Godfrey	3.8
F. Siehler	3.7
C. Casper	4.0
N. Schmitt	4.0
A. M. Merrill	4.0
H. Wagner	3.7
Joe Adams	below standard.
E. S. Northrope	4.0
E. Gorner	4.0
T. Halpin	3.3
G. Staffom	3.2
C. Shankey	3.3
Mrs. M. Staffom	4.2
C. Steffom	3.4
F. Bloom	3.7

April 20, 1900. Merrill city milk.

	% butter fat.
C. Hibbard	4.5
Perry Foster	3.9
H. Fuller	3.8
D. F. Shea	2.6

April 26, 1900. Beaver Dam.

	% butter fat.
G. Obermier	3.8
J. Kleindl	3.3
S. Sadoskie	3.5
A. Rake	3.6
A. Gutgesell	4.8
J. Hopp	3.5
H. Fertl	3.4
A. Genrich	3.7
J. Sadoskie	3.6
Wm. Bedker	4.0
A. Immerfall	3.6
J. Immerfall	3.2
J. Belter	3.8
M. Sadoskie	3.7
J. Fromholz	3.8
J. Slamboske	3.0
H. Bogenschmider	below standard.
C. Bogenschmider	3.4
M. Schachinskie	3.8
T. Glassmann	3.4
E. Yarak	3.3
J. Pobanz	3.6

April 26, 1900. Beaver Dam.

	% butter fat.
H. Bogenschneider	2.5

May 1, 1900. Oak Grove.

	% butter fat.
Alb. Zimmerman	3.7
Alb. Horn	3.6
Aug. Zimmerman	3.4
Aug. Neis	3.6
Aug. Sell	3.1
John Flansch	4.3
Joe Reigowatz	3.0
Wm. Schultz	3.4
C. Mechelburg	3.5
A. Sumnicht	4.3
Aug. Tesch	3.9
Theo. Ohmstedt	3.9
Wm. Weinheimer	3.8
Aug. Koehler	3.6

May 3, 1900. Oak Hill.

	% butter fat.
F. Gilbert	3.4
A. Mules	3.4
C. Ward	3.5
J. Lundt	3.4
O. Romey	3.8
R. Mules	below standard.
C. Thomas	3.5

		May 24, 1900. Richfield, Wisconsin.	
	% butter fat.		% butter fat.
Wm. Mules	4.0	F. Ferder	3.6
S. Smale	3.0	F. Hoelz	3.2
Wm. Stacey	3.8	Wm. Lofy	3.7
A. Thompson	3.4	J. Krohler	3.6
Wm. Pethic, Jr.	3.6	C. Lofy	3.7
A. Holcomb	3.5	M. Janzer	3.8
Wm. Jolliffe	3.3	H. Schulties	3.7
E. J. Jolliffe	3.6	A. Whitmyer	3.6
J. Ebbott	3.4	G. Naob	3.8
F. Crarer	4.0	J. Weber	3.8
M. Sleep	3.9	P. Kline	3.2
L. J. Hooper	3.4	C. Joetz	3.8
W. A. Hooper	3.6	H. Whitmyer	3.7
C. Corry	3.3	J. Barga	3.4
C. Summers	3.5	J. Friez	3.7
Wm. Trewin	4.0	H. Gerietz	3.4
F. Richmond	3.4	N. Schwartz	3.7
J. Rowe	3.8	J. Gasser	3.6
G. Meach	4.0	F. Gern	3.2
J. Mitchell	3.7	Mrs. K. Gallitz	3.2
F. Mundschar	3.6	G. Jacob	3.5
H. Grams	3.5	M. Fisher	3.6
Wm. Pethic	4.0	J. Bresgin	3.5
J. Northey	3.8	N. Smith	3.6
W. Thomas	3.5	A. Melins (n)	below standard
J. Yoe	4.0	A. Melins (m)	4.0
Wm. Box	3.9	F. Baker, Sr., (n)	3.5
J. Leam	3.8	F. Baker, Sr. (m)	3.5
L. B. Hooper	3.4	F. Baker, Jr. (n)	3.7
A. W. Excell	4.0	F. Baker, Jr. (m)	3.7
W. Morris	4.5	Wm. Maurer	4.0
May 9, 1900. Melendy Prairie cheese		A. Peters	3.9
factory, Palmyra.		H. Zhlef (m)	4.2
	% butter fat.	H. Zhlef (n)	3.4
R. Charley	3.8	H. Green	4.0
W. A. Peper	3.3	J. Ranthum	3.3
Ed. Hooper	3.4	F. Borchart	3.6
W. P. Gater	4.2	C. Radenback	3.5
N. Peardon	3.8	F. Whitenburg	4.2
G. Lean	3.5	A. Whitenburg	3.6
R. H. Turner	4.2	A. Thillman	3.7
J. French	3.5	P. Lorsen	3.2
W. Burton	3.6	May 31, 1900. Verona, Wisconsin.	
C. Perny	4.1		% butter fat.
Stacy & Hacket	3.8	H. Gooth	4.2
A. Emery	4.1	J. Stussy	3.4
F. Vonsnedon	3.1	J. Willmann	3.6
L. Getmann	4.0	G. Zink	3.9
J. Steinholf	3.6	J. Strelff	4.0
W. Gilbert	3.0	T. Stilver	3.6
R. Chapman	3.9	Mrs. L. Rolly	3.6
Sherman & Sherman	4.1	Vat	3.6
Geo. Mann	3.4		
W. Pett	3.6		

June 5, 1900. Berlin Creamery Co.,
Berlin, Wis.

% butter fat.

H. Hadal	3.9
J. Litenki	4.1
M. Christencrusten	4.0
A. Loose	4.0
E. Moulther	3.6
J. Linch	3.2
A. Bebher	4.3
E. Rannow	4.2
C. Riley	3.7
Ed. Anglo	3.8
J. Himan	4.1
A. Alberts	4.2
F. Taro	4.6
N. L. Steavidson	3.8
J. Parson	3.6
G. Nagal	3.8
T. Went	4.4
A. Smith	4.5
C. H. Morris	4.4
J. Worden	4.0
John Brisky	4.0
Kirwin Bros.	3.9
R. Martintusky	3.9
Joe Maltusky	3.5
J. Lentz	3.2
W. Kallas	4.0
P. Kallas	3.9
Carl Smith	3.4
J. Dumpke	4.0
N. Seaman	3.6
C. A. Davenport	3.8
J. Shead	3.1
D. Hearington	3.5
C. Armstrong	4.0
W. Synot	4.0
J. Coldman	3.6
H. Smick	4.2
John Bahr	3.8
F. Bahr	3.4
Tom Colman	4.1
C. Obrine	3.7
T. Curran	3.6
C. Scamall	3.3
H. Crimmans	3.8
N. Spoor	3.6
D. Wellgards	4.0
F. Eagen	4.0
A. Hansen	4.0
A. Yonksky	3.5
H. Bahr	3.4
C. Gibbirt	4.2
G. Bunce	3.4
J. Gilbert	3.4
T. McCullough	3.6

F. Freman	3.4
E. Hill	4.2
J. Hall	4.0
A. Schulter	3.6
F. Kheber	3.6
J. Kinrade	3.5
H. Schrader	3.5
J. Marnen	3.5
W. Moullenhauer	3.2
C. Able	3.9
J. Strickler	3.5
B. Post	4.2
K. Buttler	3.6

June 12, 1900. Vance, Wisconsin.

% butter fat.

Ed. Sipert	3.8
A. Wiseman	3.8
Ole Flaten	3.5
E. Lofing	3.9
Wm. Boursan	4.1
E. Hegen	4.2
J. Oleson	3.7
F. Boursan	3.7
D. Liberty	3.8
F. Goodhile	4.0
C. Bomheld	4.0

June 14, 1900. Johnson Creek, Wis.

% butter fat.

N. J. Balsom	3.9
Wm. Poll	3.4
F. Stindt	3.6
A. Beerman	3.4
A. Kline	3.7
A. Hemple	3.6
W. D. Ballard	3.5
Wm. Brinkman	3.3
J. F. Smith	3.4
J. Swanke	3.8
Wm. Hillsbring	3.6
Wm. Deering	4.1
F. Paul	3.4
Wm. Rickett	3.4
E. Griffith	3.5
E. Genreh	3.2
Wm. Jacobs	3.5
F. Born	3.6
T. Madigan	4.2
J. Glehel	3.5
U. S. Grant	3.8
Wm. Powell	3.2
Mrs. M. Gleason	3.7
F. Jeger	3.4
A. Hine	3.6
L. Praves	3.4

	¢ butter fat.
A. Hahman	3.7
J. Smita	3.8
H. Bedahn	3.5
F. Jadvfelt	3.8
Mrs. J. Havey	3.3
F. Firch	3.6
Wm. Barker	3.6
Phil Smith	4.0
Wm. Kono	3.0
C. Oldenburg	3.5
J. Little	below standard
J. Ford	3.1
C. Smolt	3.6
C. Marchant	below standard
H. O'Neill	5.4
Mrs. H. Havey	4.2
J. Havey	3.6
H. Giffey	4.2
J. Pygall	3.0
H. Harbenkorn	4.4
Wm. Cowhan	4.0
C. Sizer	4.0
C. Knapp	3.2
Wm. Hening	3.6
A. Pynch	3.8

June 15, 1900. Mount Calvary, Wis.

	¢ butter fat.
John Rein	3.6
C. Rosenbaum	3.8
J. Selbel	3.6
M. Bord	3.8
A. Ihrke	3.2
Wm. Jens	3.2
H. Schmidt	3.5
A. Scherer	3.8
H. Vetter	4.1
J. Engel	3.6
E. Bohn	4.0
G. Soles	3.3
L. Scherer	3.6
G. Reitz	3.2
Wm. Schralder	3.4
F. Rosenbaum	3.7
L. Selbel	3.8
E. Ihrke	3.4
H. Rosenbaum	3.9
F. Fritz	3.6
— Bessey	3.2
— Dolly	4.0
— Brindle	4.4

June 20. Marshall, Wis.

	¢ butter fat.
M. Smith	3.6
Wm. Hirtling	3.5

	¢ butter fat.
C. Haugenson	3.9
S. Simonson	4.0
L. Nesthus	3.9
P. Kroco	4.2
E. Zabel	3.9
M. Nickleson	3.9
P. Henderson	3.4
T. Story	4.2
Thompson & Co.	3.5
A. Oseveson	3.8
J. Borave	4.0
C. Scalter	3.6
L. Simons	3.9
H. Fedkenhausen	3.8
A. Wollin	3.4
K. Evenson	3.6
O. O. Chorry	3.8
J. B. Bergum	3.6
Wm. Reideman	3.4
S. Geldenhus	4.0
H. Dalby	3.8
G. Doedebner	3.4
W. Quaman	3.3
O. Quale	3.6
J. Hommen	3.8
S. Swenson	3.7
M. Gunderson	3.3
M. Nelson	4.4
S. Bolstead	3.9
J. Henjum	3.6

June 26, 1900. Paris Corners, Wis.

	¢ butter fat.
H. T. Dixen	3.2
J. Jones	3.0
R. Gatst	4.2
C. Kutzke	3.4
N. Eirckson	3.2
G. Roberts	3.4
R. H. Jones	3.6
C. Tonk	3.0
M. Thom	3.1
P. Thom	below standard
Crane Bros.	3.6
W. Andrews	3.2
H. Litzenberg	3.1
W. Schreiber	3.3
W. Penges	below standard
F. Kerrow	3.1
Gunter Bros.	3.3
J. Griffith	3.7
H. Wagner	3.6
R. B. Jones	3.4
Griffith Bros.	3.3
W. Murgtried	3.4
W. Sheep	3.6

	% butter fat.
Jane Williams	3.0
J. Slitz	3.3
M. Fonk	3.0
W. Gunter	3.2
C. Garr	3.4
M. J. Fonk	3.1
Mrs. P. Fonk	3.0
F. Stein	3.8
W. Williams	3.9

July 3, 1900. Plymouth City.

	% butter fat.
G. Freimund	3.4
Fred. Daety	4.0
Otto Henze	3.8
E. E. Eastman	3.7
H. Ott	3.8
Geo. Meyer	3.6

July 9, 1900. Francis Creek, Wis.

	% butter fat.
J. Popelar	3.6
A. Dvornl	4.0
J. Kocl	below standard
J. Peroutka	3.6
J. Novak	3.6
W. Havlick	3.1
M. Weber	3.6
J. Braum	3.0
J. Kellner	3.3
J. Slatkey	3.5
J. Kurtz	3.8
E. Pech	3.8
A. Shransky	3.4
W. Peroutka	3.4
J. Swetlek	3.6
F. Vorel	3.8
M. Noval	3.2
M. Fierst	3.4
J. Rezek	3.4
J. Dvorak	3.6
J. Dolezal	3.6
J. Braun	4.0
W. Tetera	3.4
J. Mares	3.4
J. Konop	3.6
F. Stastney	3.4
A. Marek	below standard
F. Steber	below standard
J. Meyer	3.0
F. Duchon	3.8

July 12, 1900. Dodgeville, Wisconsin.

	% butter fat.
W. Williams	3.2
J. Torphy	3.5

	% butter fat.
Joe Reede	3.6
Ole Edmunds	3.7
J. Reiley	3.8
Mrs. J. Moon	3.6
F. Yapp	3.3
Wm. Buckingham	3.2
Tom Paul	3.8
J. Griffith	3.9
Sam Moon	3.0
Mrs. D. Collins	3.4
C. Mathews	3.6
J. Higgins	3.8
T. Buckingham	3.7
A. Buckingham	3.2
J. Lynch	3.4
J. Cretney	3.8
R. Lewis	3.4
E. Evans	3.2
G. Reese	4.0
T. Stonier	3.6

July 17, 1900. Mishicott, Wis.

	% butter fat.
M. Moas	3.4
M. Kacanda	4.0
Y. Schroder	3.9
M. Schebesta	3.4
Jas. Skubal	3.2
J. Dose	4.0
T. Hallada	below standard
J. Hallada	below standard
L. Streese	4.3
B. Miller	4.0
J. Dubeck	3.5
E. Klaubuda	3.6
J. I. Steber	3.7
C. Volchart	3.5
S. Benclow	3.4
M. Gakash	3.4
H. Engelland	4.0
F. Schwartz	3.3
A. Gesser	4.0
Jac. Hallada	3.2
A. Hallada	below standard
R. Sapkok	3.4
C. Maaack	3.6
J. Schebesta	3.4
Wm. Kracht	below standard
J. Kracht	3.6
Mrs. K. Engelland	3.8
F. Schebesta	3.4

July 23, 1900. Antigo city milk.

	% butter fat.
John Knox	3.4
Berner Bros.	4.0

	% butter fat.
C. M. Bettie	3.8
M. Gresh	4.2
John Ogden	2.4
Fred Becker	3.8

July 24, 1900. Milwaukee city milk.

	% butter fat.
J. J. Leach	3.8
L. J. Taffry	2.7
D. Reik	2.8
Mrs. A. Meier	2.5
P. Casper	3.4
O. Seigmund	3.9
Mrs. Killip	5.1
Mrs. M. Zimmer	3.7
Mrs. Roeper	5.0
F. Witte	3.2
A. Kern	3.6
Mrs. Mallory	3.2
K. Shaughnessy	2.5
F. Brunner	3.5
A. W. Gumz	3.2
Thinnes Bros.	4.0
C. E. Krollmann	3.2
G. Weick	1.8
H. Koerner	6.2
D. Butzer	7.9

July 25, 1900. Milwaukee city milk.

	% butter fat.
D. Manhoff	3.3
Dries Bros.	3.0
Mrs. J. Nowetney	3.0
Chris. Theis	3.6
H. J. Peters	3.6
A. Dretzke	9.4
Alb. Merritt	7.2
B. Ullman	4.3
E. D. Mix	2.0
F. P. Westline	3.9
Benjamin & Brewer	3.9
H. Severin	3.5

July 31, 1900. Milwaukee city milk.

	% butter fat.
P. Ebeling	2.4
M. Stern	3.2
S. Leauer	4.2
Mrs. Mayhew	3.6
Mrs. Westerman	4.4
Rich. Romheld	3.2
Wm. Holle	5.3
Simon Kuth	4.0
Mary Larson	4.0
John Schmidt	3.7
M. Behnisch	3.0

	% butter fat.
A. Lewandowsky	3.2
G. Wagner	3.1
C. H. Kruth	3.1
F. A. Rock	3.5

August 1, 1900. Milwaukee city milk.

	% butter fat.
V. Lohr	3.4
J. Bruemmer	3.4
A. Andris	4.0
F. Richter	3.0
H. C. Keppen	3.7
G. E. Meyer	3.5
Aug. Schmidt	3.8
Fred Hess	3.4
C. Dambruch	4.2
D. Reik	3.7
E. Greiten	3.0
J. Haueter	3.3
J. L. Bedel	4.3
M. Keller	2.1
(Sold for skim milk.)	
D. Keller	1.8
(Sold for skim milk.)	

August 2, 1900. Milwaukee city milk.

	% butter fat.
Mrs. Reinsch	3.4
S. A. Washburn	3.9
Mrs. Kurth	3.6
A. Kinkforth	7.5
Mrs. Roudeberg	3.2
C. Scheer	2.9
B. Jaeger	3.4
M. Lambert	3.9
H. Goelzer	3.5
Mrs. Hirche	3.4
F. J. Knoedel	3.2

August 3, 1900. Milwaukee city milk.

	% butter fat.
B. M. Davidson	4.9
Ernstner Bros.	3.8
Richfield Dairy Co.	4.2
C. Schultz	4.4
L. Gampe	3.2
Wm. Desmond	3.2
Champenny Milk & Cream Co....	4.8
E. Kapen	3.3

August 7, 1900. Neenah, Wis.

	% butter fat.
Mrs. Wm. Wleckert	4.2
Wm. Schwab	4.0
F. Windrow	3.4
John Garvey	3.7

	% butter fat.
L. Pingel	3.5
D. Meginnis	3.9
Wm. Smith	3.8
Wm. Hiller	3.5
J. Connor	3.8
Fred Smith	below standard
Mrs. M. Halley	3.6
J. Bailey	3.4
M. Woods	3.4
Ed. Maas	3.3
C. Margut	3.4
C. Schottler	4.2

August 15, 1900. Hartford.

	% butter fat.
J. Hummel	4.0
A. Brose	3.4
M. Braum	3.8
N. Thorn	3.6
A. Steinke	3.5
Wm. Rausch	3.5
J. Lacas	4.4
A. Boyd	3.0
Wm. Sell	4.2
J. Schroeder	3.4
A. Spaeth	3.2
F. Rettler	4.0
G. Brown	3.8
G. Loos	3.0
N. Felten	4.0
A. Kadolph	3.4
E. Wolf	4.2
J. Dorn	3.4
C. Schnorrenberg	3.2
G. Berend	3.5
J. Marks	3.1
O. Genger	3.6
G. Buttler	3.7
J. Schildt	3.4
A. Hetzel	3.3
C. Elfert	3.2
G. Elgert	below standard

August 14, 1900. Huilsburg.

	% butter fat.
P. Beeker	3.8
A. Grahm	3.6
P. Fleury	3.4
A. Weiss	4.0
J. Hagen	4.3
E. Sommer	4.2
Wm. Schultz	4.0
J. Weiss	3.9
H. Konroth	4.0
Mrs. A. Pfeifer	3.9
F. F. Zuandt	3.8

	% butter fat.
G. Fisher	3.6
C. Zuandt	4.0
C. Schott	4.2
J. Konroth	3.9
J. Christ	4.3
H. Metzger	3.9
H. Schultz	3.6
Mrs J. Rollinger	3.8
A. Scharpf	4.0
C. Retzlaff	3.6
H. Krahn	4.0
F. Zirbel	3.8
F. Krahn	below standard
F. Zuandt	4.2
A. Justman	4.1
Wm. Zuandt	3.4

August 15, 1900. Monroe.

	% butter fat.
D. Huggen	3.2
Wm. Heltz	3.3
Wm. Beach	3.3
J. Teuscher	3.0
G. Tachterman	3.6
G. Trickle	3.8
Joe Trickle	3.2
Jesse Trickle	3.5
Joe Land	3.3
John Martin	3.8
F. Norphen	4.2
H. Kell	3.8
A. Stubbl	3.8
D. Timmans	3.5

August 16, 1900. Monroe.

	% butter fat.
Mrs. L. Lehnher	4.0
R. Lust	4.4
J. Andrews	3.7
T. Smith	3.8
G. Ott	4.2
M. Stuessie	3.4
G. Lehnher	4.4
H. Phelps	4.0
J. Meyers	3.0
J. Fuchs	3.8
P. Grady	3.5
A. Grate	4.2
J. Bleiler	4.0
F. Jeffery	3.3
T. Maher	4.0
F. Renner	3.6
B. Beyerhoffe	3.8
H. Thorp & Son	4.2
Durgin & Clark	3.7
R. Crow	4.2

	% butter fat.
J. Luchsinger	3.7
H. Palmer	4.0
J. Elmer	3.8
A. Ackerman	3.8
J. Buehler	3.6
P. Ward, Sr.	3.6
P. Ward, Jr.	3.8
A. Heingelman	3.4
P. Gnagy	3.3
Ed. Wells	4.0

August 21, 1900. Hofa Park.

	% butter fat.
T. Adamski	3.8
F. Lepack	4.0
John Lepack	4.0
J. Jarck	below standard
M. Lupack	4.0
A. Sawicki	4.4
E. Hayducky	3.4
J. Luntkoski	4.0
J. Smith	3.8
W. Holawinski	4.2
W. Sobiezyck	3.6
J. Sawicki	4.0
M. Lepack, Sr.	4.0
C. Tucholski	3.8
J. Radeski	3.5
J. Polatoski	4.4
John Caijiskisi	3.2
A. Holawinski	4.6
A. Cichontek	4.4
M. Wijhaski	4.0
J. Polabitski	3.4
T. Smith	4.2
S. Petroshawedge	4.1
S. Rebelaski	4.0
J. Jasholski	4.0
M. Szalski	3.3
A. Nickle	below standard
M. Smith	3.8
Wm. Jatzk	3.2
A. Garetzki	3.6
M. Schafunski	4.0

August 22, 1900. Seymour.

	% butter fat.
F. C. Witt	3.8
A. Henies	4.0
J. Moore	3.8
H. Krause	4.0
B. Leabhaiber	3.2
H. P. Larson	4.0
N. Troumlar	3.7
A. Faustaer	4.0
O. Tracy	4.2

	% butter fat.
A. Krause	3.7
P. Butter	3.2
A. Maass	3.8
H. Halling	4.0
J. Blohm	3.6
G. Schamberg	4.0
Alb. Maass	3.8
J. Heagal	3.7
A. Loachman	3.5
Wm. Bernettecke	4.0
A. Kollath	3.9
L. Metzner	5.5
Ed. Powers	4.2
T. B. Little	3.2
A. Heagal	3.5
J. Admia	3.0
A. Sturm	3.4
F. Schwizer	3.8
H. Pautz	3.6

August 27, 1900. Mishicot.

	% butter fat.
M. Sonnewald	3.4
F. Sand	3.4
C. Saubert	4.3
T. Kabot	3.6
E. Schwab	3.6
F. Nelner	3.4
J. Werer	3.0
A. Schorskey	3.0
J. Wese	3.4
H. Stechmesser	3.8
J. Mesmann	3.2
Mrs. M. Dela	3.3
H. Vogl	3.6
J. Zik	4.0
M. Donchyk	3.6
F. Retzlaff	3.2
Mrs. F. Werer	4.2
C. Retzlaff	3.8
C. Stechmesser	3.0
J. Gokey	3.4
A. Zernmuhlen	3.8
H. Short	3.7
Wm. Elliott	3.4
S. Bisnop	4.0
J. Gats	3.8
H. Zermuhlen	3.7
J. Tonsizyk	4.6
J. Jasper	4.5

September 5, 1900. Springdale.

Sent by R. E. Beat.

	% butter fat.
Sample marked "E. B."	3.4
Sample marked "A. H."	3.6

REPORT OF THE WISCONSIN

	% butter fat.
September 10, 1900. Potters.	
	% butter fat.
Wm. Kriedman	3.4
A. F. Webzel	3.3
Hans Thiel	3.6
Chas. Koehn	3.5
Phil Beil	3.9
C. Starfield	3.6
Chas. Schnafer	3.8
Claus Thiel	3.4
Gott. Paul	3.7
Wm. Schultz	3.8
Wm. Mathies	3.9
Mrs. Struebing	4.0
Chas. Moehr	3.1
H. Kleinow	3.7
W. F. Schwant	3.5
Mrs. Kliet	3.6
J. Leukel	3.6
Wm. Hintz	3.6
Otto Mathies	3.5
Hugo Kalk	4.0
Kliet Bros.	3.8
Mrs. Potter	3.5
Wm. Pagel	below standard
Aug. Becker	3.5

September 12, 1900. Kenosha city supply.

	% butter fat.
Frank O'Connor (eve)	3.5
Frank O'Connor (morn)	4.9
M. P. Anderson & Sons (eve)....	3.9
John Hartung (eve)	3.2
A. Sorensen (morn)	4.1
E. F. Falk (eve)	4.2
E. F. Falk (morn)	6.2
Wm. Pedley (eve)	4.1
Wm. Pedley (morn)	4.2
Sorensen Bros.	3.1
Peter Barth (eve)	3.6
Peter Barth (morn)	4.3
H. E. Blackman (eve)	3.9
H. E. Blackman (morn)	3.8
John Hushold (eve)	2.9
Rud. Henschler (eve)	4.4
Rud. Henschler (morn)	6.9
Fred Bartes (morn)	4.0
J. White (morn)	5.2
J. A. Wells (eve)	4.7
J. A. Wells (morn)	4.3
L. H. French (morn)	5.2

	% butter fat.
A. P. Pierce	4.4
Chas. Hansis (eve)	3.9
T. J. Irwin (eve)	4.5

September 18, 1900. Iron Ridge.

	% butter fat.
C. Zirbel	4.2
J. Luedtke	4.0
W. Westphal	3.8
W. Lentz	4.0
W. Krueger	4.0
A. Westphal	4.2
F. Glaman	4.2
F. Westphal	3.8
A. Gentz	4.0
C. Brunn	3.5
E. Gentz	3.6
W. J. Steiner	4.0
E. F. Erdmann	3.8
F. Erdmann	4.0
W. Zeilsky	3.8
C. Heublein	3.6*
J. Mueller	3.8
A. Fischer	4.0

September 15, 1900. Sheboygan Falls city milk.

	% butter fat.
Van Ouerkerk Bros.	4.0
Van Ouerkerk Bros.	4.1
Aug. Fenner	3.2
Aug. Fenner	3.3
A. B. Dickson	4.5

September 18, 1900. Dane Co.

	% butter fat.
Alb. Slack	3.0

September 19, 1900. Neenah. Farmers' Stock Co. Cheese Factory.

	% butter fat.
E. McDonnell	4.0
Mrs. Stein	3.8
C. Christianson	4.1
A. J. Price	3.7
Miss Zemlok	3.3
S. Christianson	4.3
H. Strey	4.0
H. Miller	4.1
J. D. Williams	3.7
Wm. Hoehne	4.9
W. Hennebry	4.6
J. Lord	3.8

September 20, 1900. Fond du Lac.
Melrose Creamery.

	% butter fat.
G. Landerman (night)	4.0
G. Landerman (morn)	4.1
J. Longua (night)	4.3
J. Longua (morn)	4.2
P. Michel	4.2
M. Kennon	3.0
D. Kennon	below standard
H. Roblee	4.2
H. Erke	3.2
H. Woort	3.8
Ed. Ryan	3.8
M. Keram	3.5
G. B. Jones	3.
M. Pomerville	3.2
F. Bellmer	4.1
W. Klean	3.7
J. A. Applen	3.0
R. Zahn	4.9

MILK FOR CITY DELIVERY.

Inspected by N. J. Field.
Milwaukee, March 31, 1899.

	% butter fat.
Peter Barth, Elmgrove	4.0
Peter Barth	4.2
Peter Barth (morn)	3.9
Peter Barth (eve)	3.4
Peter Barth (eve)	3.3
Peter Barth (eve)	3.9
M. B. Potter, Wauwatosa (mixed)	4.6
M. B. Potter (morn)	3.9
Fred Wolf, Waukesha	3.6
Fred Wolf	3.6
Fred Wolf	4.0
Fred Wolf	3.4
Fred Wolf	4.0
Fred Wolf	3.7
Fred Wolf	3.8
S. A. Baird, Waukesha	3.6
S. A. Baird	3.8
S. A. Baird	3.4
T. Hodgson	4.4
T. Hodgson	4.2
T. C. Brown, Waukesha	3.6
L. W. Dunkel, Brookfield	3.2
L. W. Dunkel	3.8
L. W. Dunkel	3.2
L. W. Dunkel	3.2
Emil Thiele, Calhoun, C. & N. W. Ry. station—for A. L. Vanaman	3.9
Ry. station—for A. L. Vanaman	3.6
Ry. station—for A. L. Vanaman	3.9
Ry. station—for A. L. Vanaman	4.4

	% butter fat.
H. Rubin, Calhoun	4.4
A. Scheets, Calhoun	3.8

Milk taken at C., M. & St. P. Ry.
passenger station April 7th, 1899:

	% butter fat.
L. Hartger, Duplainville	4.1
C. Roether, Duplainville	3.8
C. Steele, Duplainville	3.9
I. Stubanski, Brookfield	3.2
C. Nettersheim, Duplainville	3.3
R. Nettersheim, Duplainville	3.6
Wm. Hallan, Duplainville	3.6
R. Melran, Brookfield	4.0
C. Grapersheim, Brookfield	3.4
A. Burow, Brookfield	3.9
H. Worth, Brookfield	3.6
C. Riese, Brookfield	3.9
I. Litzau, Brookfield	3.8
I. Souter, Duplainville	4.2
A. Tenny, Hartland	4.0
Average	3.74

Fifteen (15) samples milk taken at
C., M. & St. P. Ry. passenger station,
April 10, 1899.

	% butter fat.
C. Nettersheim, Duplainville	3.6
R. Nettersheim, Duplainville	3.6
Wm. Schallock, Duplainville	3.5
M. Morrissey, Duplainville	3.1
M. Morrissey, Duplainville	3.4
H. Clemons, Eagle	3.9
H. Clemons, Eagle	3.1
H. Clemons, Eagle	3.5
H. Clemons, Eagle	3.5
E. Goodrow, Whitewater	3.6
J. Howell, Waukesha	3.7
G. R. Jones, Genesee	4.3
O. Oliver, Genesee	3.8
C. Norrie, Genesee	3.9
C. Honeyager, Genesee	3.8

Milwaukee, April 8, 1899.

Milk taken from C., M. & St. P. Ry.
passenger station, W. U. Junc., April 8,
1899, 9 a. m.:

	% butter fat.
C. A. Brown	3.5
A. Schroebe, Franksville	3.8
S. Kern, Pewaukee	4.0
W. T. Rlwell, Hartland	3.9
E. Merlenz, Pewaukee	4.1
Chas. Ramblow, Pewaukee	3.3
D. Cusick, Duplainville	3.7
J. A. Griswold, Duplainville	4.4

	% butter fat.
M. Morrissey Duplainville	3.1
M. Morrissey, Duplainville	3.0
Chas. Ormand, Brookfield	3.4
W. W. Blodgett, Brookfield	3.5
A. White, Brookfield	4.0
W. B. Leonard, Brookfield.....	3.2
W. B. Leonard, Brookfield.....	3.3
T. Stubenski, Brookfield	3.3
T. Stubenski, Brookfield	3.3
W. Schallock, Duplainville	3.7

Fifteen samples milk from C., M. & St. P. Ry. passenger station, April 11.

	% butter fat.
I. Stubenski, Brookfield.....	3.6
I. Stubenski, Brookfield.....	3.8
I. Stubenski, Brookfield	4.4
I. Souter, Duplainville	4.3
C. Ormand, Brookfield	3.1
M. Morrissey, Duplainville	3.7
M. Morrissey, Duplainville	3.2
I. Hoffman, Brookfield	4.2
W. B. Leonard, Brookfield	3.6
W. B. Leonard, Brookfield.....	3.5
H. Clemons, Eagle	3.4
H. Clemons, Eagle	3.4
H. Clemons, Eagle	3.0
H. Clemons, Eagle	3.9
I. A. Griswald, Duplainville.....	3.7

C., M. & St. P. Ry. passenger station, April 12.

	% butter fat.
H. Clemons, Eagle	3.2
H. Clemons, Eagle	3.6
H. Clemons, Eagle	3.2
C. Ormand, Brookfield	3.2
R. W. Ormand, Brookfield	3.2
H. Mitchell, Genesee	4.0
H. O. Evans, Genesee	3.6
Fred Hacker, Brookfield	4.0

Fifteen samples milk taken from C., M. & St. P. Ry. passenger station, April 13.

	% butter fat.
C. Ormand, Brookfield	3.6
C. Ormand, Brookfield	3.5
C. Ormand, Brookfield	3.1
I. Stubenski, Brookfield	3.6
I. Stubenski, Brookfield	3.3
C. A. Brown, W. U. Je.....	3.7
C. A. Brown, W. U. Je.....	3.6
C. Roether, Brookfield	3.5

	% butter fat.
C. Roether, Brookfield	4.5
I. Stubenski, Brookfield	3.4
F. Cuphal, Duplainville	4.5
L. Wallschlaeger, Hartland	4.3
C. F. Steele, Duplainville.....	3.4
C. A. Brown, W. U. Je.....	3.3
A. Beerow, Brookfield	4.2

Five samples milk taken at North Avenue station, C., M. & St. P. Ry., April 14.

	% butter fat.
C. R. Lichte, Lennon	3.4
C. R. Lichte, Lennon	3.8
C. R. Lichte, Lennon	4.2
C. R. Lichte, Lennon	4.2
A. L. Schlafer, South Germantown	4.5

Fifteen samples milk taken at C., M. & St. P. Ry. passenger station, April 15.

	% butter fat.
C. Ormand Brookfield	3.8
C. Ormand, Brookfield	3.5
H. Clemons, Eagle	3.1
H. Clemons, Eagle	3.1
H. Clemons, Eagle	3.7
G. Henderson, Eagle.....	4.3
A. Griffith, Eagle	3.4
E. Haskins, Pewaukee	4.7
C. Rambow, Pewaukee	3.0
Al. White, Brookfield	3.6
C. A. Brown, W. U. Je.....	3.2
C. F. Steele, Duplainville.....	3.2
D. Cusick, Duplainville.....	4.1
L. Hurtgen, Duplainville	3.7
M. Morrissey, Duplainville.....	4.2

Fourteen samples milk taken at C., M. & St. P. Ry. passenger station, April 17.

	% butter fat.
C. Rambow, Pewaukee	3.8
C. Rambow, Pewaukee	3.3
C. Rambow, Pewaukee	4.2
C. Ormand, Brookfield	3.8
C. Ormand, Brookfield	3.8
M. Morrissey, Duplainville	3.7
E. Mellenz, Pewaukee	4.4
S. Kern, Pewaukee	4.1
I. Souter, Duplainville	4.5
A. Buron, Brookfield	4.2
I. Litzau, Brookfield	3.5
Gropengelsner, Brookfield	3.3
I. Litzau, Brookfield	3.7
E. Mierow, Brookfield	3.8

Tests of 15 samples milk taken at
Palmyra station, April 21.

	% butter fat.
F. Grant, Palmyra	2.9
F. Grant, Palmyra	2.9
F. Grant, Palmyra	2.9
F. Grant, Palmyra	3.1
F. Grant, Palmyra	3.7
F. Grant, Palmyra	3.4
F. Grant, Palmyra	3.3
F. Grant, Palmyra	3.8
F. Grant, Palmyra	2.9
F. Grant, Palmyra	2.6
F. Grant, Palmyra	2.7
F. Grant, Palmyra	3.5
F. Grant, Palmyra	3.4
F. Grant, Palmyra	2.8
F. Grant, Palmyra	2.8
R. M. Clery, Palmyra	3.9
R. M. Clery, Palmyra	3.7
R. M. Clery, Palmyra	3.7

Fifteen samples taken at C., M. & St.
P. station, April 22.

	% butter fat.
F. Grant, Palmyra	3.5
F. Grant, Palmyra	3.0
F. Grant, Palmyra	3.0
F. Grant, Palmyra	2.8
F. Grant, Palmyra	3.5
F. Grant, Palmyra	2.7
F. Grant, Palmyra	3.0
F. Grant, Palmyra	3.5
F. Grant, Palmyra	2.9
F. Grant, Palmyra	3.9
F. Grant, Palmyra	3.7
W. Holsinger, Palmyra	3.2
W. Holsinger, Palmyra	4.3
M. C. Mason, Palmyra	3.0
I. Thayer, Palmyra	3.7

Fourteen samples milk taken at C., M.
& St. P. Ry. passenger station, April 24.

	% butter fat.
I. Olson, Palmyra	3.6
I. Olson, Palmyra	3.9
I. Olson, Palmyra	3.0
I. Olson, Palmyra	3.8
M. C. Mason, Palmyra	4.4
M. C. Mason	3.5
M. C. Mason, Palmyra	3.9
M. C. Mason, Palmyra	4.2
M. C. Mason, Palmyra	4.6
M. C. Mason, Palmyra	4.0
G. A. Norrie, Genesee	4.1

% butter fat.

G. A. Norrie, Genesee	3.8
G. A. Norrie, Genesee	4.6
G. A. Norrie, Genesee	4.3

Fifteen samples milk taken from C.,
M. & St. P. Ry. passenger station, April
25.

	% butter fat.
H. Mitchell, Genesee	3.7
H. Dodmead, Bethesda Crossing ..	3.6
H. Dodmead, Bethesda Crossing ..	3.3
H. Dodmead, Bethesda Crossing ..	3.9
H. Dodmead, Bethesda Crossing ..	4.4
F. Hacker, Genesee	4.0
F. W. Henderson, Whitewater ..	4.2
I. Garlow, Genesee	3.3
H. O. Evans, Genesee	4.1
Thos. Marsh, Palmyra	3.9
Thos. Marsh	3.8
Thos. Marsh, Palmyra	3.9
Thos. Marsh, Palmyra	4.5
Thos. Marsh, Palmyra	4.2
Thos. Marsh, Palmyra	4.0

Milwaukee, April 26, 1899.

Hon. H. C. Adams, Dairy and Food Com-
missioner.

Dear Sir:—Fifteen samples taken at
C., M. & St. P. Ry. passenger station:
lowest, 3.8.

Average, 4.16.

N. J. FIELD.

Milwaukee, April 29, 1899.

Hon. H. C. Adams, Dairy and Food Com-
missioner.

Dear Sir:—Fifteen samples milk taken
at C., M. & St. P. Ry. station April 29,
1899:

	% butter fat.
C. A. Brown, Franksville	3.3
W. B. Leonard, Brookfield	3.8
M. Morrissey, Duplainville	3.7
I. A. Griswold, Duplainville	4.8
Average	4.14
271 tests milk; 1 test cream.	

N. J. FIELD.

Milwaukee, April 28, 1899.

Hon. H. C. Adams, Dairy and Food Com-
missioner.

Dear Sir:—Fourteen samples milk
from C., M. & St. P. Ry. this day. Low-
est, 3.5; average, 4.

N. J. FIELD.

Fourteen samples made at C., M. & St. P. depot, Palmyra, May 1.		§ butter fat.	
	§ butter fat.	F. Grant	3.9
F. Grant, Palmyra	3.8	F. Grant	3.6
F. Grant	3.5	F. Grant	3.8
F. Grant	3.7	F. Grant	3.8
F. Grant	3.7	F. Kaphal, Duplainville	4.5
F. Grant	3.5	H. Wirth, Brookfield	4.0
F. Grant	3.4	C. Nettersheim, Duplainville.....	4.2
		W. S. Rowell, Hartland.....	5.2

LIST OF CONVICTIONS.

CONVICTIONS FOR SALE OF COLORED OLEOMARGARINE.

1899.			
Jan.	3.	W. A. Stolte, Reedsburg	\$50 and costs
Jan.	30.	Armour Packing Co., West Superior.....	50 and costs
Feb.	8.	Swift & Co., Agent, Ashland.....	50 and costs
Feb.	17.	F. Bartels, Madison (fine remitted)	50 and costs
March	14.	John Meehan, Beloit.....	50 and costs
March	14.	J. B. Smith, Janesville	50 and costs
March	28.	F. N. Larson, Eau Claire.....	50 and costs
May	10.	Carter & Emmons, Eagle River (sentence suspended)	50 and costs
May	22.	John L. Daly, Milwaukee (pleaded guilty).....	50 and costs
Nov.	20.	E. R. Ross (Warren House), Baraboo.....	50 and costs
Dec.	16.	N. L. Byron, Milwaukee	50 and costs
Nov.	—.	H. C. Schmeling, Edgerton (pleaded guilty).....	50 and costs
1900.			
Feb.	5.	Jos. End, Sheboygan	50 and costs
Feb.	5.	Wm. S. Davis, Williams Bay.....	50 and costs
March	12.	Hotel Meehan, Darlington	50 and costs
March	23.	Thos. Lacey (Windsor Hotel), Milwaukee.....	Sentence suspended
March	30.	Chas. Hoernig, Oshkosh	Sentence suspended
April	2.	G. P. Goetz, Milwaukee (sentence suspended).....	50 and costs
April	12.	Russell House, Neenah	50 and costs

CONVICTIONS FOR SALE OF ADULTERATED MILK.

1898.			
Oct.	25.	Frank Ahrens, Prairie du Chien.....	\$25 and costs
Oct.	25.	Herman Prey, Prairie du Chien	25 and costs
Dec.		Watterson, Waupaca	25 and costs
1899.			
March	24.	C. L. Dana, Milwaukee.....	25 and costs
July	17.	Elizabeth Weismiller, Monroe	25 and costs
July	20.	R. W. Scott, Janesville (adulterated with preservaline)	25 and costs
July	20.	Chas. Barnes, Janesville (adulterated with preservaline)	25 and costs
July	19.	Burt Stanchfield, Fond du Lac (adulterated with formaline)	25 and costs
Aug.	3.	John Yost, Jr., Beloit.....	25 and costs
Aug.	11.	F. Marks, Madison	25 and costs
Aug.	11.	Ideal Creamery, Madison (preservaline)	25 and costs
Sept.	6.	Nels Johnson, Racine	25 and costs
Sept.	6.	Wm. E. Lehnert, Racine (formalin in milk).....	25 and costs
Sept.	6.	Wm. E. Lehnert, Racine (borax in cream).....	25 and costs

REPORT OF THE WISCONSIN

Sept.	6.	Chas. Eckhart, Racine	25 and costs
Sept.	11.	Mrs. N. Pfeiffer, Racine (boracic acid in milk)....	Sentence suspended
Sept.	11.	Wm. Phelps, Racine (boracic acid in cream).....	25 and costs
Sept.	11.	Wm. Beix, Racine	25 and costs
Nov.	28.	Jas. Wing, Appleton	25 and costs

1900.

March	31.	B. Summerfeld, Juneau	25 and costs
April		Herman Rogenschneider, Juneau	25 and costs
April	17.	R. Sickler, Merrillan	25 and costs
April	17.	Joe Adams, Merrillan	25 and costs
May		D. F. Shea, Merrill	25 and costs
July		P. Thom, Kenosha	25 and costs
July	19.	J. Koci, Frances Creek.....	25 and costs
July	19.	A. Smelek, Frances Creek.....	25 and costs
July	24.	F. Steuber, Frances Creek....	25 and costs
July	24.	John Ogden, Antigo	25 and costs
July	21.	F. Hallada, Mishicott	25 and costs
July	30.	J. Hallada, Mishicott.....	25 and costs
July	30.	Wm. Krocht, Mishicott	25 and costs
Aug.		Thinnies Bros., Milwaukee (formaline in milk).....	25 and costs
Aug.		Champenny Cry. Co., Milwaukee (form. in milk)....	25 and costs
Aug.		G. Weick, Milwaukee	Sentence suspended
Sept.	10.	Wm. Pagel, Potters	25 and costs
Sept.	11.	P. Ebeling, Milwaukee	25 and costs
Sept.	11.	J. Nowatny, Milwaukee (formalin in cream)....	Sentence suspended
Sept.	6.	J. Jarek, Shawano	25 and costs
Sept.	6.	A. Nickel, Shawano	25 and costs

ADULTERATED LEMON EXTRACT.

1898.

Dec.	15.	E. H. Welsh, Waukesha (fine remitted).....	\$25 and costs
1900.		E. D. Wilde, Milwaukee	25 and costs

ADULTERATED HONEY.

1899.

Dec.	6.	Fred Krempel, Milwaukee.....	\$20 and costs
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ADULTERATED BUCKWHEAT.

1900.

Jan.	12.	Seth Fish, Eau Claire	\$25 and costs
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LIST OF CHEESE FACTORIES AND CREAM- ERIES IN WISCONSIN, 1900.

CHEESE FACTORIES.

ADAMS COUNTY.

Davis Corners Creamery and Factory	Wesley Garlock, Glen
North Factory	John North, Kilbourn City
Quincy Cheese Factory	Chas. Stromwall, Quincy
J. J. Zwinky Cheese Factory	Pointbluff
Bert Jenks Cheese Factory	Big Spring
Garlock Cheese Factory	Oxford
Friendship Factory	Friendship

ASHLAND COUNTY.

Glidden Cheese Factory	Bert Wilcox, Glidden
Ashland Co-op. Butter & Cheese Co.	Ashland

BARRON COUNTY.

Dallas Cheese Factory	David Pecore, Dallas
Western Wyoming Cheese Factory	John Nelson, Wyoming
Cheese Factory	Mike Wagner, Dobie
Pioneer Cheese Ass'n.	P. Rejner, Turtle Lake
Gratton Dairy Co.	Gratton
Pecos Bros.	Dallas
Canton Creamery & Factory	Canton
Rice Lake Creamery & Cheese Co.	Rice Lake
Ridgeland Cheese Co.	Dallas

BROWN COUNTY.

L. Falck	Morrison
Saenger Cheese Factory	Lark
Smith's Cheese Factory (Rockland C. F.)	Stark, Manitowoc County
Excelsior Cheese Factory	Herman Schroeder, Morrison
Brennan's Cheese Factory	Peter Nier, Morrison
Wayside Cheese Factory	Alb. Borchart, Wayside
Natzke's Cheese Factory and Creamery	Aug. Natzke, Wayside
Hebel Cheese Factory	H. F. Wittig, Hebel
Shirley Cheese Factory	W. C. Falck, Shirley
Lawrence Cheese Factory	Lucius Clark, Little Rapids
A. A. Schley Factory	Wrightstown
Wisconsin Butter and Cheese Co.	Waukesha
Chas. Rader Cheese Factory	Wrightstown

H. F. Meyer Cheese Factory	Greenleaf
Dan. Falck Cheese Factory	Morrison
East Wrightstown Cheese Factory	E. Wrightstown
Ernest Charlier Factory	Schiller
Cheese Factory	J. N. Osterloh, Henrysville
Enz Bros. & Co.	Denmark
Frank Sindzinski	Langes
Ferd. Wittig	Fontenoy
Didrich Benecke	Fontenoy
Arndt & Buckman	Fontenoy
New Denmark Farmers' Co-op Assn.	Fontenoy
J. R. Meyers	Forks
U. S. Co-op. Dairy Co.	Holland
West DePere Co-op. Co.	West DePere
J. P. Peplinski	Pulaski
John Conrad	Poland
Anton Naughtaway	Glenmore
T. Charlier	Schiller
H. Naughtaway & Co.	Pine Grove
F. H. Lange	Pine Grove
H. S. Beyer	Denmark
T. Vanroy	Lodgeville
A. T. Saenger	Lodgeville
Ed. O'Connell	Morrison
J. Clark	Morrison
C. F. Mason	Suamico
Victor Soetch	New Franken
Silver Van Drew	New Franken
Mr. Duzuane	New Franken
Botis Orlas	New Franken
Mike Brunner	New Franken
Lewis Goodchild	Mills Center
John Conrad	Henrysville
Albert Uecker	Kunesh
Geo. Drexler	Holland
Jacob Reistacker (2)	Midway
H. Bockhous	Askeaton
Chas. Geise	Wayside

BUFFALO COUNTY.

Bennet Valley Cheese Factory	Pingel Bros., Gilmantown
Lookout Cheese Factory	Lookout Cheese Assn., Lookout
Farmers' Cheese Factory	Praag
Tell Cheese Manufacturing Co.	Gott. Maier, Alma
Pine Creek Cheese Manufacturing Co.	Gott. Maier, Alma
Trout Creek Cheese Manufacturing Co.	John Hubbler, Tell
Mill Creek Cheese Manufacturing Co.	John Eberle, Alma

BURNETT COUNTY.

A. Kricuer	Star Prairie
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CALUMET COUNTY.

Peter Schumacher	Jericho
John Achter	Jericho
John Snyder	Chilton
German Bank	Chilton

A. F. Decker	Chilton
E. C. Pingel	Chilton
Wm. Heisdorf	Chilton
Fred J. Harder	Chilton
Heckert & Albert	Chilton
Chas. Heckert	Chilton
Henry Gerard	Brant
Medke & Junker	Brillion
J. B. Junker	Brillion
Wm. Lintner	Brillion
Chas. Madenwald	Brillion
John Goodmond	Brillion
Robt. Mahnke	Brillion
Joe Wolfinger Factory & Creamery	Dundas
Peter Schreiber	Hilbert
J. A. Hernke	Hilbert
Wm. R. Behnke	Hilbert
Ed. Medke	Hilbert
F. W. Lindow	Forest Junction
J. M. Wolfmeyer	Forest Junction
Henry Schley	Forest Junction
Farmers' Cheese Manufacturing Co.	Forest Junction
Otto Freund	Gravesville
F. W. Reidel	Potters
Albert Belke (2)	Potters
H. F. Meyer	New Holstein
Wendel Burg	New Holstein
Cyrus Roehrig (butter and cheese)	Charlesburg
Reis & Meyer	Sherwood
Querin Loehr	St. John
Fred Bauer	St. John
Phillip Kies	Lake Park
Christ Hargard	Lake Park
Joe Bodine	Lake Park
J. Snyder, Jr.	Stockbridge
M. Moersch (cheese and butter)	Brothertown

CHIPPEWA COUNTY.

Anson Cheese Factory	T. H. Dixon, Liddell
Albert Butscher	Boyd
Dietrich Cheese Factory	Dietrich Bros., Cadott
North Star Cheese Factory	Orth Bros., Edson
John Fagan	Stanley
A. P. Gelger	Boyd
Cadott Cheese Factory	F. L. Monroe, Cadott
Crescent Cheese Factory	F. L. Monroe, Cadott
Frank Goodman Cheese Factory	Drywood
LaFayette Cheese Factory	Thos. A. Roycraft, Chippewa Falls
S. C. Cass	Anson
Cheese Factory	Edson
F. L. Monroe	Drywood
John Bates (2)	Anson

CLARK COUNTY.

Steinwand Cheese Co. (2)	Colby
Sommerfeldt Cheese Factory	Fred Sommerfeldt, Colby

Jerry Daugherty	Thorp
H. Laabs	Curtiss
Enterprise Cheese Factory	G. A. Hirsch, Lynn
Fred Somerfeldt	Colby
Arthur Vater	Withee
Val Casper	Sullivan
Beaver Cheese Factory	Wm. Welsh, Loyal
Dorchester Cheese Co.	H. G. Parge, Dorchester
Cheese Factory	M. A. Natchwey, Dorchester
Pine Valley Cheese Factory	Frank Marth, Neillsville
Aug. Schultz	Spencer
Frank Pritzel	Stanley
Otto Decker	Hemlock
Henry Jacobi	Abbotsford
S. R. Davis	Granton
Farmers' Cheese Co.	Dorchester
Distelhorst & Co.	Dorchester
Delamater & Palms	Greenwood
Herman Laabs	Green Grove
S. D. Gibson	Wilcox
Holzauer Cheese Factory	Reeseburg
Joseph Frame	Unity

COLUMBIA COUNTY.

Ford's Factory	Duffries & Hanson, Columbus
Fountain Prairie Cheese Factory	Columbus
Brickstein Cheese Factory	Chas. Miller, Fall River
Aug. F. Westphal Cheese Factory	Columbus
Tissman & Wamky	Cambria
Stone School House Cheese Factory	C. Mohr & Co., Cambria
Randolph Center Factory	Tillema & Morris, Randolph Center
Sigons & Hutson	Lodi
Jac. Oppliger Cheese Factory	Fall River
Baehler Bros.	Cambria

CRAWFORD COUNTY.

Maple Ridge Cheese Factory Co.	A. P. Rice, Boscobel
Prairie du Chien Butter Co.	Prairie du Chien

DANE COUNTY.

Skuldt Cheese Factory (Co-op.)	Engen Bros., Primrose
Peters Cheese Factory (Co-op.)	J. E. Hendrickson, Montrose
Weltzin Cheese Factory (Co-op.)	J. L. Weltzin, Primrose
Stone Hill Cheese Factory (Co-op.)	Jacob Zweifel, New Glarus
Damholt Cheese Factory (Co-op.)	N. O. Holmen, New Glarus
Myrland Cheese Factory (Co-op.)	L. P. Myrland, Primrose
Town Hall Cheese Factory (Co-op.)	G. G. Stamm, Mt. Vernon
Holland Cheese Factory (Co-op.)	H. H. Anderson, Primrose
Connor Cheese Factory (Co-op.)	Dan. Connor, Mt. Vernon
Harker Cheese Factory (Co-op.)	C. H. Harker, Mt. Vernon
Vermont Cheese Co.	Black Earth
Dimond Cheese Co.	Black Earth
Greenwalt Cheese Co.	Black Earth
Mickelson Cheese Co.	Black Earth
Spring Valley Cheese Co.	Mt. Horeb
Kelcher Cheese Co.	Peculinary

South Blue Mounds Cheese Factory.....	Blue Mounds
Erbe's Factory	Mt. Horeb
Jacobson Cheese Factory	A. O. Jacobson, Mt. Horeb
German Valley Factory	Aug. Heiser, Mt. Horeb
Sand Rock Factory	Mt. Horeb
Blue Rock Factory	And. Disrud, Mt. Horeb
Blue Valley Factory.....	Mt. Horeb
Central Cheese Factory Co.....	Wesley Guym, Paoli
Basco Cheese Factory Co.....	C. Snider, Basco
Lyle Cheese Factory Co.....	John Lyle, Mgr., Lyle
Montrose Cheese Factory Co.....	John Fritz, Montrose
Maple Grove Cheese Factory.....	Manwarring & Bennett, Black Earth
Mt. Horeb Cheese Factory	Schmidt, Mgr., Mt. Horeb
Roach & Seeber Co.....	Sun Prairie
Golden Rod Factory, Roach & Seeber.....	Sun Prairie
O'Keefe Factory.....	Roach & Seeber, Sun Prairie
Burke Factory	Roach & Seeber, Burke
London Factory	Roach & Seeber, London
Deerfield Factory	Roach & Seeber, Deerfield
Nora Factory	Roach & Seeber, Deerfield
Blue Mounds Factory.....	Roach & Seeber, Blue Mounds
Goodwin Cheese Factory.....	Roach & Seeber, Verona
Chris Pauli Cheese Factory.....	Mt. Vernon
Brooklyn Cheese Factory	Brooklyn
Greenwood & Groth	Rockdale

DODGE COUNTY.

Jac. Christen Cheese Factory.....	Brownville
Clyman Station Co-op. Cheese Factory.....	Clyman
Clyman Center Co-op. Cheese Factory.....	Clyman
West Clyman Cheese Factory.....	Watertown
Juno Cheese Factory.....	H. Habbigger, Watertown
North Clyman Cheese Factory.....	Watertown
Gottlieb Gassner Cheese Factory.....	Horicon
Rock River Cheese Factory.....	Chas. Muenzmaier, Mayville
Maple Grove Cheese Factory	Rudolph Schneider, Mayville
Rock Cheese Factory	Aug. Bock, Mayville
Oppliger Cheese Factory	Theresa
Theresa Cheese Factory	Chas. Miller, Theresa
Cherry Hill Co-op. Cheese Factory.....	Neosho
Saylerville Cheese Co. (Co-op.).....	W. Sonnentag, Rubicon
Neosho Cheese Factory.....	Aug. Westphal, Neosho
Labruris Factory.....	Rubicon Mer. Co., Neosho
C. F. Meyer Cheese Factory	Lomira
Ballette Jonely Cheese Factory.....	Brownsville
Geo. Hanson Cheese Factory.....	Knowles
Union Cheese Co.	Mike Fitzgerald, Mgr., Alderley
North Star Cheese Co.	Gustav Meissner, Ashippun
Rock Ridge Cheese Co.	Ashippun
Lime Ledge Cheese Co.....	Jac. Jossi, Ashippun
Rock River Star Cheese Co.....	Monterey
Ashippun Cheese Co.....	Gustav Meissner, Ashippun
Cross Key Cheese Co.....	Mike Fitzgerald, Alderley
North Portland Cheese Factory.....	F. A. Jerges, Sec., Reeseville
Cold Spring Cheese Factory.....	Wm. Lenz, Waterloo
Grove Prairie Dairy Factory.....	F. A. Christians, Gibson
Clear Water Spring Dairy Factory.....	Keel & Puerner, Lowell

North Lowell Center Factory.....	Lowell
Rock River Cheese Factory and Creamery.....	Alb. Schaefer, Mayville
Union Dairy Co.....	Max Radtloff, Hustisford
Highland Cheese Factory	Max Radtloff, Hustisford
Hustisford & Rubicon Cheese Factory.....	Auf. Westphal, Neosho
Rubicon River Cheese Factory.....	Herman Lehmann, Hustisford
Zeitler Cheese Factory	H. Bilgriels, Woodland
Newton Cheese Factory	Gustav Jaeke, Hustisford
Ryder Cheese Factory	H. C. Ryder, Hustisford
Union Cheese Factory	E. E. Randall, Hustisford
Oak Hill Cheese Factory.....	Aug. Koehler, Hustisford
Burr Oak Cheese Factory.....	Pat Casey, Hustisford
White Oak Cheese Factory.....	Ferd Thielke, Hustisford
Chas. Nehls' Cheese Factory.....	Hustisford
Jas. Timmins' Cheese Factory.....	Hustisford
Gates' Cheese Factory.....	Ray Lovell, Hustisford
Wege Cheese Factory	Hustisford
Ernst Bramer (2)	Hustisford
Minnesota Junction Cheese Co.....	Gottlieb Klossner, Minnesota Junction
Orth Bros.	Juneau
Union Factory	Al. Ryder, Juneau
Essman Factory	Otto Melcher, Juneau
Black Oak Cheese Factory.....	F. Pieper, Juneau
Oak Grove Cheese Factory.....	S. Schneider, Oak Grove
Indermuehle Cheese Factory	Chris. Indermuehle, Oak Grove
Zache Factory	B. Sommerfeld, Juneau
Heublein Cheese Factory.....	Chas. Heublein, Fox Lake
Rock Cheese Co.....	Aug. Lemke, Mgr., Mayville
Huillsburg Cheese Factory.....	Frank Schujahn, Huillsburg
Woodland Cheese Factory	C. Gassner, Woodland
Woodland Cheese Factory.....	J. T. Peters, Woodland
Herman Cheese Factory	F. Sette, Iron Ridge
Herman Cheese Factory	Aufdermauer, Hartford
Highland Cheese Factory	Fred Sufelt, Hochheim
Koepsell Cheese Factory.....	Herman Koepsell, Hochheim
Farmers' Stock Co.	M. Murphy, Mgr., Neosho
Trechel Cheese Factory.....	Ferd. Kuehn, Lebanon
Peirick & Co.....	Lebanon
J. R. Moldenhauer Cheese Factory.....	Lebanon
Sunside Cheese Factory.....	Lebanon
Sugar Island Factory.....	Jac. Jossi, Mgr., Ashippun
Golden Star Factory.....	Jac. Jossi, Mgr., Lebanon
Schwefel & Co.	Jac. Jossi, Mgr., Lebanon
Main Street Factory.....	Jac. Jossi, Lebanon
Indian Garden Cheese Factory.....	John McCaig, Mgr., Richwood
Beaver Dam Island Cheese Ass'n.....	Chris. Krebs, Pres., Beaver Dam
Zastrow Cheese Factory.....	Adolph Rake, Pres., Beaver Dam
Edgar Boeing	Hustisford
Stock Co. Cheese Factory.....	W. G. Beutz, Iron Ridge
H. Bilgrien Cheese Factory.....	Iron Ridge
C. E. Erdman Cheese Factory.....	Hustisford
Klossners Cheese Factory	Hustisford
Chris. Indermuehle	Oak Grove
C. F. Haselen Cheese Factory.....	Reeseville
Stock Co. Cheese Factory.....	Emmett
Black Oak Factory	Herman
Mill Creek Creamery and Butter Co.....	Chester

Nowell Creamery and Butter Co.	Lebanon
Prairie Hill Creamery and Butter Ass'n.	Beaver Dam
Cheese Ass'n	Wichert, Mgr., Hubbleton
Seefield Bros.	Iron Ridge
Salesville Factory	J. J. Reed, Hartford
A. Gronert Creamery Factory.	Beaver Dam
W. Maas	Beaver Dam
Welsh & Laffey	Clyman
John Fred	Huillsburg
Sam Baehler	Horicon
Chas. Albert	Iron Ridge
H. Copert	Mayville
Home Factory	E. Euhling, Richwood
Baehler Bros.	Randolph
J. Habbiger	Watertown
Chris. Undermuehle	Beaver Dam
Chris Undermuehle	Le Roy
E. Rose	Kekoskee
F. Bertsochy	Mayville
Seefield Bros.	Mayville
Christ Kohli	Kekoskee

DOOR COUNTY.

Aug. Haegele Cheese Factory	Kolberg
Eugene Naze Cheese Factory	Roslere
Cheeseville Factory	Madoche & McDermott, Salona
Vignes Cheese Factory	Vignes
John Enquivet Cheese Factory	Gardner
Chas. Jenquire	Little Sturgeon
Chas. Schneidtenberg Cheese Factory	Stevenson's Pier
Sister Bay Cheese Factory	John Waracheck, Sister Bay
Maplewood Factory	Waracheck Bros., Maplewood
Leischow's Factory	Fred Leischow, Kodan
Jos. Jindra Cheese Factory	Stokes
Herman Nienas Cheese Factory	Tornado
Bagnall Cheese Factory	J. W. Bagnall, Jacksonport
Evrard Bros.	Frank Evrard, Mgr., Namur
H. A. Anderson Cheese Factory	Ephraim
Jas. Ullsberger	Forestville
H. J. Teske	Carnot
Torgor Torgerson	Bailey's Harbor
Albert Icke	Ellison Bay
Jas. Neusse	Sturgeon Bay
Alec. Pierre	Namur
G. Guth & Son	Kolberg
Pierre Verlee Co.	Brussels
Chas. Bassford	Sevastopol
J. H. Schwichtenberg	Sawyer
L. M. Wasburn	Sturgeon Bay
Wash Island Cheese Factory Ass'n.	Detroit Harbor
Chas. Jess & Co.	Washington Harbor

DUNN COUNTY.

Sheridan Cheese Factory	J. A. Schafer, Prairie Farm
Little Beaver Cheese Factory	John Keiser, Vance
Vanceburg Cheese Factory	Carl Messerly, Vance

W. Hawkins, Mgr.	Knapp
Cheese Factory	Stanton
Armsburg Factory	Wilson
Barker Factory	Village of Downing

EAU CLAIRE COUNTY.

H. F. Seidel Cheese Factory	Augusta
Pleasant Valley Co.	Hadleyville
Foley	Nixcorner
Clear Creek Factory	Augusta
Co-op. Factory Clark Co.	Nixcorner

FOND DU LAC COUNTY.

C. A. Atwood Cheese Factory (4)	Waupun
Coles' Corners' Cheese Factory	Rosendale
John Brost Cheese Factory	Dotyville
Orton Safford Cheese Factory	Fond du Lac
Perrin Bros. Cheese Factory	Eggersville
Wm. Wolfgram Cheese Factory	Dotyville
Math Wagner Cheese Factory	Mt. Calvary
T. H. Koepka Cheese Factory	Eggersville
Peter Stephany Cheese Factory	Peebles
John Krebsbach Cheese Factory	Johnsburg
Town Line Factory	P. O'Brien, Eden
Kelley Factory	T. J. Kelley, Eden
Kellogg Factory	N. P. Kellogg, Eden
J. B. Van Blarcom Factory	New Prospect
Pick & Sons' Factory	New Cassel
A. Demarest Factory	Kewaskum
Behle Bros.' Cheese Factory	Calvary Station
Perrin Bros.' Cheese Factory	Mount Calvary
Jos. Buellg Cheese Factory	Saint Cloud Station
Chris. Bertram Cheese Factory	Johnsburg
Henry Blonien Cheese Factory	St. Cloud
St. Jose Cheese Factory	Wolf Lake
Agidius Korb Cheese Factory	Wolf Lake
R. J. Romain Cheese Factory	Dunidee
H. T. Sackett (2)	Waucousta
H. Pieper & Son (2)	Waucousta
John Morgan Factory	Mitchell
Ad. Blackmore	Armstrong
Rogersville Cheese Factory (2)	Jas. C. Post, Rogersville
Triangle Factory (4)	Jas. Ennison, Eldorado
Star Valley Factory	J. W. Schaefer, Rogersville
Woodhull Factory	J. A. Stratz, Woodhull
Jos. Lindel	Banner
Factory	Sippel, Vanpelt & Koch, Banner
Factory (2)	John Brost, Dotyville
Kohlman Factory	St. Cloud
Chas. Perrin Factory (2)	Dotyville
Peter Reis Factory	Armstrong
M. J. Michels' Factory	Calumet Harbor
Mathias Hett Factory	Marytown
Peter Weinreis' Factory	Johnsburg

Wm. Zwicky Factory	Vandyne
Albert Schmidt Factory	Fond du Lac
Amler Teshendorf	Farmer
Brayton Factory	Mrs. J. J. Brayton, Fond du Lac
Loyd Factory	F. H. Flanigan, Dundee
Elmwood Creamery	Otto Dudrick, Fond du Lac
Farmers' Co-op. Cheese Factory.....	Will Gillett, Pres., Rosendale
Town Line Creamery Co.....	Fond du Lac
Brothertown Creamery	Grehe Bros., Brothertown
Farmers' Co-op. Creamery Co.....	James Watson, Sec., Vandyne
Kirkwood Factory	Frank McKna, Kirkwood
Friendship Factory	Mat Bachelder, Fond du Lac
New Prospect	L. B. Vanblacer, New Prospect
Dundee Butter and Cheese Factory	Roff Romain, Dundee
Brandon Creamery	Hobbo Bros.,
Jac. Christen Creamery Factory	Brownville
Eggersville Factory	Perrin Bros., Mt. Calvary
Waupun Factory	J. Cronk, Waupun
Farmers' Cheese Co.	Fond du Lac
Triangle Cheese Co.....	Eldor Mills

GRANT COUNTY.

Castle Rock Co-op. Cheese Factory.....	P. A. Peterson, Castle Rock
Rocky Point Cheese Factory.....	Jos. Shemak, Highland
Frank Wanck Cheese Factory	Muscoda
N. F. Orth Cheese Factory	Muscoda
Platteville Cheese & Produce Co.....	F. Krogg, Platteville
Wolf Hollow Factory	J. H. Livingston, Mgr., Livingston
Annaton Factory	L. Mellor, Annaton
Oak Grove Cheese Factory	H. J. Noyes, Muscoda
Marion Cheese Factory	Geo. Rice, Boscobel
Mt. Ida Cheese Factory	Mt. Ida
Platt Ridge Cheese Factory (2)	C. I. Armsbe, Platteville
Dickinson Cheese Factory.....	C. Dickinson, Platteville
Ed. Parks Cheese Factory	Beetown
Muscoda Cheese Ass'n	Muscoda
Louis Brandt Cheese Factory.....	Dickeyville
Homer Creek Factory	H. E. Austin, Homer
Badger State Cheese Co.....	H. E. Austin, Homer
Fennimore Branch Cheese Co.....	H. E. Austin, Homer
Millville Factory	Jos. Beadle, Millville
Blue River Cheese Factory	Jas. Reed, Blue River
Oak Ridge Factory	E. E. Austin, Boscobel
Sanders' Creek Cheese Factory	Ralph Holt, Boscobel
B. G. Schafer	Platteville
Gas Hollow Dairy Ass'n	Montfort
Jac. Regez	Montfort
Unionville Co-op. Ass'n	Montfort
Platte Factory	Stitzer
Ira Griswold	Livingston
S. Obors	Boscobel
N. Gibbs	Boscobel
Highland Factory	W. Wall, Mgr., Highland
H. Thiede	Muscoda
H. J. Noyes	Muscoda

GREEN COUNTY.

Franklin Cheese Factory	Mrs. L. Millman, Monroe
Hawthorn Cheese Factory	John Hawthorn, Monroe
Davis Cheese Factory	J. N. Davis, Monroe
Tschudy Cheese Factory	Fred Tschudy, Monroe
Trumpy Factory and Creamery	Dan Trumpy, Clarno
Trumpy Factory	Jos. Trumpy, Clarno
Eugene White Factory	Clarno
John Kubley Factory	Monroe
Wm. Beckeman Factory	Clarno
Fred Brunkow Factory	Clarno
G. Pfeiffer Factory	Monroe
Swiss Cheese Factory	Wm. Krouse, Evansville
Swiss Cheese Factory	Keylock Factory Stock Co., Attica
Swiss Cheese Factory	Rhyner Bros., Dayton
Swiss Cheese Factory	Sam Freitag, Dayton
Swiss Cheese Factory	Joe Richards Stock Co., Brooklyn
American Factory	Brooklyn
Wm. Meythaler Factory	Jordan
B. Shindler	Jordan
A. Stauffacher Factory	Jordan
J. Stauffacher	Jordan
R. Olson Factory	Browntown
R. Ault Factory	Monroe
J. Greenwald Factory	Monroe
C. Bayerhoffer Factory	Monroe
S. Severson Factory	Browntown
Broughton Factory	F. Broughton, Albany
John Davis Factory	Albany
A. B. Comstock	Albany
Norwegian Factory	Ole Kettleson, Albany
Ezid Bluner Factory	Fred Bluner & Co., Farmers' Grove
White Oak Factory	Durst, Marty & Co., Farmers' Grove
H. Wild Factory	Stewart
G. Karlen Factory	Farmers' Grove
Mark Hoesly Factory	Stewart
G. E. Rear Factory	J. P. Hanson Co., Stewart
Bigg's Factory	Conway, Flanery & Co., Argyle
Puddleclack Factory	Barry Monahan & Co., Argyle
Flanigan Factory	Flanigan Montieth, Farmers' Grove
Christ Bleiler	Bleiler & Co., Farmers' Grove
W. S. Carey & Co.	Argyle
Patterson Factory	N. Knudson & Co., Argyle
Flanigan Factory	Mrs. Flanigan, McCue & Co., Argyle
Oswald Zentner Factory	Monticello
Rud. Freitag	Monticello
Silver & Lewis Factory	Attica
Rhyner, Clark & Co.	Monticello
Kubli & Babner	Monticello
Zimmerman & Milbrandt	Monticello
Rhyner & Purinton	Albany
Just. Zweifel	Monticello
Kern Cheese Co.	Monticello
H. Elmer	Monticello
Marty Bros.	Monticello

D. Stauffacher	Monticello
Elmer Bros.	Schultz
Babler & Geigle	Schultz
Jac. Stauffer	Monticello
Monticello Creamery Co.	Monticello
John Newman Factory	Thos. Devlin, owner, Martintown
D. E. Wood & Co.	Browntown
Henry Klessie Factory	Belleville
J. Voegler Factory	Belleville
Henry Donner Factory	Dayton
Fred Leuherr Factory	Dayton
Disch Factory	Monticello
Freitag Factory	J. C. Freitag, Monticello
Henry Freitag Factory	Monticello
Exeter Factory	G. Lewis, Dayton
Zwicky Factory	Casper Zwicky, Belleville
Stark Cheese Factory	Jac. Marty, Mgr., Browntown
Gottlieb Wittwer Factory	Monticello
Fred Hefty Factory	Monticello
Nic. Freitag Factory	Monticello
R. Theiler & Co. Factory	Monticello
Werner Blam Factory	Monticello
J. W. Theiler Factory	Monticello
Karlen Bros. & Co. Factory	Monticello
Fred Blum & Co. Factory	Monticello
Jac. Altman Factory	Monticello
J. Moritz Factory	Monticello
Henry Klassy Factory	Monticello
Mike Bidlingmeier Co.	Monroe
Herman Schmersy Factory	Monroe
Hefty & Zummbrunnen Factory	Monroe
John Benkert Factory	Monticello
Wm. Lemon	Monticello
Burgy & Wittenweiler Factory	Monticello
Chas. Zuercher	Brodhead
J. L. Roderick	Brodhead
Alb. Roderick	Juda
Wm. Gautz	Brodhead
Rudy Benkert	Monroe
John Hauser	Monroe
Fred Kundet	Monroe
Stearns Bros.	Monroe
F. Gruned	Monroe
John Gibbons	Monroe
Nicholas Schmid	Monroe
Joseph Gohl	Monroe
John Wenger	Monroe
John A. Elmer	Monroe
R. C. Whitcomb	Monroe
Neuenschwander Bros.	Monroe
Jac. Kundert	Monroe
Anton Portman	Monroe

GREEN LAKE COUNTY.

J. J. Clark	Berlin
Town Line Cheese Factory	Berlin
Page Bros.	Berlin
Seneca Cheese Factory	Cristy & Myers, Berlin
Black Creek Cheese Factory	St. Marie

IOWA COUNTY.

Dallas Cheese Factory	Pierce Nolan, Mifflin
Mineral Point Cheese Factory	Thos. Harford, Mineral Point
Mount Hope Cheese Factory	H. W. Beecher, Mineral Point
Oak Park Cheese Factory	Albert Springer, Mineral Point
Buck Grove Cheese Factory	Jas. H. Dunn, Mineral Point
Barrel Town Cheese Factory	R. J. Mitchell, Mineral Point
Phillips Cheese Factory	Geo. Phillips, Mineral Point
McMullen Cheese Factory	Jac. Roth, Mineral Point
Schlinder Factory	F. Martie, Moscow
River Forks Cheese Factory	Moscow
Glen Valley Cheese Factory	Hollandale
Pecatonica Cheese Factory	Hollandale
North Hill Cheese Factory	John Schenk, Hollandale
Long Valley Cheese Factory	John Klotzie, Hollandale
Hanson Cheese Factory	John Buetzer, Blanchardville
Adamsville Cheese Factory	Fred. Kaser, Barneveld
Moscow Mill Pond Cheese Factory	Herman Stolder, Moscow
Sandy Rock, Cheese Factory	A. E. Schenk, Perry
D. M. Thomas Cheese Factory	Powell
Wm. Jewell Cheese Factory	Linden
Walker Cheese Factory	Frank Walker, Linden
Wall Cheese Factory	Walter Wall, Highland
High Point Cheese Factory	Geo. Steinhurt, High Point
Pine Knob Cheese Factory	Geo. Tappins, Pine Knob
Pompey's Pillar Cheese Factory	Ben Benoy, High Point
Trout Branch Cheese Factory	Harvey Vail, Avoca
Klenzing Cheese Factory	Ed. Schwinge, Avoca
Lorson Cheese Factory	Jas. Keska, Avoca
Star Factory	Henry Hauschalter, Muscoda
Pulaski Cheese Factory	M. C. McIntyre, Avoca
Prairie Cheese Factory	Muscoda
Banner Co-op. Cheese Factory	Henry Ryan, Mgr., Hollandale
Cold Spring Co-op. Cheese Factory	J. FitzSimmons, Jonesdale
Yellowstone Cheese Factory	Geo. G. Cox, Waldwick
Urens' Cheese Factory	W. N. Urens, Waldwick
Waldwick Cheese Factory (2)	Ernest Regez, Blanchardville
Pompey's Pillar Cheese Factory	Geo. Baker, Pine Knob
Price Cheese Factory	Tom Price, Union Mills
Pine Knob Cheese Factory	Isaac Everson, Pine Knob
Hanson Cheese Factory	Andrew Hanson, Pine Knob
Holverson Cheese Factory	Holverson Bros., Highland
Dry Bone Cheese Co.	Geo. G. Day, Dry Bone
Dickenson Cheese Co.	Hans Mellum, Union Mills
Meadow Vale Cheese Factory Co.	Mazomanie
Blue Ridge Cheese Factory	Chas. Holdeman, Arena

Mill Creek Cheese Factory	S. W. Dawson, Arena
Wilkinson Hollow Cheese Factory.....	Frank Hildebrand, Arena
Survey Cheese Factory	C. H. Berryman, Dodgeville
Burr Oak Cheese Factory.....	W. E. Powell, Dodgeville
Knickerbocker Factory	S. E. Knickerbocker, Wyoming
Knobs' Cheese Factory Co.	Jas. Smith, Spring Green
Sneed Creek Cheese Factory Co.....	Wyoming
Morris Cheese Factory	Barneveld
Barber Cheese Factory	Barneveld
Middlebury Cheese Factory	Barneveld
Gorman Cheese Factory	Perry
Brunner Cheese Factory	Barneveld
Blue Ridge Cheese Factory	Barneveld
Jones Valley Cheese Factory	Barneveld
Scheide's Cheese Factory	Barneveld
Prairie Grove Cheese Factory.....	Barneveld
Nautgwylian Cheese Factory	Barneveld
Trout Creek Cheese Factory.....	Barneveld
John Rekl Cheese Factory.....	Barneveld
Linden Cheese Factory.....	Jac. Roth, Linden
Barneveld Cheese Co.	Barneveld
Hyde Cheese Co.....	Hyde
Hand's Factory	Ridgeway
J. Gutnecht	Avoca
Walnut Hollow Factory	Barneveld
Farmers' Factory	Barneveld
School Section Factory	Barneveld
Battin	Cobb
Thomas Factory	Dodgeville
Standart Factory	Standart
Hunter's Factory	Standart
Oak Creek Factory	Standart
Nelson	Standart
H. V. Comley	Ridgeway
Rockwell Factory	Ridgeway
J. Roelkesberger	Ridgeway

JACKSON COUNTY.

Fairview Cheese Factory.....	G. Schenk, Fairchild
Houghtonburg Cheese Factory	Merrilan
W. G. Hyslop	Alma Center
A. W. Trow	Merrilan

JEFFERSON COUNTY.

Roberts & Reese Factory.....	Chas. Forncrook, Concord
Bark River Cheese Co.....	A. J. Carman, Hebron
Whitney Factory	A. R. Hoard, Ft. Atkinson
Gopher Hill Cheese Manufacturing Co.....	Fred. Hubner, Ixonia
Ixonia Cheese & Butter Co.....	Fred Hubner, Ixonia
Green Valley Brick Cheese Co.....	Jac. Jossie, Watertown
Farmers' Home Cheese Co.....	Jac. Jossie, Watertown
County Line Cheese Co.	Jac. Jossie, Watertown
Schempf & Dobratz Brick Cheese Co.....	L. Schempf, Watertown

Maple Grove Factory	Watertown
Elm Grove Cheese Co.	Farmington
Wisconsin Cheese Co.	Jefferson
Cold Spring Cheese Co.	C. Baker, Watertown
E. G. Shultz	Hubbleton

JUNEAU COUNTY.

Lone Rock Cheese Factory (Co-op.)	C. Jensen, Camp Douglas
Elgin Creamery Co.	Ed. Bredlaw, Union Center
Warren Kimball Cheese Factory	Jos. Kimball, Union Center
Jas. Larson Cheese Factory	D. A. Noonan, Wonewoc
Felix Lachurst Brick Cheese Co.	Wonewoc
Creamery & Cheese Factory	John Steiner, Mauston
North Valley Factory	G. B. Windsor, Suldal
Lindina Cheese Factory	Cross & Hale, Mauston
Rock Valley Cheese Factory	Aug. Steiner, Mauston
Hillside Cheese Factory	Harvey Granger, Mauston
Pine Tree Cheese Factory	Bert Pearsall, Elroy
Twin Bluff Cheese and Butter Co.	New Lisbon
Lone Rock Cheese and Butter Co.	New Lisbon
H. E. Elmer	Hustler
S. Fluno	New Lisbon
T. N. Dewey	Mather
D. Leinsville	Germantown
J. Steiner	Mather

KEWAUNEE COUNTY.

Jos. Dellain Cheese Factory	Casco
Joe Adams Cheese Factory	Casco
Joe Peot Cheese Factory	Casco
A. Kirchner Cheese Factory	Rio Creek
Wensel Slab Cheese Factory	Rio Creek
Alb. Hoppe Cheese Factory	Rio Creek
A. & J. Ripley Cheese Factory	Sloven
C. Endinger	Rankin
Jos. Werg Cheese Factory	Darbellay
Chas. Rubins Cheese Factory	Roslere
W. Ullsperger Cheese Factory	Kodan
F. Geischow Cheese Factory	Kodan
Farmers' Cheese Co.	Lincoln
Jos. Dellain Cheese Factory	Lincoln
Augustine Noel Cheese Factory	Lincoln
Anna Wallechka Cheese Factory	Krok
Botthol Cheese Co.	Euren
J. B. Boucher Cheese Factory	Thiry Daems
Geo. Kozina Cheese Factory	Stangelville
Albert Kutsmacher Cheese Factory	Stangelville
Bach, Keewig & Poser Co.	Carlton
F. A. Plainsky Cheese Factory	Carlton
Carlton Farmers' Ass'n	Carlton
John Waegil Cheese Factory	Carlton
J. B. Albright Cheese Factory	Carlton
A. W. Arpin Cheese Factory	Carlton

A. W. Teske Cheese Factory and Creamery.....	Alaska
Sealler Cheese Factory	Alaska
J. Schneider Cheese Factory	Alaska
Alb. Kretsmacher Cheese Factory.....	Ellisville
Joe Roth Cheese Factory.....	Ellisville
Bernhart Lust Cheese Factory	Ellisville
Alb. Gasche Cheese Factory.....	Ellisville
Carl Schneider Cheese Factory.....	Ellisville
Mat Schleis Cheese Factory	Pilsen
Andrew Mahlek Cheese Factory	Pilsen
Jac. Gasche Cheese Factory.....	Sandy Bay
Chas. Peterson Cheese Factory (2)	Sandy Bay
J. Waegli Cheese Factory	Duvall
Wm. Barrette, Jr., Cheese Factory	Duvall
D. Boulanger Cheese Factory	Norman
M. Miller Cheese Factory	Norman
W. Sipple Cheese Factory.....	Norman
J. W. Rika Cheese Factory.....	Algoma
C. A. Guth Cheese Factory	Algoma
Ahnapee Farmer Co.	Woodside
J. Gullickson Cheese Factory	Bolt
Kozina Cheese Factory	Bolt
P. Lyons Cheese Factory	Luxembourg
Ley & Liebel Cheese Factory.....	Luxembourg
Aug. Spitzer Cheese Factory	Luxembourg
Michael Legardt Cheese Factory and Creamery.....	Tonet
Victor Bonjean Cheese Factory	Tonet
Antoine Bredael Cheese Factory	Walhain
Fred Heavers' Cheese Factory	Walhain
Geo. Kuelsel Cheese Factory	Walhain
Joe. Fitz Cheese Factory	Rostok
Anton Bredall Cheese Factory	Rankin
Fred Goetke Cheese Factory	Rankin
P. Entringer Cheese Factory	Euren
Anton Rassel Cheese Factory	

LA CROSSE COUNTY.

Bangor Cheese Co.	F. Wolf, Bangor
Coon Valley Cheese Factory	F. Strupp, Coon Valley
Middle Ridge Cheese Factory.....	Peter Arentz, Middle Ridge
Shelby Cheese Co.	Henry Schild, Pres., Sigel
Burnham Valley Cheese Factory	Burns

LA FAYETTE COUNTY.

Wells' Cheese Factory	John Wells, Woodford
Hanson Cheese Factory	A. S. Hanson, Woodford
River Bend Cheese Co.....	Theo. N. Tollackson, Argyle
Owego Bend Cheese Co.....	John McGrath, Argyle
Spore Cheese Co.	Wm. Spore, Wiota
Wiota Cheese Co.	P. J. Brennaum, Wiota
Lycan Cheese Co.	C. P. Lycan, Wiota
Foley Cheese Co.	E. M. Erickson, Woodford
Quinn Cheese Co.	John Strub, Wiota

Stewart Cheese Co.	Richard Stewart, Wiota
Truman Cheese Factory	Emile Pettet, Truman
Leslie Cheese and Butter Co.	Elgin Creamery Co., Belmont
O'Connor Cheese Factory	Farmers' Co., Darlington
Success Cheese Factory	Farmers' Co., Darlington
Light House Cheese Factory.	Farmers' Co., Belmont
Winter's Cheese Factory.	Bred. Blinner, Gratiot
Egan Cheese Factory	Gottlieb Rolli, Gratiot
Opie Cheese Factory.	Fred Lichti, Warrens, Ill.
Andrews' Cheese Factory	Warren, Ill.
Rouenrud Cheese Factory.	Fred Niederhauser, Gratiot
Brumm Cheese Factory	Dedric Weiss, Gratiot
McCoy Cheese Factory	R. H. Driver, Darlington
Vipond Cheese Factory.	John Vipond, Mgr., Shullsburg
Conley Cheese Factory	Thos. Conley, Fayette
Brunkow Cheese Factory	Wm. Renniston, Fayette
Soarch Cheese Factory	Yellow Stone
Cline Cheese Factory.	A. C. Cline, Fayette
Oleson Cheese Factory	A. Oleson, Lamont
McClintic Cheese Factory.	Alb. Hanson, Yellowstone
Darrah & Hanson Cheese Co.	Thos. Hanson, Yellowstone
Serch Cheese Co.	Christ. Sorum, Yellowstone
Ingwell Dairy Co.	Jas. Ingwell, Blanchardville
O. M. Oleson Cheese Co.	C. N. Rood, Blanchardville
Wayne Center Cheese Co.	P. Jecklyn, So. Wayne
Murphy Cheese Co.	Ulrich Nufer, So. Wayne
Hall Cheese Factory.	Peter Jecklyn, So. Wayne
Johnson Cheese Co.	John Warren, So. Wayne
Graham Cheese Co.	S. Rathlesberger, Warren, Ill.
Gus Vinger Cheese Co.	Argyle
Peter Legler Cheese Co.	Argyle
C. C. Lien Cheese Co.	Argyle
John Everson Cheese Factory.	Argyle
John Everson Cheese Co.	Argyle
Simon Hendrickson Cheese Factory.	Argyle
C. H. Thompson Cheese Co.	Argyle
Albert Toole Cheese Co.	Darlington
R. F. Carpenter Cheese Co.	Darlington
Otter Creek Cheese Co.	Darlington
P. B. & E. G. Barlow	Darlington
E. Regez	Darlington
L. Meyers	Blanchardville
McCoy Butter and Cheese Co.	Red Rock
Whiteside Cheese Factory	Gratiot
Dublin Cheese Factory	Lamont
John Hueigi	Darlington
G. Kemffer (Union Factory).	Truman
Smith's Factory	Coleman
D. Wyss (3)	Dunbarton
	Monroe

LANGLADE COUNTY.

Jos. Marx Cheese Factory	Phlox
Antigo Cheese Factory	Edward Ruska, Antigo
Rolling Cheese Co.	F. Kalkophen, Elmhurst

LINCOLN COUNTY.

Carl Dickert Corning

MANITOWOC COUNTY.

Jos. F. Rapplee Cheese Factory (2) Clark's Mills
 Madson & Pederson Cheese Factory Oslo
 Peter Geimer Cheese Factory Larrabee
 Adolph Seidl Cheese Factory Larrabee
 Jos. Geimer Cheese Factory Cooperstown
 Edw. Kostlivy Cheese Factory Melnik
 Wenzel Podhola Cheese Factory Melnik
 Aug. Baeslager Cheese Factory Steinthal
 Alb. Fokett Cheese Factory Relf
 Anton Benishek Cheese Factory Manitowoc
 Adam Jerikovic Cheese Factory Kellnersville
 Jos. Havlichek Cheese Factory Francis Creek
 P. C. Blesser Cheese Factory King's Bridge
 Herman Specht Cheese Factory Manitowoc
 Chas. Fokett Cheese Factory Francis Creek
 Wm. Vogelsang Cheese Factory Osman
 Wm. Roderwald Cheese Factory Timothy
 Lakeside Cheese Factory and Creamery Martin Rhod., Nordheim
 Wm. Vetting Cheese Factory Newtonburgh
 Jos. Berger Cheese Factory Rosecrans
 Jos. Shuber Cheese Factory Greenstreet
 Louis Saenger Cheese Factory Stark
 Erdman's Factory Aug. Erdman, Nero
 G. Pfister Est. Cheese Factory (2) W. A. Koch, Nero
 Geo. Glover Cheese Factory Reedsville
 Henry Bladoren Cheese Factory Reedsville
 Alb. Natzke Cheese Factory Reedsville
 Wm. Meyer Cheese Factory Kasson
 Fred. Fredrick Cheese Factory Reedsville
 Maedke & Junker Cheese Factory Brillion
 Ole O. Gilstad Cheese Factory Valdres
 J. F. Kasbaum Cheese Factory Rube
 E. F. Wehausen Cheese Factory Rube
 John Johnson Cheese Factory Eaton
 J. J. Holzschue Cheese Factory and Creamery St. Nazianz
 Fred Bramer Cheese Factory and Creamery Manitowoc
 Chas. Specht Cheese Factory Bleser
 Joe Willeim Cheese Factory Alverno
 Henry Pleuss Cheese Factory Manitowoc
 Q. A. Danforth Cheese Factory Meeme
 Fred. Roethel Cheese Factory Ada
 Wm. Faker Cheese Factory and Creamery Schoolhill
 Rub. Frusson Cheese Factory and Creamery Osman
 P. H. Hertel Cheese Factory and Creamery Meeme
 Ferd. Olm Cheese Factory and Creamery Edwards
 Louis Voight Louis Corners
 Frank Thielke Cheese Factory and Creamery Louis Corners
 Aug. Schleuner Cheese Factory and Creamery Mill Home
 Otto Karstaedt Kiel
 Louis Ibeling Schleswig

Chas. Weinfurther Cheese Factory and Creamery	Mishicot
Aug. Fehrman Cheese Factory and Creamery	Mishicot
Fred Wilde Cheese Factory	Mishicot
Mrs. H. Engelland Cheese Factory	Mishicot
John Cholloupni Cheese Factory	Tisch Mills
Mat. Tisler Cheese Factory	Menchalville
J. D. Nate Cheese Factory	Maple Grove
A. Svacina	Taus
Adolph Mithaus	Reedsville
Ferd. Kleist Cheese Factory	Reedsville
W. M. Krueger Cheese Factory	Reedsville
Wm. Halversen Cheese Factory	Collins
Wm. Fischer Cheese Factory	Collins
Robt. Nauman Cheese Factory	Manitowoc
Chas. F. Meinert Cheese Factory	Branch
Henry Hune Cheese Factory	Branch
Henry Heberer Cheese Factory	Grimms
Peter Maisson	Alverno
Vogle Bros. Cheese Factory	Mishicot
Herman Olm Cheese Factory	Collins
F. H. Wagenkrecht Cheese Factory	Kiel
Henry Hinges Cheese Factory	Hika
Oscar Barnel Cheese Factory	Hika
Wm. Zollman Cheese Factory	Kiel
John Mallman	Quarry
Lewis Rank	Kellnerville
N. J. Trossen	Osman
R. F. Buchholz	Rangeline
Medke & Junker	Brillion
F. A. Keilsmeier	Hika

MARATHON COUNTY.

Anton Loy Cheese Factory	Stettin
S. E. Machmueller Cheese Factory	Stettin
Nicklaus Srevelev Cheese Factory	Rozellville
John Knoeck Cheese Factory	Marathon
Ed. Plisch Cheese Factory	Ziegler
Herm. Bauman Cheese Factory	Naugart
Wm. Tesch Cheese Factory	Naugart
G. A. Kreutzer Cheese Factory	Athens
Ed. Schaller Cheese Factory	Athens
C. Dubl Cheese Factory	Athens
John Groff Cheese Factory	Wausau
Henry Toege Cheese Factory	Taegesville
Herman Meyer Cheese Factory	Merrill
Louis Weller Cheese Factory	Colby
Louis Girel Cheese Factory	Colby
Pine Riv. & Texas Cheese Co.	Wm. Gensmann, Finn
Jos. Chesak Cheese Factory	Poniatowski
Eldron Cheese Co.	Chas. Radke, Eland Junc.
Eldron Cheese Co.	Chas. Radke, Eland Junc.
Julius F. Koch Cheese Factory	McMillan
Neshkoro Cheese & Butter Co.	Rob. Leige, Neshkoro
A. F. Barchardt Cheese Factory	Spencer
Fred Michler Cheese Factory	Wein
Herman Hahn Cheese Factory	Nutterville

Henry Jacobi	Denny
Jacob Keehl	Denny
Jos. Frane	Unity
Brighton Cheese Factory	Unity
Wm. B. McPherson	Spencer
Adolph Hintze	Hogarty

MARINETTE COUNTY.

Louis A. Krueger Cheese Factory	Pound
C. Plinke	Peshtigo
Maple Ridge Cheese Co.	Marinette
Pound Cheese Co.	Pound

MONROE COUNTY.

Baldwin & Wyman Cheese Factory	Glendale
Vuricks Cheese Co.	Norwalk
Bohn's Cheese Factory	Chas. Zraggen, Norwalk
The Council Creek Cheese Factory	M. J. Hineman, Tomah
Alex. Eberhardt Cheese Factory	Clifton
St. Mary's Cheese Factory Co.	Martin Phyl, St. Mary's
Alex. Kloetzli Factory	Norwalk

OCONTO COUNTY.

R. H. Birr Cheese Factory	Morgan
C. B. Dollma Cheese Factory	Hintz
Spruce Cheese Factory	Wm. Teske, Spruce
Hayes Cheese Factory	H. F. Mueller, Hayes
H. Schultz	Abrams

OUTAGAMIE COUNTY.

Otto Bergmann Cheese Factory	Black Creek
Ferd. Zochall Cheese Factory	Black Creek
Mick Helton Cheese Factory	Black Creek
Bernard Griese Cheese Factory	Binghamton
Fred Hadler Cheese Factory	Appleton
Wm. Indermuehle Cheese Factory	Appleton
Marx Lemke Cheese Factory	Kaukauna
Mosquito Hill Cheese Factory	B. S. Vanams, New London
Falk Cheese Factory	New London
W. C. Manley Cheese Factory	Stephensville
Peter Dooley Cheese Factory	Stephensville
Patrick Wallace Cheese Factory	Stephensville
Peter Fasbender Cheese Factory	Bungert
Joe Thielke Cheese Factory	Clintonville
J. Armstrong (2)	Welcome
Bernard Rhoden Cheese Factory	Helena
Oswald Schneider Cheese Factory	Appleton
Julius Siefert Cheese Factory and Creamery	Appleton
John Grupe Cheese Factory and Creamery	Greenville
John Kuehne Cheese Factory	Leeman

J. F. Bachman Cheese Factory	Black Creek
Owen Failey Cheese Factory	Lawrenceville
Chas. Hahn Cheese Factory	Cicero
Edw. Withwer Cheese Factory	Black Creek
Otto Braas Cheese Factory	Black Creek
Ed. Kleist Cheese Factory	Seymour
Henry Kuchenbacher Cheese Factory	Seymour
Paul Kampne Cheese Factory	Seymour
Anton Kolb Cheese Factory	Seymour
Otto Pfingston Cheese Factory	Seymour
Milo Hogoboom Cheese Factory	Appleton
W. Schuber Cheese Factory	Batley
R. C. Jeske Cheese Factory	Mackville
C. Schuler Cheese Factory	Binghamton
Henry Greb Cheese Factory	Seymour
Anton Plutz Cheese Factory	Seymour
Chas. Broderick Cheese Factory	So. Osborn
Harris & Rood Butter and Cheese Co.	Medina
W. L. Root & Co. Cheese Factory	C. N. Vanam, Medina
N. Simon & Co. Cheese Factory	J. Cannon, Mgr., Dale
A. Nelson Cheese Factory	Dale
B. Nelson Factory No. 1	Dale
B. Nelson Factory No. 2	Dale
A. H. Drew's Factory	Dale
C. Rickman	Readfield, Waupaca Co.
L. Dabareiner & Co.	Hortonville
J. B. Linzmeyer	Seymour
Oswald Schneider Factory	Neenah, Winnebago Co.
Medina Cheese Co.	Medina
Outagamie Cheese Co.	Appleton
A. Drews	Dale
Dale Cheese and Butter Co.	Dale
J. Verholst	Readfield, Waupaca Co.
P. Pelkey	Welcome
W. N. Bergman	Welcome

OZAUKEE COUNTY.

King & Gearhard Cheese Factory	Grafton
Peter Schueler	Belgium
J. J. Termes	Belgium
Losey Webster	Belgium
H. P. Mueller	Belgium
Frank Wittyer	Belgium
John Depies	Belgium
A. Antoine	Belgium
F. B. Wellensten	Belgium
John Termes	Belgium
H. J. Wester	Belgium
C. H. Witt	Belgium
Kunny Bros.	Fredonia
J. H. Kiessig	Fredonia
Chas. Rehm	Fredonia
Dan Wittinger	Fredonia
N. E. Spies	Kohler
J. B. Deplesse	Random Lake
Elizabeth Laege	Holy Cross
	Port Washington

Nic. Pauly	Port Washington
J. F. Wellenstein	Port Washington
Pauly & Johannes	Port Washington
Albert Koopman	Port Washington
St. Augustin Cheese Factory.....	Newburg
Zimmerman Cheese Factory	Saukville
Pfeifer's Cheese Factory	Cedarburg
Town 10 Cheese Factory.....	Saukville

PIERCE COUNTY.

Louis Guiser Cheese Factory	Martell
Math. Gilles Cheese Factory.....	Plum City
Sam Sampson Cheese Factory	Olivet
Tanberg Bros. Cheese Factory	Spring Valley
Lawton Cheese Co.	Lawton
Clayfield Cheese Factory.....	Ed. Copp, owner, Ono
El Paso Co-op. Cheese Co.....	O. O. Stein, Pres., El Paso
Union Co-op. Cheese Co.....	El Paso

POLK COUNTY.

Patterson Factory	Patterson
Nye Cheese Factory	E. B. Van Heyne, Osceola

PRICE COUNTY.

Omega Dairy Ass'n	J. J. Lansworth, Sec'y, Omega
P. E. Johnson Cheese Factory.....	Spirit

RICHLAND COUNTY.

Henrietta Cheese Co.	Henrietta
Hub City Cheese Co.	Wm. Nesbit, Mgr., Hub City
Woodstock Cheese Co.....	Wm. Nesbit, Mgr., Hub City
Buckhorn Cheese Co.....	J. Donner, Balmoral
Gault Cheese Co.....	J. Donner, Balmoral
Eagle Cheese Co.....	Chas. Moore, Balmoral
Basswood Cheese Factory	H. J. Noyse, Muscoda, Grant Co.
Cazenovia Factory	Henry Kellner, Cazenovia
Carroll Cheese Factory	John Carroll, Cazenovia
G. E. Miles Cheese Factory.....	Twin Bluffs
H. J. Noyes Cheese Factory	Richland City
H. A. Runyan Cheese Factory.....	Dixon
Byrd's Creek Cheese Factory.....	Byrd's Creek
Thos. Johnston	Boaz
Robinson & Schumacher	Boaz
Pat Cranston	Sabin
Viola Cheese Factory	Kinder & Warner, Viola
Buck Creek Cheese Factory.....	Howard Huffman, Mgr., Buck Creek
Strausburg Cheese Factory	Chas. Strausburg, Loyd
H. J. Noyes	West Lima
Cheese Factory	Bloom City
Cheese Factory	Yuba
Cheese Factory	Woodstock

P. Cranston	Sabin
Cheese Factory	Richland Center
Akam Factory	Five Points
Ithaca Factory	Ithaca
H. J. Noyes	Bear Valley
Excelsior	Excelsior
Cheese Factory	Byrd's Creek
Chas. Mower	Eagle Corners
H. J. Noyes	Basswood
Kilmer & Bauer	Cazenovia

ROCK COUNTY.

F. O. Uehling & Co.	Hanover
Wm. Borst Cheese Factory	Johnstown
Harvey Godfrey Cheese Factory	Lima Center
Maple Grove Cheese Factory	H. J. Bullock, Janesville
Home Cheese Factory	H. Godfrey, Whitewater..
Swiss Cheese Factory	Chas. Zerchy, Mgr., Brodhead
Center Cheese Factory	J. F. Dickey, Sec., Brodhead
Spring Valley Cheese Factory	Robert Jack, Brodhead
Synstegarde Cheese Factory	Geo. Bernath, Brodhead
H. Lee Cheese Factory	Orfordville
Newark Cheese Factory	R. C. Rostad, Beloit
Orfordville Cheese Factory	Orfordville
John Drier (Avon Factory)	Orfordville
Speich & Co.	Brodhead

SAUK COUNTY.

Rice Bros. Cheese Factory	Sandusky
Big Hollow Cheese Factory	Henry Ellefson, Spring Green
Geo. Ward Cheese Factory	Bear Valley
Josiah Maxwell Cheese Factory	Delos Beckwith, Lone Rock
Little Bear Cheese Factory	Delos Beckwith, Lone Rock
Dederich Cheese Factory	Delos Beckwith, Lone Rock
Chas. Waddell Cheese Factory	Baraboo
Ironton Cheese Factory	John Doyle, Mgr., Ironton
Cheese Factory	Blackhawk

SHEBOYGAN COUNTY.

Erdmann Cheese Factory	Sheboygan R. F. D. No. 2
Herman Benchel	Sheboygan R. F. D. No. 2
Wm. Ochs	Sheboygan R. F. D. No. 2
Chas. Harms	Sheboygan R. F. D. No. 2
G. Kuntz & Co.	Sheboygan
Fred A. Gartman	Sheboygan
F. Wm. Gartman	Sheboygan
John Dassow	Sheboygan Falls
Hugo Alves	Sheboygan Falls
H. A. Rehm	Sheboygan Falls
R. A. Dassow	Sheboygan Falls
Chris Reinecke	Sheboygan Falls
Geo. Beeck	Sheboygan Falls
Chas. Kohl	Sheboygan Falls

Berte Hennepe	Sheboygan Falls
Fred Wider	Sheboygan Falls
H. F. Koenig	Sheboygan Falls
Otto Ehrlich	Sheboygan Falls
A. B. Melendy	Sheboygan Falls
Aug. Dassaw	Sheboygan Falls
H. M. Scott	Sheboygan Falls
M. McKinnon	Sheboygan Falls
F. Fenner	Sheboygan Falls
J. E. Curtis	Plymouth
H. Schiebe	Plymouth
Frank Gowin	Plymouth
Wm. Paasch	Plymouth
M. L. Mathews	Plymouth
Pine Tree Cheese Factory	Plymouth
H. A. Chapman	Plymouth
Wm. John	Plymouth
A. Riese	Plymouth
Christ Luecke	Plymouth
Joe Rohda	Plymouth
Euhler Co. (successor to)	Plymouth
Champeny Creamery Co.	Plymouth
C. H. Budhern	Cascade
E. J. Keyes	Cascade
Mechelke Bros. (?)	Cascade
L. Goering	Parnell
P. Schuler	Dacada
Thos. Bickler	Dacada
Fred Bemeking	Franklin
H. A. Rehm	Franklin
Wm. F. Gartman	Saint George
Charles Gartman	Saint George
J. H. Thackray	Glenheulah
Barragar Factory	Glenheulah
Albert V. Garling	Glenheulah
Geo. E. Webb	Glenheulah
H. E. Buechel	Mosel
B. Schrieber	Mosel
Wm. Ochos	Mosel
L. W. Lindow	Mosel
Erdman & Boll	Erdman
Cleveland Creamery Co. (3) ..	Cleveland
F. Olm	Edwards
L. Goehring	Edwards
Hersdorf & Hahn (2)	Edwards
Fred Luecke	Edwards
F. Boldt	Gibbsville
John Rowerdink	Gibbsville
J. Halwachs	Howard
Ed. Schneider (2)	Howard
Ed. Erbstoesser	Howard
J. F. Kalk	Howard
Fred Lueke	Howard
Chris. Strassburger	Howard
Geo. Horneck	Rhine
Henry Horneck	Rhine
J. G. Gessert	Rhine
Gootenhaus & C. Ronde	Cedar Grove
T. Walvoord	Cedar Grove

Ed. Teronde	Cedar Grove
G. Wissink	Cedar Grove
Geo. Bloomers	Cedar Grove
Huenink Bros.	Cedar Grove
J. E. Dane	Cedar Grove
I. DeSmidt	Cedar Grove
G. Grootenhals	Cedar Grove
John LeRonde	Cedar Grove
Ed. Koehl	Waldo
J. S. Twoing	Waldo
O. G. Eichhorst	Waldo
Gus. Brickbauer	Elkhart
W. Reinick Cheese Factory	Elkhart
Buchel Bros.	Adell
Anton Fochs Factory	Adell
G. W. Kuehne Factory	Adell
John L. Magritz	Adell
J. Mulgey	Random Lake
Nic Spies	Random Lake
J. F. Moehrl	Silver Creek
Frank Strauss Factory	Random Lake
Emil Speiker	Random Lake
F. J. Mulney	Hingham
Robert Donath (2)	Scott
John Auppelle	Scott
Aug. Speath	St. Anna
J. D. Schmitz Cheese Factory	Greenbush
G. C. Mayhew	Greenbush
F. H. Ubbelohde	Greenbush
Keach Factory	Greenbush
Chas. Webb	Greenbush
Wm. Kuehne	Hoard
E. Vandewald	Hoard
John Cosgrove	Rathburn
W. Zelms	Rathburn
F. McNicholas	Pius
F. F. Mais	Johnsonville
H. Schultz	Johnsonville
J. Gessert	Johnsonville
Kruening & Hoffman	Oostburg
Robert Koeppe	Oostburg
Wm. Huenink	Oostburg
L. Sieblink	Oostburg
A. J. DeRonde	Oostburg
J. Aupperla	Bollonville
Koch, Janson & Butzke	Beechwood
W. A. Zelm	Plymouth
C. H. Leucke	Plymouth
F. Seemans	Plymouth
L. Helmer	Plymouth
C. Kuehn	Cedar Grove
I. Fernes	Cedar Grove
Mike Bittner	Oostburg
E. Krennen	Oostburg
W. Rowerdink	Gibbsville
Lemkine & Siebelink	Gibbsville
E. Koeppe	Hingham
M. Mulvey	Plymouth
W. Toohey	

A. Zelu	Plymouth
T. Gessert	Plymouth
Geo. Mayhew	Plymouth
A. Leuthe	Plymouth
Rich & rranz	Plymouth
Emil Wilder	Erdman
E. Olm & Co.	Edwards
E. Kohl	Howard
T. H. Lamb	Hoard
B. Huenink	Dacada
M. Kramer	Ada
T. Spindler	Edwards
E. B. Melendy	Gibbsville
Otto Ehrlich	Gibbsville
Humphrey & Fehlen	Sheboygan Falls
F. J. Widdes	Sheboygan Falls
Fred Rles	Plymouth
E. Curtis	Plymouth
A. Vater	Plymouth
W. Elder	Plymouth

SHAWANO COUNTY.

Farmers Cheese Co	Pella
F. J. Jeske Cheese Factory	Briarton
Albert Eker Cheese Factory	Wellhaven
Charley Ganchow Cheese Factory	Landsatd
G. B. Mattoon Cheese Factory	Mattoon
Cheese Factory	J. S. Brummel, Pulcifer
Waukechan Cheese Factory	J. J. Lund, Riverside
Birnamwood Cheese Factory	Chas. Meisner, Birnamwood
Split Rock Cheese Factory	Split Rock
Otto Timreck Cheese Factory	Bonduel
Ganham Bros. Cheese Factory	Bonduel
Aug. Natzke Cheese Factory	Bonduel
Jos. Brommel Cheese Factory	Pulcifer
Chas. Hanson Cheese Factory	Hilda
F. Krueger Cheese Factory	Hofa Park
Belle Plaine Creamery & Cheese Co.	Belle Plaine
J. E. Roepke Cheese Factory	Birnamwood
W. R. Mills Cheese Factory	Bonduel

ST. CROIX COUNTY.

Gaughans Cheese Factory	H. A. Gaughans, Jewetts Mills
Pine Lake Cheese Factory	F. Holle, Baldwin
O'Malley Bros. Co-Operative Cheese Factory	Stanton
Boardman Cheese Factory	Glenwood
Jake Bol Cheese Factory	Baldwin
Emerald Cheese Factory	H. E. Jepson, Emerald
Somerset Cheese Factory	A. Lagfander Mgr., Somerset
Hatchville Cheese Factory	Cady
Glenwood Cheese Co	J. H. Wall, President, Glenwood

REPORT OF THE WISCONSIN

TREMPEALEAU COUNTY.

Chimney Rock Cheese Co.	Wm. J. Ennison, La Crosse
Little Elk Cheese Factory	Wm. J. Ennison, La Crosse
Pigeon Cheese Factory Assn.	H. A. Frensted, Pigeon Falls
Dilly Cheese Co.	John Zigler, Valley
Valley Cheese Co.	John Zigler, Valley
Newton Butter & Cheese Assn.	Spangler & Becker, Newton
Brick Cheese Factory	F. W. Haufgarn, Chaseburg
Greenwood Cheese Factory	(Co-op.) A. F. Norg, Debello
Brinkman Cheese Factory	C. F. Brinkman, Brinkman

WASHINGTON COUNTY.

Cheese Factory	H. Thoma, Richfield
Phil Kuhn Cheese Factory	Rockfield
W. Becker Cheese Factory	Rockfield
A. Steiner Cheese Factory	Meeker
Riverside Cheese Factory	Thos. Jordan, Barton
G. Kopp Cheese Factory	West Bend
Frank Foote Cheese Factory	Kewaskum
Erin Butter & Cheese Factory	Aug. Meier, Thompson
County Line Cheese Factory	Mike Murphy, North Lake
Hibernia Cheese Factory	Mike Murphy, North Lake
Thompson Cheese Factory	Mike Fitzgerald, Neosho
Maple Hill Cheese Factory	Mr. Winkler, North Lake
West Side Cheese Factory	Hartford
Henry Thoma Cheese Factory	Richfield
Lorenz Guth	Ackerville
Henry Becker	Jackson
Kohlsville Cheese Factory	Jac. Hamm, Kohlsville
Wayne Cheese Factory	John Petrie, Wayne
Wayne & Addison Cheese & Dairy Co.	Martin Horn, Kohlsville
John Dengals Cheese Factory	Wayne
West Side Cheese Factory	Frank Schuhjahn, Huilsburg
Henry Schowalter & Co.	Jackson
Jackson Butter & Cheese Co.	J. G. Frank, Jackson
Chas. Stauskey Cheese Co.	Salter
Keons Cheese Co.	G. Thalen, Keouns
Ed. Kuenze Cheese Factory	Richfield
West Bend Cheese Factory	Richfield
Hartford Cheese Factory	A. F. Reichow, Hartford
C. A. McCormick	West Bend
L. Schuyman	Hartford
Cedar Lake Cheese Factory	Schleisingerville

WALWORTH COUNTY.

North Sharon Factory	Sharon
Troy Butter & Cheese Factory	W. J. Webster, Secretary, Troy
Troy Center Butter & Cheese Factory	(Wis. B. & C. Co.) Waukesha
Little Prairie B. & C. Factory	D. I. McAdams, Little Prairie
Adams Co-operative B. & C. Factory	J. Traser, Adams
North Geneva Butter & Cheese Factory	Harris & West, Elkhorn
Wisconsin Butter & Cheese Co.	Elkhorn
Wis. B. & C. Co.	North Geneva

Wis. B. & S. Co.	Tibbets
Wis. B. & C. Co.	Tibbets
J. B. Wilson	Troy
Marshall & Krohn	Whitewater

WAUKESHA COUNTY.

Wisconsin Butter & Cheese Co.....	Walter A. West, Elkhorn
Mapleton Brick Cheese Co.	John Reid, Alderly
Templeton Factory	J. & M. Steiner, Milwaukee
Silver Lake Factory	Roach & Seeber, Oconomowoc
Monterey Factory	Roach & Seeber, Monterey
Factory	Hugo Meiswinkel, Marcy

WAUPACA COUNTY.

N. A. Nelson Cheese Factory	Weyauwega
Northport Cheese Factory	Morris Peterson, Northport
South Mukwa Cheese Factory	A. Westfallen, New London
Borhen Cheese Factory	A. J. Borhen, Fremont
Jerry Hickman Cheese Factory	Fremont
Strange Cheese Factory	Wm. Strange, Fremont
Knoke Cheese Factory	J. Verholtz, Readfield
Farmers Co-operative Cheese Factory	A. O. Goll, Reams
Dupont Farmers' Cheese Co.	John Zern, Marion
Maple Valley Cheese Factory	L. D. Churchill, Marion
Enterprise Factory	J. Lemkie, Welcome (Outagamie Co.)
Nicholson Factory	P. H. Kasper, Nicholson
Poplar Grove Factory	F. W. Laux, Clintonville
W. T. Tilkey Factory	Clintonville
Nowell Cheese Factory (2 factories)	Otto E. Knoke, Nowell
Lebanon Cheese Factory	J. H. Roloff, New London
Arnold Grimm Cheese Factory	Manawa
John Rose Cheese Factory	Clintonville
John Kousack Cheese Factory	Embarrass
Embarrass Silver Star Cheese Factory	Embarrass
G. W. Nelson Factory	Signaco
Marble Factory	S. Zheru, Marble
G. W. Nelson Factory	Symco
Marion Cheese Factory	Marion
E. A. Behn	Lind
C. B. Hall	Clintonville
R. H. Moldenhauer	Clintonville
Falkman Bros.	Dupont
Star Factory	Marion
Chas. Delo	Nicholson
C. Casper	Nicholson
C. A. Johnson	Nicholson
J. Zahn	Littlewolf
J. Thielke	New London
H. Woolrath	New London
W. O. Sells	New London
Schmall Bros.	New London
Factory	Weyauwega

WAUSHARA COUNTY.

Borth Cheese Co.	John Kraatz, Borth
Holiday Cheese Factory	Wild Rose
Marion Cheese & Butter Co.	F. H. Johnson, Spring Lake
Silver Brook Cheese Co.	D. J. Jenny Co., Berlin
East Oasis Cheese Factory	P. H. Dorintz, Plainfield
Mt. Morris Butter & Cheese Co.	Fred Mitchell, Mt. Morris
Herman Koehler Cheese Factory	Brushville
Wm. Winter Cheese Factory	Tustin
L. N. Winter Cheese Factory	Tustin
Tustin Star Creamery Co., Stock Co.	Tustin
W. L. Jones Cheese Factory	Tustin
N. Simon & Co.	Tustin
E. Saxville Co.	W. Bloomfield

WINNEBAGO COUNTY.

Cold Spring Cheese & Butter Co.	Jac. Wohld, Neenah
Wolf Hill Cheese Factory	H. T. Timm, Metz
Schneider Cheese Factory	Peter Schneider, Readfield
Spiegelberg Cheese Factory	Fred Spiegelberg, Boom
Pribbernow Cheese Factory	Wm. Pribbernow, Zittaw
Winchester Cheese & Butter Co.	John Peterson, Winchester
Oak Grove Cheese & Butter Co.	Boom
Cornelius Cheese Factory	Charles B. Cornelius, Boom
C. Eckstein Cheese Factory	Winchester
Alb. Drews Cheese Factory	Readfield (Waupaca)
Charles Martin Cheese Factory	Winneconne
Mikesville Cheese Factory	C. Hough, Neenah
Johnsons Corners Factory	H. Ondt, Neenah
Wm. Ihde Factory	Neenah
C. Boss Factory	Clemansville
C. Perrin Factory	Clemansville
M. Kittel Factory	Oshkosh
John Ryff Factory	Oshkosh
John Greenwald Factory	Clemansville
Snells Station Cheese Factory	Neenah
Robie Cheese Factory	Oscar Manley, Mgr., Neenah
Germania Cheese Factory	Mark Wohld, Neenah
Faber Factory	G. Hauter, Neenah
Allenville Cheese Factory	Adolph Grimm, Allenville
Vosburg Cheese Factory	Ira Hackett, Allenville
Schneider Cheese Factory	Jac. Schneider, Allenville
Nick Grimm Cheese Factory	Clemansville
Sam Boss Cheese Factory	Clemansville
Scheller Cheese Factory	Mrs. H. Scheller, Oshkosh
Hough Cheese Factory	F. G. Cross & Co., Winneconne
Winneconne Cheese & Butter Co.	E. E. Clemons, Winneconne
Schneider Cheese Factory	Jos. Schneider, Winneconne
Butte Des Morts Cheese Factory	C. Reuteller, Butte Des Morts
Nekini Cheese Factory	I. McKinley, Mgr., Oshkosh
Omro Co-operative Butter & Cheese Co.	C. K. Whiting, Omro
Farmers Stock Co. Factory	Neenah
Metz Cheese Factory	N. Simon, Metz
Excelsior Cheese Co.	Neenah
Wolf Creek Creamery & Cheese Factory Co.	Eureka

Stacker Bros.	Neenah
J. Cowling	Clemansville
Casper Pfeiffer	Oshkosh
Winchester Butter & Cheese Co.	Larson
Johnson Factory	Larson
Adam Walters	Mikesville
Simon Factory	Allensville
M. Klute	(State Hospital) Oshkosh

WOOD COUNTY.

Nick Straeffler Factories (2)	Hewitt
Farmers Co-operative Cheese Factory of Auburndale	Auburndale
Herman F. Theil Cheese Factory	Marshfield
Anton Hensler Cheese Factory	Marshfield
Sigel Brick Cheese Co.	Johnson & Hill Co., Grand Rapids
Sigel Amer. Cheese Co.	Johnson & Hill Co., Grand Rapids
Lorenz Seidl Cheese Factory	Blenker
A. J. Empey Cheese Factory	Milladore
Seneca Cheese Factory	Johnson & Hill Co., West Grand Rapids
Fuller & Hathway	Marshfield
Jennings Creamery Co.	Marshfield
John Henseler	Marshfield

LIST OF CREAMERIES IN WISCONSIN.

ADAMS COUNTY.

Spring Creek Creamery	Westman, Necedah
Easton Dairy Products Ass'n, W. I. Colby, President	Easton
John Mc Grane Creamery	Leola
Leola Creamery Co.	Leola

ASHLAND COUNTY.

Creamery	W. Whitten, Butternut
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BARRON COUNTY.

The Spring Hill Creamery Co.	C. Burghurst, Mgr., Chetek
Rice Lake Creamery	Rice Lake
Prairie Farm Creamery Co.	P. Christman, Sec., Prairie Farm
Gathered Cream Factory	O. G. Peterson, Prairie Farm
Barron Creamery Co.	N. M. Rockman, Barron
Cumberland Creamery Co.	S. H. Waterman, Cumberland
Almena Creamery	Charles Kammerer, Almena
Arland Co-operative Butter & Cheese Co.,	Ole Johnson Mgr., Arland
Canton Creamery & Cheese Co.	Canton
Bahler Bros.	Cambria
Creamery	Turtle Lake
Apple River Creamery	Reeve
Horshoe Lake Co-operative Creamery Co.	Perley

BROWN COUNTY.

Oak Grove Dairy	H. A. Law, Green Bay
E. R. V. Creamery Co.	Jas. Smith, DePere
Lawrence Creamery	Dan Longteau, West DePere
White Clover Co-operative Creamery	Holland
The W. DePere Co-operative Creamery Co.	J. Vanderlinden, Sec., W. DePere
Enz Bros. & Co.	Denmark
Frank Sindzinski	Langes
Ferd Wittig	Fontenoy
Didrich Benecke	Fontenoy
Fred Buckman	Fontenoy
New Denmark Farmers Co-operative Ass'n.....	Fontenoy

BURNETT COUNTY.

The Grantsburg Creamery	Grantsburg
Trade River Creamery	Trade River
Farmers Co-operative Creamery Soc.	Ed. C. Johnson, Falun
Doctor's Lake Creamery Soc.	Dan Johnson, Blanding
Wood River Creamery Co.	Aug. Cassel, Wood Lake
Farmers Creamery Co. of Trade Lake	And Anderson, Trade Lake
Farmers Creamery Co. of Falun	A. G. Peterson, Falun
Farmers Creamery Co. of Trade Lake	Halmar Swenson, Trade River
Trade Lake Creamery Ass'n	Grantsburg

BUFFALO COUNTY.

Fountain City Co-operative Creamery Ass'n	A. E. Gerlach, Fountain City
Burnside Creamery Co.	C. A. VanBrunt, Mishamokwa
Nelson Creamery	Glebel & Armstrong, Nelson
Modena Creamery Co.	J. B. Meyer, Mgr., Modena
Frank Tritsch Creamery	Alma
Spring Creek Creamery	James Allison, Durand
Mondovi Dairymen's Ass'n	Mondovi
Gilman Valley Dairymen's Ass'n	Gilman
Mondovi Creamery Assn.	Mondovi

CALUMET COUNTY.

Stockbridge Creamery Co.	Stockbridge
F. J. Harder	Chilton
John Snyder	Brant
A. F. Decker	Chilton
W. A. Knauf	Chilton City
A. J. Nokes Creamery	Hilbert
Frank Zetsche Creamery	Greenwood
Darboy Butter & Cheese Co.	Darboy
Farmers' Creamery Manufacturing Co.	Brillion

CLARK COUNTY.

Longwood Co-op. Creamery	Longwood
Clark Co. Butter Co.	Mike Proch, Mgr., Globe
Christie Creamery Co.	Ross Paulson, Mgr., Granton
Granton Creamery	Ross Paulson, Mgr., Granton
H. B. J. Andrus Creamery	Neillsville
Pleasant Ridge Creamery	W. G. Hyslop, Mgr., Blair
Chas. Schilnsog Creamery	Granton
Albert Alberts Creamery	Thorp
Skimming Station	Geo. Bue, Shortville
Loyal Creamery	Jenks Bros., Loyal
Clark Cavitz Butter Co.	W. C. Thoma, Prest., Neillsville
Christie Creamery Co.,	W. K. Armitage, Prest., Christie
Creamery	Jerry Danhertz, Thorp
Pine Valley Creamery	H. B. Andrews, Owner, Neillsville
Pleasant Ridge Creamery Co.	Neillsville
Clark Co. Swimming Station	Wm. Dux, Owner, Neillsville
Greenwood & Zetsche	Greenwood
Longwood Creamery	H. A. Bright, Black River Falls, (Jackson Co.)

CHIPPEWA COUNTY.

Frank Pritzel	Eidsvold
Fagen Bros.	Stanley
A. Butcher	Boyd
A. P. Geiger	Boyd
Stanley Creamery	W. C. Bragg, Stanley
Bloomer Creamery Co.	Wm. Ruf, Bloomer
Farmers' Store Co. Creamery	Farmers' Store Co., Bloomer
Albertville Butter & Cheese Mfg. Co.	L. E. Schure, Mgr., Albertville
Silver Star Creamery	E. W. Hill, Appollonia
Chippewa Falls Separator and Creamery Co.	B. J. Sobdell, Chippewa Falls
Vale Creamery Co.	Vale
Cook's Valley Creamery (Co-op. Co.)	Cook's Valley
Star Creamery	Jens Stenehjelm, Cartwright
Thos. Kelley Creamery	Eagle Point
Creamery	Eagle Point
The La Fayette Dairying Co.	Chippewa Falls
La Fayette Creamery	W. V. Dorwin, Chippewa Falls

COLUMBIA COUNTY.

M. W. Speer	Weyocena
Little Gem Creamery	Rocky Run
W. Hanson	Columbus
Fall River Creamery	Dodge & Korth, Fall River
Englewood Creamery	Chas. Britzman, Fall River
Sam'l Baehler Creamery	Cambria
Ward & Andrus' Creamery	Randolph
C. W. Chrisler	Lodi
Dodge & Dodge Creamery Co.	Lodi
Arlans Creamery	Arian Bros., North Bristol
Starkers Creamery	John Starker, East Bristol
Creamery	Haas Bros., Kingston
Centerville Creamery	Sanderson & Co., Cambria
Creamery	Chas. Christian, Columbus
Kiefer Bros. Creamery	Pardeeville
Pielke's Creamery	Wm. Mielke, Rio
Field's Creamery	Jas. Frawley, Otsego
Doyleston Creamery	E. Britzman, Doyleston
Poynette Creamery	R. M. Buzzard, Poynette
Arlington Creamery	G. A. Kimbal, Mgr., Arlington
Hutchinson Creamery	Ward & Andrews, Randolph Center
Portage Creamery Co.	Wm. Fulton, Portage
Empire Creamery Co.	Morrisonville
Keyser Creamery	Keyser
The Henry Creamery	Lowville
Centerville Creamery Mfg. Co.	Cambria
Lodi Creamery Co.	Lodi

CRAWFORD COUNTY.

Wauzeka Butter Co.	John Wunch, Mgr., Wauzeka
Soldiers' Grove Creamery	Wm. Ray, Soldiers' Grove
Sugar Creek Creamery	Ferryville
Co-operative Creamery Co.	Napoleon Coates, Prest., Eastman

Kickapoo Valley Creamery Co.	Steuben
Barnum Creamery Co.	Barnum
Seneca Dairy Association	Seneca
Champenny Creamery Co.	Dousman

DANE COUNTY.

Pierceville Creamery Co.	Roach & Seeber, Pierceville
Sun Prairie Creamery	Roach & Seeber, Sun Prairie
Black Earth Creamery Co.	Black Earth
C. F. Greenwood Creamery	H. H. Prescott, Rockdale
Fred Luder	Mt. Horeb
Fountain Creamery	Roach & Seeber, Waterloo
Bannon Creamery	E. C. Dodge, Lake Mills
Oak Park Creamery	M. B. Bergum, Marshall
Burke Creamery	Roach & Seeber, Burke
Token Creamery	Dodge & Dodge, Windsor
Storey Creamery	D. E. Wood Butter Co., Storey
Marshall Creamery	E. Marshall, Owner, Marshall
Medina Butter & Cheese Co.	M. Lindas, Secy., Marshall
Deansville Creamery Co.	Heber Knapton, Secy., Marshall
Wheeler Prairie Creamery Co.	A. J. Roberts, Mgr., Stoughton
Hanerville Creamery	Hanerville
North Bristol Co-op. Creamery Assn.	J. F. Cary, North Bristol
Golden Rod Creamery	Roach & Seeber (Waterloo), Bristol
C. F. Strasburg Creamery	Marshall
York Center Creamery	Thos. Murphy, Marshall
Half-way Prairie Creamery Co.	Wm. Fehlandt, Mgr., Mazomanie
Mazomanie Creamery Co.	J. H. Greening, Mazomanie
Belleville Creamery Co.	D. E. Wood & Co. (Elgin, Ill.), Belleville
Stuckey Bros. Creamery	Fred Stuckey, Elvers
Pleasant Valley Creamery	Chas. Bush, Peculiar
Enterprise Creamery	A. L. Parmenter, Mazomanie
Oregon Creamery	R. G. Ellis & Sons, Oregon
Sun Prairie Creamery	Roach & Seeber, Owners, Sun Prairie
Paoli Creamery Co.	Wm. Fischer, Mgr., Paoli
DeForest Butter & Cheese Co.	Ernst Karow, DeForest
North Windsor Creamery Co.	Ernst Karow, DeForest
Eclipse Creamery Co.	C. J. Dodge, Windsor
Davis Creamery	C. J. Dodge, Windsor
West Middleton Creamery Assn.	Frank Bell, Prest., Barwig
Hopkin Bros. Creamery	Middleton
Capital City Creamery	H. Berkholtz, Buttermaker, Middleton
Henry M. Zander Creamery	Cross Plains
Pine Bluff Creamery	John Kalschner, Pine Bluff
Cross Plains Dairy Assn.	Peter Noeltner, Cross Plains
Sun Prairie Creamery	Roach & Seeber, Owners, Sun Prairie
Roxbury Creamery	Reuben Hiney, Sank City
Riverside Creamery	Reuben Hiney, Sank City
Crystal Lake Creamery	Dodge Bros., Lodi
Co-operative Dairy Assn.	Society of Farmers, Black Earth
Prairie Queen Creamery Co.	John Christianson, Mgr., Cambridge
Rockdale Creamery Co.	John Torgerson, Mgr., Rockdale
Utica Creamery Co.	T. O. Mandt, Mgr., Utica
Capital City Dairy Creamery & Produce Co.	John Wercin, Madison
University Creamery	University of Wis., Madison
Oak Hill Co-op. Creamery Co.	Hone
McFarland Creamery	Evereth Kock, McFarland

Kegonsa Creamery Co.	O. M. Arnold, Stoughton
Oak Hill Creamery Co.	T. O. Mandt, Utica
Deerfield Creamery	Roach & Seeber, Deerfield
London Creamery	Roach & Seeber, London
Dodge Creamery Assn.	E. C. Dodge, Deerfield
Oak Park Creamery Assn.	K. Evanson, Deerfield
Creamery	J. R. Ellis & Sons, Oregon
Melchin Karlscheners Creamery	Ashton
Springfield Corners Creamery	N. Robinson, Morrisonville
Hyers Corners Creamery	N. Robinson, Morrisonville
Syene Creamery	Capital City Creamery Co., Madison, Syene
Oak Hall Creamery Co.	Floyd
Mt. Horeb Creamery	Dahle Bros., Mt. Horeb
Waunakee Creamery Co.	Caspar Hilgers, Waunakee
Albion Creamery	S. G. Moore, Albion
Prairie Green Creamery	Deerfield
W. H. Spooner	Rutland
Capital City Creamery Co.	Madison
The City Ideal Creamery Co.	Madison
Farmers' Co-op. Creamery	Albion
The Paoli Creamery Co.	Montrose
Patrons' Co-op. Creamery Co.	Waunakee
Wilke B. & C. Assn.	Verona
Dodge Creamery Assn.	Deerfield

DODGE COUNTY.

Fox Lake Creamery	Ward & Andrews, Fox Lake
M. P. Radloff Creamery	Hustisford
Upland Creamery	Boehmer & Meier, Ponds ville
Highland Creamery	Oscar Naber, Mayville
C. F. Meyer Creamery	Lomira
Lake Shore Creamery	Morris & Thomas, Fox Lake
Toland Creamery	Julius Webber, Mgr., Toland
Alderley Dairy Assn.	J. J. Reid, Mgr., Alderley
Clyman Station Creamery	Clyman Station
White Clover Creamery	Roach & Seeber, Waterloo
North Portland Creamery	Danville
Leader Cheese & Butter Assn.	G. H. Kohn, Reeseville
Reeseville Creamery	Wm. Ohrmund, Reeseville
Jonely Bros. Creamery	Emil Jonely, Mgr., Lomira
Beaver Dam Creamery Co.	Jas. Campbell, Prest., Beaver Dam
Riverside Creamery	Oscar Naber, Mayville
Griesemer & Heck Creamery	Iron Ridge
A. W. Lehmann Creamery	Mrs. A. W. Lehmann, Neosho
Juneau Creamery	Mansfield & Co., Juneau
Farmers' Co-op. Creamery	C. H. Smith, Rolling Prairie
Gold Medal Creamery	G. W. Ohrmundt, Reeseville
Creamery	Henry Doroney, Warren
Creamery	Wm. Campbell, Beaver Dam
Creamery	Mr. Gibson, Burnett Junction
Mansfield Creamery	Mansfield & Co., Juneau
Liberty Butter & Cheese Assn.	Jhanke Creamery Co., Mgr., Watertown
Poser Creamery	Edw. Barnick, Richwood
Shields Butter & Cheese Assn.	Wickert, Mgr., Hubbleton
Westford Butter & Cheese Factory	John Banes, Prest., Beaver Dam
Pachler Bros. Cheese & Butter Factory	Randolph
West Leroy Creamery	Leroy
Knowles Creamery	Lomira

Neosho Butter & Creamery Co.	Neosho
Richwood Creamery Co.	Richwood
Spring Brook Dairy Co.	Chester
Roach & Seeber	Clyman
E. Weber	Beaver Dam
Eli Hull	Lowell
E. A. Reese	Lowell
Chas. Christian	Danville
H. R. Moldenhauer	Hubbleton
H. Lenz	Watertown
Juneau Creamery	Watertown
H. Hicks & Co.	Iron Ridge
L. L. Bonniwell	Hartford
E. L. Arndt (2 creameries)	Beaver Dam
Geo. C. Mansfield & Co.	Horicon
Island Creamery	C. Preuss, Knowles
J. Jossi	Rosendale

DOOR COUNTY.

Forestville Creamery	Stonemann Bros., Forestville
Jarchow's Creamery	Louis Jarchow, Forestville
Kolberg Creamery	Conrad R. Guth, Kolberg
Brussels Creamery	Pierrle Verlie & Co., Brussels

DUNN COUNTY.

Meridian Co-op. Creamery.....	L. E. Hagen, Meridian
Creamery	Thos. Witiger, Rusk
Sherman Cheese & Butter Co.	N. W. Peck, Menomonie
Washburn Farm Creamery	C. O. Thorp, Wheeler
Hudson Road Creamery	Martin Fladdon, Menomonie
Elk Mound Creamery Co.	Wm. Man, Elk Mound
Eau Galle Creamery	B. E. Graves, Mgr., Eau Galle
Tarrant & Sons	Claude Phillips, Secy., Durand
Irving Creek Creamery	Irvington
Downing Creamery Co.	Chas. Montanga, Downing
Dunnville Co-op. Creamery	Dunnville
Irvine Creek Creamery Co.	Menomonie
O. W. Marsee	Louisville
Louisville Creamery	Louisville
O. G. Kinney, Mgr.	Colfax
E. L. Hawkins	Boveeville
DeWolf Creamery	DeWolf
Otter Creek Creamery	Wheeler
Spring Brook Creamery	Red Cedar
O. G. Peterson	Prairie Farm

EAU CLAIRE COUNTY.

Pleasant Valley Co-op. Creamery Co.	J. B. Meyer, Hadleyville
Brackett Creamery	Mannuel Hancke, Brackett
The Augusta Creamery	M. Victory & Co., Augusta
Fall Creek Creamery Co.	John Joern, Prest., Fall Creek
Fairchild Creamery Co.	Fairchild
Otter Creek Co-op. Creamery	Otter Creek

Cleghorn Corners Creamery	Eleva
J. B. Iverson	Eau Claire
Clear Creek Creamery	Angusta

FOND DU LAC COUNTY.

Oak Grove Creamery	Jno. Gibson, Waupun
Creamery	L. Cebell, Waupun
Willow Creek Creamery	C. A. Atwood, Waupun
Prison City Creamery	Dodge, Waupun
Rock River Creamery	Bristol & Morgan Co., Oakfield
Rosendale Butter Factory	H. J. Grell, Johnson Creek
Atwood Butter Factory	Chas. Atwood, Ladoga
Creamery	Jenkins, Peebles
Creamery	Lewis Loehr, Johnsonburg
Creamery	Grenel Bros., Silica
Mammoth Spring Creamery	Nast Bros., Marblehead
Anton Blonien Creamery & Cheese Factory	Albert Blonien, Johnsonburg
Albert Behle Creamery & Cheese	Albert Behle, St. Cloud
Sand Rock	J. E. Amend, Ripon
Oakfield Creamery	Bristol & Morgan Co., Oakfield
Silver Spring Creamery	Bristol & Morgan Co., Waupun
North Byron Creamery	Bristol & Morgan Co., Byron
Highland Creamery	Highland Creamery Co., Kinwood
Oak Center Creamery	Cebell & Katenberg, Oak Center
Banner Creamery	Cebell & Katenberg, Waupun
Brandon Creamery	S. B. Friday, Brandon
Waupun Creamery Co.	J. C. Dodge, Waupun
Lamartine Creamery	C. L. Nash, Lamartine
Alpha Creamery	Mathias Michels (5), Garnet
Mathias Moersch Creamery	Calumet Harbor
Egidius Korb Creamery	Marytown
Fair Water Creamery	C. Glaus, Tess Corners
Hobbs Bros.' Creamery	Brandon
Rosendale Center Creamery	J. Amend, Ripon
West Rosendale Creamery	J. Amend, Ripon
Melrose Creamery	Zink & Stewart, Fond du Lac
Rosendale Creamery	G. E. Hoyt, Fond du Lac
Fountain City Creamery	Jenkins & Fisher (2), Fond du Lac
Town Line Creamery	Julius Weber, Fond du Lac
Elmwood Creamery	Rook & Joinly, Fond du Lac
Friendship Co.-op. Creamery Co.	Van Dyne
Highpoint Co.-op. Creamery Co.	Eden
Oakwood Creamery Co.	Waupun
Ennison Bros.	Eldorado
J. A. Amend Reeds Corners Creamery	Ripon
J. Amend, Carters Corners Creamery	Ripon
J. Amend, Willow Grove Creamery	Ripon

GRANT COUNTY.

Louisburg Butter & Cheese Co.	W. E. Minnick, Louisburg
Kieler Butter & Cheese Co.	Louis Brant, Kieler
Mt. Zion Creamery Co.	J. Cornelia
Georgetown Creamery Co.	J. P. Jones, Georgetown
Northwestern Creamery Co.	Krog & Co., Platteville
Cuba City Creamery	Elgin Creamery Co., Cuba

Hazel Green Creamery Co.	Geo. McBride, Mgr., Hazel Green
Mt. Hope Creamery	Hinn, Hildebrand Co., Fennimore
Livingston Creamery	Elgin Creamery Co., Livingston
North Andover Dairy Co.	North Andover
Hinn Bros.' Creamery	Fennimore
Ed. Palmer Creamery	Fennimore
Muscoda Creamery & Cheese Co.	A. W. Ellston, Sec., Muscoda
Hinn Bros.' Creamery	Andersons Mills
Bunkerhill Creamery	Fred Krugg, Platteville
Ellenboro Creamery	Ellenboro
Marion Creamery	F. E. Remington, Boscobel
Platte Ridge No. 1 Creamery	Frank Ambler, Mgr., Platteville
Farmers Co-op. Creamery	Hinn Bros., Fennimore
Elgin Creamery	Elgin Creamery Co., Fennimore
Elgin Creamery	Elgin Creamery Co., Preston
Creamery	Klindt, Gelger & Co., Cassville
Ideal Creamery Co.	Hinn Bros., Fennimore
Patch Grove Butter and Cheese Co.	A. R. Allen, Patch Grove
Burton Creamery	W. H. Hunt, Potosi
Bloomington Creamery	Hinn & Co., Bloomington
Elgin Creamery Co.	T. F. Blake, Mgr., Montfort
Marietta Creamery Co.	Boscobel
Lancaster Creamery	Baxter & Hinn, Lancaster
Hurricane Creamery	Henry Hunt, Platteville
Fennimore Creamery	Theo. Wehrle, Fennimore
Belmont Creamery	Platteville
North Andover Dairy Co.	Glen Haven
John McVeigh Creamery	Eagle
J. L. Miller	Balmoral
Gault Hollow Creamery	Basswood
Walnut Grove Creamery	Muscoda
C. Hanswell	Boaz
High Prairie Creamery	A. V. C. Eckton, Muscoda
Elgin Creamery Co.	Elk Grove
Platteville Creamery	Elmo
Fred Krog	Elmo
Whig Creamery	Platteville
Elgin Creamery Co.	Stitzer
Richwood Creamery Co.	Wesport
Tavera Creamery	J. Thorp, Westport
P. Dimmick, Mgr.	Muscoda

GREEN COUNTY.

Creamery	J. R. Ellis & Son, owner, Brooklyn
Creamery	Monticello Creamery Co., owner, Attica
Jordan Creamery	F. R. Moles, Chicago, Jordan
Albany Creamery	Ed. Randall, Albany
Cold Spring Creamery	D. E. Wood Butter Co., Evansville
Attica Creamery	Rudy Zimmerman, Attica
Browntown Creamery	D. E. Wood & Co., Browntown
Monticello Creamery Co.	Monticello
Brodhead Creamery	F. O. Uehling & Co., Brodhead
Exeter Creamery Co.	Exeter
Brodhead Dairy Co.	Brodhead

GREEN LAKE COUNTY.

Hodgson Creek Butter and Cheese Factory	C. A. Davenport, Berlin
Mackford Prairie Co-op. Creamery Co.	Geo. Boozer, Mgr., Markesan
Markesan Creamery	H. P. Friday, Markesan
Princeton Creamery Association	Julius Henning, Pres., Princeton
Green Lake Creamery (Center Fac.)	J. A. Amend, Ripon
Bluffton Creamery	C. A. Davenport, Berlin
St. Marie Creamery	Gustav Summerfeld, Princeton
Store Creamery	Manchester
D. Jenne & Co.	Berlin
J. E. Amend (Mullers Corners)	Ripon
J. E. Amend (Brooklyn)	Ripon

IOWA COUNTY.

Belmont Creamery	Thos. Davis, Mgr., Rewey
New Providence Creamery	Thos. Dolphin, Livingston
Hollandale Creamery	John B. Meyer, Mgr., Hollandale
Edmund Creamery (Co-op.)	Edmund Creamery Co., Edmund
Harkers Creamery	Geo. J. Harker, Dodgeville
Mineral Point Creamery	Spenseley & Noare, Mineral Point
Highland Co-op. Creamery Co.	P. P. Eagan, Highland
Union Mills Creamery Co.	Paul Stennerson, Highland
Jonesdale Creamery	Elgin Creamery Co., Waldwick
Otter Creek Creamery	P. H. Enger, Union Mills
Mounds Creek Creamery	Scutcliffe Bros., Arena
Arena Creamery	A. L. Parman, Mazomanie-Arena
Elgin Creamery Co.	Mitchell & Griffith, Dodgeville
Salem Creamery	Mitchell & Griffiths, Dodgeville
Union Mills Creamery	Harker & Henn, Dodgeville
Hollyhead Creamery	Jas. Timby, Dodgeville
Wilson Creamery	Dodgeville
Hillside Creamery	E. Lloyd Jones, Sec., Hillside
Knickerbocker's Factory	S. E. Knickerbocker, Wyoming
Creamery	John Spenceley, Linden
Meadow Valley Creamery and Cheese Co.	Arena
J. P. Younger	Cobb
Peck's Bad Boy Creamery	Dodgeville
Blue Grass Creamery	Ridgeway

JACKSON COUNTY.

York Creamery Co.	York
Morrow & Bush Creamery	Merrillan
North Star Creamery	Dietrich Bros., Osseo
York Creamery and Mercantile Association	Nels Heggen, York
Garden Valley Creamery	Morrow & Bush (2 Fac.), Alma Center
Melrose Creamery	W. G. Hyslop, Blair
North Bend Association	W. H. McAdam, North Bend
Bradley Creamery Co.	C. W. Bradley, Mgr., Taylor
Shamrock Creamery	Wm. Hatcher, Shamrock
W. G. Hyslop Creamery	Alma Center
Levis Creamery Association	Levis
I. R. Sechler & Son	Sechlerville
Union Creamery Co.	W. G. Hyslop, Melrose
Dieterich Bros.	Trout

Dieterich Bros.	Disco
Hatcher & Roberts	Millston
J. R. Sechler & Son	Hixton
Creamery	Northfield
Wright's Creamery	Alma Center

JEFFERSON COUNTY.

Hoard's Creamery	A. R. Hoard, Ft. Atkinson
Roberts & Reese Creamery	Owen Reese, Concord
Janke Brother	Farmington
Buskirk & Markey's Creamery	Sullivan
Rock Lake Creamery	Wm. Everson, Mgr., Lake Mills
Union Creamery	Frank Wallace, Lake Mills
Star Creamery	E. C. Dodge, Lake Mills
Bretzmann & Korth	Lake Mills
Hebron Factory and Creamery	Gustave H. Krohn, Hebron
Clark & Reynolds Creamery	John T. Marshall, Whitewater
Red Clover Creamery	Fred Kutz, Hebron
Fairview Creamery	R. E. Kaplin, Lake Mills
Faville Grove Creamery	R. E. Faville, Lake Mills
Milford Creamery Association	C. S. Greenwood, Lake Mills
Aztalan Creamery	E. C. Dodge, Lake Mills
Louis Woelfer Creamery	Lake Mills
Union Creamery	Frank Wallace, Lake Mills
Central Creamery	C. F. Greenwood, Lake Mills
Mautz Bros.' Creamery	Johnson's Creek
W. E. Bluminstein (Schlauder & Bluminstein)	Sullivan
Bluminstein & Golden	Rome
Roach Bros.	Palmyra
Oak Hill Creamery Co.	Oak Hill
Maple Grove Co-op. Creamery and Cheese Association	Rome
Riverside Co-op. Creamery	H. A. Leich, Mgr., Milford
Monarch Creamery Co-op.	Herbert Gallup, Milford
North Road Butter and Cheese Factory	Clinton Jenks, Mgr., Hubbleton
Bleeker Creamery	Hubbleton
Grell Bros.' Creamery (2)	S. C. Wollensack, Mgr., Johnson's Creek
Oakland Center Creamery	Ed. L. Arndt, Ft. Atkinson
Central Creamery	C. F. Greenwood, Lake Mills
Ward's Creamery	C. J. Ward, Ft. Atkinson
Chas. Schumacher Creamery	Jefferson
J. F. Dueberneier	Jefferson
Palmyra Creamery	Perner & Christians, Johnson's Creek
Harvey Marr Creamery	Whitewater
Creamery (8 Creameries)	H. C. Christians, Johnson's Creek
Creamery	Chas. Hein, Hellenville
Melindy Creamery	Albert Koch, Palmyra
Creamery	Helmerl Co., Hellenville
Geo. C. Mansfield Co.	Johnson's Creek
Duck Creek Creamery	A. R. Hoard, Ft. Atkinson
North Branch Creamery	A. R. Hoard, Ft. Atkinson
Chas. Schumacher Creamery	Jefferson
Fountain Creamery	Roach & Seeber, Waterloo
Maple Grove Creamery	Roach & Seeber, Waterloo
White Clover Creamery	Roach & Seeber, Waterloo
Piperville Creamery (4 Creameries)	Geo. C. Mansfield, Johnson's Creek
Roberts Creamery	H. J. Roberts, Oconomowoc
Jahnke Creamery Co.	Louis F. Jahnke, Watertown

Waterloo Butter and Cheese Co.	P. H. Fox, Waterloo
Welsh Road Creamery	C. Jones, Watertown
Heimerl Creamery Co.	Jefferson
Cold Spring Creamery Co.	Cold Spring
Ebenezer Creamery Co.	Watertown
Fall River Creamery Association	Lake Mills
Gilt Edge Creamery Association	Watertown
Maple Leaf Creamery Co.	Farmington
Mays Creamery Co.	Watertown
Sheridan Creamery Co.	Farmington
C. L. Weifer Creamery	Lake Mills
Banner Creamery	Lake Mills
Union Creamery	Lake Mills
R. E. Kepning	Lake Mills
So. Koshkonong Creamery	Ft. Atkinson
J. C. Galloway	Ft. Atkinson
H. Schempf	
Aug. Kohn	Waterloo
A. P. Falk	Koshkonong
I. K. Bingham	Koshkonong

JUNEAU COUNTY.

Finley Creamery	L. W. Querhammer, Finley
Riverside Creamery	Silas Newman, Finley
Elgin Creamery Co.	J. N. Wigginton, Hustler
Geo. N. Van Hoosen	Hustler
Targa, Lee & Co.	Sulda
Necedah Creamery	N. H. Westman, Necedah
Mauston Creamery	Chas. VanBerg, Mauston
Elgin Creamery Co.	Edward Bradlow, Union Center
Elgin Creamery Co.	New Lisbon
Elgin Creamery Co.	Elroy
Elgin Creamery Co.	Mauston
J. Steiner	Mauston
Spring Creek Creamery Co.	Necedah
Hale's Prairie	Necedah
Germantown Creamery Co.	Germantown
O. Larson	Mauston

KENOSHA COUNTY.

Bristol Farmers' Creamery	C. E. Williams, Sec., Bristol
Woodworth Co-op. Creamery	M. O. Myrick, Prest., Woodworth
Bissell Creamery	L. P. Devlin, Woodworth
Pikeville Creamery	Cornell Bros., Elgin, Illinois
Somers Creamery Association	Enoch Haigh, Prest., Somers
Farmers' Dairy Association	Henry Beathan, Mgr., Bassett
Star Creamery	F. J. Biehn, Kenosha
Farr Corners Creamery	Louis Fenskie, Farr Corners
Farmers Creamery	A. H. Kruckman, Wilmet
Farmers' Creamery	Aug. Barthke, Trevor
Farmers' Creamery	Herman Scholoski, Salem
Piper & Thomas Creamery	Kenosha
Brighton Farmers' Creamery	Theo. Fuller, Brighton
Brighton Star Creamery	Jas. Brook, Silver Lake
Clondike Creamery	F. G. Hartnell, Salem

Farmers Brighton Creamery	Brighton
Farmers' Bristol Creamery	Bristol
Fox River Creamery Co.	Wheatland
Creamery	W. J. Rhodes, Sec'y, Somers
Worth Bros. Fox River Creamery	Silver Lake

LANGLADE COUNTY.

Spring Brook Creamery	J. C. Lewis, Anitgo
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LA CROSSE COUNTY.

Bangor Co-op. Creamery Association	Wm. Smith, Mgr., Bangor
Mindoro Co-op. Creamery	H. D. Fuller, Mindoro
Holmen Creamery	V. S. Kepple, Holmen
Rockland Creamery	Rockland
West Salem Co-op. Creamery Association	West Salem
La Crosse Creamery & Butter Co.	La Crosse

LA FAYETTE COUNTY.

Newman Creamery	John Newman, Wiota
Wiota Creamery	D. E. Wood Butter Co. (Elgin), Wiota
Bethel Grove Creamery	Platteville
Leslie Cheese & Butter Co.	Belmont
Wardsville Creamery	Robt. Driver, Darlington
Pleasant View Creamery	T. J. Vickers, Darlington
Dunbarton Creamery	D. E. Wood & Co., Dunbarton
Town Line Creamery	D. E. Wood & Co., Gratiot
Dodge Grove Creamery	Sam Benson, Leadmine
New Diggings Creamery	John Turpin, New Diggings
White Oak Co-op. Dairy	Edw. Hancock, Prest., White Oak
Belmont Creamery	Fred Krog, Platteville
Columbia Creamery	Elgin Creamery Co., Benton
Fayette Creamery Co.	L. B. Homery, Secy., Fayette
Yellowstone Creamery	Fayette
South Wayne Creamery	D. E. Wood & Co., South Wayne
State Line Creamery	John Newman Co., Elgin, Wayne
Lamont Creamery Co.	John Newman, Elgin, Lamont
Newman Creamery	John Newman, Elgin, Argyle
Cottage Inn Butter Co.	F. Krog, Platteville
Collins Cheese & Butter Co.	Gratiot
Blanchardville Dairy Ass'n	Blanchardville
Free Silver Butter & Cheese Factory	Darlington
Sunnyside Butter & Cheese Factory	Shullsburg

MANITOWOC COUNTY.

Anton Kolbeck Creamery	Whitelaw
Schultz & Sabel Creamery	Cato
Gibson Creamery	P. H. Peacock, Sheboygan
Joe Mallman Creamery	St. Nazianz
Rusch & Geise Creamery	Reedsville
Manitowoc Creamery	Hy. Ackerman, Manitowoc
Newton Creamery	Herman Strudthoff, Newtonburg

Weyer Creamery	Albert Weyer, Clover
Appenheim Creamery	The Bruchen Creamery Co., Timothy
Schultz Creamery Co.	Manitowoc
Bergenbruch Creamery	Henry Bergenbruch, Rube
R. C. Behnke	Wells
Jonh Bachhaus Creamery	Mishicott
Fred Bramer Creamery	Manitowoc

MARATHON COUNTY.

Edgar Creamery Co-op.	Gust Herrman, Mgr., Edgar
Stettin Co-op. Creamery Assn.	H. A. Wendorff, Mgr., Stettin
Eureka Creamery	W. A. Voigt, Naugart
John Schiepke Creamery	Halder
Texas Creamery Co.	J. B. Kemf, Sec., Wausau
Hamburg Co-op. Creamery	Zeigler
Schhofield Co-op. Creamery	Otto Miller, Schofield
Central Creamery Co. (Co-op.)	Jac. Horning, Sr., Sec., Marathon

MARINETTE COUNTY.

Peshtigo Creamery Co.	Peshtigo
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MARQUETTE COUNTY.

Geske Bros. Creamery	Oxford
Shields Creamery & Cheese Assn.	Germania
Montello Creamery	Apel Kehlet, Westfield
Westfield Creamery Co.	Jones & Kleman, Westfield
Montello, Buffalo & Packwaukee Creamery	Packwaukee
Packwaukee Creamery	A. Kehlet, Westfield
Wm. Heitke Creamery	Endeavor
Axel Kehlet Creamery	Montello
Axel Kehlet Creamery	Oxford
Montello Creamery	Montello

MILWAUKEE COUNTY.

Franklin Dairymen's Assn.	Champenny & Co., Milwaukee
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MONROE COUNTY.

Sparta Co-op. Creamery	J. P. Beckler, Prest., Sparta
Elgin Creamery	W. Titus, Mgr., Kendall
Buswell Creamery	Luther Buswell, Mgr., Kendall
Elgin Creamery Co.	Tim Harland, Mgr., Wilton
Farmers' Creamery	Portland
Elgin Creamery Co.	Herman Vieth, Norwalk
Elg'n Creamery Co.	Norwalk
Elgin Creamery Co.	Tomah
Ridgeville Creamery	Elgin Creamery Co., Norwalk
Summit Creamery	Elgin Creamery Co., Norwalk
Elgin Creamery Co.	Enterprise
A. F. Huber Creamery	Norwalk

Portland Creamery Co.	N. M. Nelson, Portland
Tunnel City Creamery	Elgin Creamery Co., Tunnel City
Union Co-op. Creamery Association	Elgin Creamery Co., Lessee, Wilton
Warrens Creamery Co.	Warrens
Lorence Shubert Creamery	Elgin Creamery Co., Clifton
Henry Senz Creamery	Elgin Creamery Co., Clifton
Brush Creek Creamery	Elgin Creamery Co., Ontario
Moon Creek Creamery	Elgin Creamery Co., Norwalk
Leon Co-op. Creamery Assn	J. S. Jones, Leon
Elgin Creamery C.	Jos. Hauser, Cashton
Elgin Creamery Co.	Melvina
Elgin Creamery Co.	W. Wiggington, Cashton
Livingston Creamery Co.	Clifton
Wilton Creamery Co.	Wilton

OCONTO COUNTY.

The Anson Eldred Co.	Stiles
Maple Leaf Creamery	John Thiede, Abrams
Brookside Creamery	Walter J. Davis, Brookside
John Thiede Creamery	Grosse
Little River Creamery	Arthur Young, Oconto
Gillett Creamery Assn	Gillett
Maple Valley Creamery Co.	Maple Valley
Lena Creamery Co.	Lena
Hayes Creamery Co.	Hayes
Spruce Creamery Co.	Hayes

ONEIDA COUNTY.

Oneida Creamery	Rhineland
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OUTAGAMIE COUNTY.

Black Creek Creamery	Elmer Hogoboom, Black Creek
Missling Bros. Creamery	Black Creek
Apple Creek Creamery	Appleton
J. E. Laureckson Creamery	Bungert
Welcome Creamery Co.	Welcome
Julius Siefert Creamery	Appleton
S. L. Reed Creamery	Hortonville
M. W. Pearce Creamery	Hortonville
Shiocton Creamery	E. A. Huebner, Shiocton
Mackville Creamery	R. C. Jeske, Mackville
Potts, Wood & Co. Creamery	Appleton
Bungert Creamery Co.	Bungert
Wisconsin Butter & Cheese Co.	S. L. Reed, Medina
Johnson's Creamery	Appleton
Dengle & Bauer	Welcome

OZAUKEE COUNTY.

Jacob Jacobson Creamery	Port Washington
Emil Schlewvot Creamery	Port Washington
Sam Jacobson Creamery	Port Washington

Nic Shenker	Port Washington
J. Y. Machtke	Port Washington
Five Corner Creamery	Thos. Hoppin, Cedarburg
Frank L. Groth Creamery	Cedarburg
Riverside Creamery	Boerner Co., Saukville
Cold Spring Creamery	Boerner Co., Saukville
Darboy Butter & Cheese Co.	Jos. Spranger, Darboy

PEPIN COUNTY.

Farmers' Co-op Creamery	B. H. Ridgway, Porcupine
Bear Creek Co-op. Creamery	C. K. Averill, Durand
Bear Creek Creamery (Co-op.)	Geo. Tarrant & Sons, Durand
Creamery	Plummer Merc. Co., Arkansasaw
Brunside Co-op. Creamery Co.	C. A. Van Brundt, Misha Mokwa
Dunnville Co-op. Creamery Co. (Dunn Co.)	F. A. Vasey, Dunnville
Frankfort Co-op. Creamery Co.	Bryant Ridgway, Mgr., Porcupine
Tarrant Creamery	Geo. Tarrant & Sons, Tarrant
Tarrant Creamery	Geo. Tarrant & Sons, Eau Galle
Waterville Co-op. Creamery	Arkansasaw

PIERCE COUNTY.

Plum Creek Creamery	Plum City
Farmhill Creamery	Tanberg Bros., Spring Valley
Rock Elm Creamery	Aug. Falk, Rock Elm
Spring Valley Creamery Co.	J. C. Berg & P. Lorne, Spring Valley
Trim Belle Butter & Cheese Co.	John T. Beddall, Trim Belle
Kopp & Co.	Ono
A. O. Moe Creamery	Ellsworth

POLK COUNTY.

Wm. F. Koch Creamery	East Farmington
Milltown Creamery	J. P. Sorenson, Milltown
St. Croix Creamery Co.	John Holmberg, Lamar
Farmers' Creamery Assn.	West Sweden
Dueholm Creamery	Thos. L. Hjort, Dueholm
Atlas Co-op Creamery Co.	J. B. Peterson, Mgr., Atlas
Cushing Creamery Co.	Simon Twetten, Clerk, Cushing
Apple River & Beaver Co-op. Creamery Assn.	A. J. Anderson Pres., Range
Horseshoe Lake Co-op. Creamery Co.	L. W. Kingsbury, Turtle Lake
Clayton Co-op. Creamery Co.	C. Cundstrom, Clayton
The Clam Falls Creamery Assn.	H. C. Fischer, Prest., Clam Falls
The Balsam Lake Co-op Creamery Co.	E. W. Overman, Lykens
The Volga Co-op Creamery Assn.	O. H. Olson, Secy., Volga
North Valley Creamery	Anton T. Johnson, North Valley
Wolf Creek Creamery Assn.	E. H. Florschutz, Wolf Creek
Mattson Creamery	Mattson & Jensen, Jensen
Osceola Creamery	E. B. Von Heyne, Osceola
Dresser Junction Creamery	John Mattson, Osceola
Ubet Creamery	Mattson & Sons, Ubet
Amery Creamery Co.	Balsam Lake

PORTAGE COUNTY.

Amherst Jersey Creamery Co.	G. E. Jordan, Amherst
Nelsonville Creamery	P. D. Nelson, Nelsonville
Jersey Valley Creamery.....	Aug. Millins & Sons, Almond
Hetzel Co-op Creamery Co.	F. E. McCormick, Hetzel
Buena Vista Co-op Creamery Co.	H. H. Pood, Buena Vista
Farmers' Butter & Cheese Assn.	Nels P. Peterson, New Hope
New Hope Butter & Cheese Assn.	Knudt Hanson, Peru
Lime Lake Creamery	Peter Peterson, Amherst
Creamery	Frank Bemanskil, Stevens Point
Plover Creamery Co.	M. F. Pierce, Plover
Henn Bros. & Co.	Junction
Alban Butter & Cheese Assn.	Andrew A. Brekke, Alban
Custer Creamery Co.	John O'Keefe, Custer
Arnott Creamery Co.	M. O'Keefe, Arnott
Blaine Creamery Co.	Blaine
Gilt Edge Creamery Co.	Stevens Point
North Hope Butter & Cheese Co.	Peru
Farmers' Butter & Cheese Assn.	New Hope
Garfield Cheese & Butter Assn.	Garfield

RACINE COUNTY.

Norway Butter & Cheese Co.	McCanna & Fraser Co., Waterford
North Cape Creamery	John Thompson, North Cape
Husher Creamery Co.	Paul Feidler, Tabor
Husher Creamery Co.	Ernest Feidler, Tabor
Thompsonville Creamery	Thompsonville
Mt. Pleasant Creamery	W. E. Tucker, Sylvania
Kneeland Creamery	J. J. Jackson, Mgr., Kneeland
Union Church Creamery	Ferdinand Meyer, Union Church
High Street Creamery Co.	C. J. Dyson, Burlington
Waterford Creamery	McCanna & Fraser Co., Burlington
Caldwell Creamery	McCanna & Fraser Co., Burlington
Ives Groves Creamery	W. E. Tucker, Sylvania
Yorkville Creamery	Kearney & Roessler, Jefferson
Yorkville Creamery	W. Shephard, Mgr., Yorkville
Creamery	McCanna & Fraser, Beaumont
Creamery	McCanna & Fraser, Kansasville
Creamery	McCanna & Fraser, Dower
Union Grove Creamery	W. E. Tucker, Union Grove
Burlington Farmers' Creamery Co.	Burlington

RICHLAND COUNTY.

Creamery	A. Harter, Richland City
Ashridge Creamery	J. L. Driscoll, Ashridge
Viola Creamery & Cheese Factory	Kinder & Warner, Viola
Maple Grove Creamery & Cheese Factory	D. S. Simmons, Viola
Knapp Creek Creamery	Bert Reuttenm, Mgr., West Port
Sylvan Creamery Co.	Sylvan
Creamery	Frank Walker, Sabin
Richwood Creamery Co.	J. I. Chitwood, Secy., West Port
Germantown Creamery	Henry Kellner, Cazenovia
Sylvan Creamery	P. Crauston, Sylvan

Hoffmann Creamery	Lloyd
Ithaca Creamery	Bear Valley
Richwood	Tavera
Creamery	Westport
Cassell Bros.	Town of Buena Vista
D. S. Simmons Creamery	Viola
F. Walker Creamery	Sabin
Logansville Creamery	Logansville
H. Harter Creamery	Richland City
Bloom Valley Creamery Co.	Bloom City
Bear Valley Creamery Assn.	Ithaca

ROCK COUNTY.

Cookville Creamery	D. E. Wood Butter Co., Evansville
Eagle Cry	Geo. Mansfield Creamery Co., Johnsons Creek
White Star Creamery	Carlson Creamery Co., Footville
Lima Center Creamery	Godfrey & Macomb, Lima Center
Burr Oak Creamery	A. D. Conkey, Milton Junction
Spring Brook Creamery	H. Wardwell, Whitewater
Frank Lee Creamery	Frank Lee, Evansville
Orfordville Creamery	F. O. Uehling & Co., Hanover
West Newark Creamery	C. H. Oleson, Newark
Newark Creamery	Ben Johnson, Beloit
Clinton Creamery	Chas. Salisbury, Clinton
Bower City Creamery	E. E. Bullock, Janesville
F. O. Uhling & Co.	Hanover
Beloit Creamery	D. O. Kline, Beloit
La Prairie Creamery Co.	J. E. Gleason, Mgr., Janesville
Harmony Creamery Co.	Harvey Godfrey, Whitewater
Columbia Creamery Co.	John Beseker, Allen's Grove
Banner Creamery	Geo. C. Mansfield & Co., Milton Junction
Emerald Grove Creamery Assn.	C. D. Fitch, Emerald Grove
Rock River Creamery	Ernest Bulock, Janesville
Riverside Creamery	Jenning Bros., Milton Junction
Beloit Creamery	Thompson & Rasey, Beloit
Wm. Brinkman Creamery	Afton
Ehler Brinkman	Willow Dale
Godfried Seller	Willow Dale
Clinton Co-op. Creamery Co.	Clinton
Rock River Creamery Co.	Fulton
So. Koshkonong Creamery Co.	Koshkonong
Roach & Sieber	Footville
Roach & Sieber	Center
Porter Factory	Roach & Sieber, Center
F. B. Steadman	Koshkonong
Ellwood Butter Co.	Evansville
Magnolia Creamery	Magonia
W. Bottcher	Janesville
Nora Creamery Co.	J. T. Nelson, Clinton
W. C. Uehling	Shopiere
D. M. Spicer	Tiffany
G. C. Mansfield Co.	Edgerton
E. E. Bullock	Edgerton
S. S. Joiner	Willowdale
F. O. Uehling	Orfordville
L. H. Skinner	Orfordville
J. Hobbs	Whitewater
Newark Creamery	Newark

ST. CROIX COUNTY.

Rush River Creamery Co.	Ned Nelson, New Centerville
Lorentson's Creamery	Nils C. Lorentson, Baldwin
Brookville Creamery	Brookville
St. Croix Co-op. Creamery Co.	E. B. Rehder, Houlton
Graslie Creamery Co.	Jas. B. Graslie, Baldwin
Woodville Creamery Co.	Chas. Rhode, Woodville
Roberts Creamery Co.	Wm. Hawkins, Roberts
Graslie Creamery Co.	Graslie, Hammond
Superior Creamery Co.	John Finsted, Star Prairie
Forest Creamery	Hedemark & Christopher, Hempel
Pleasant Valley Creamery Co.	Haugan & Graslie, Pleasant Valley
Jewitts Mills	Wm. Hennessey, Jewetts Mills
Baldwin Creamery Co.	Baldwin
Cylon Creamery Co.	Cylon
Farmers' Co-op. Creamery	Palmer
Hybernia Butter & Cheese Assn.	Erin
St. Croix Falls Creamery Co.	St. Croix Falls
Greenwood Dairy Assn.	Glenwood

SAUK COUNTY.

Wisconsin Creamery Co.	H. S. Bowman, Mgr, Sauk City
Clover Creamery	J. L. Connor, Woodlawn
Elgin Creamery Co.	N. Stein, Kilbourn
Farmers' Creamery Assn.	Henry Sorge, Reedsburg
Valton Creamery Co.	W. E. Lavalle, Valton
Oaks Creamery Co.	E. G. Wallace, Oaks
Ableman Co-op. Creamery Co.	D. B. Smythe, Ableman
Baraboo Creamery Co.	Elgin Creamery Co., Baraboo
Winfield Creamery	Henry Sorge, Reedsburg
La Valle Creamery	Ed. Winters, La Valle
Loganville Butter & Cheese Mfg. Assn.	Nic. Hasz, Sec., Loganville
Black Hawk Creamery	Sprecker & Co., Black Hawk
Troy & Honey Creek Creamery	H. J. Steuber, Witwen
Cassel Creamery	Mr. Burchell, Cassel
North Freedom Creamery Co.	Elgin Creamery Co., North Freedom
Heimerl Creamery Co.	Merrimac
Creamery	Prairie du Sac
Woodlawn Creamery	Town of Washington
Lime Ridge Creamery	Lime Ridge
Winfield Creamery (Sec. 24).....	(1 mile east) La Valle
Creamery	Leland
Leland Creamery	North Freedom
Freedom Creamery	Prairie du Sac
Honey Creek Creamery	Plain
Sumter Creamery	Plain
Plain Creamery	Reedsburg
Delona Creamery	Merrimac
Greenfield Creamery	R. C. Hubbard, Reedsburg
Elgin Creamery Co.	Spring Green
Spring Green Creamery Co.	Spring Green

REPORT OF THE WISCONSIN

SHAWANO COUNTY.

Wittenberg Creamery Co.	E. C. Peterson, Wittenberg
Tigerton Creamery Co.	E. Hoeft, Secy., Tigerton
W. J. Werner Creamery	Galesburgh
A. V. Helmburg Creamery	Cecil
H. W. Main Creamery	Marion
H. W. Main Creamery	Caroline

SHEBOYGAN COUNTY.

B. Schreiber & Co.	Bernhard Schreiber, Sheboygan
Cleveland Creamery	Ed. Wunsch, Sheboygan
A. E. Henry Creamery	Sheboygan Falls
Köck & Janssen	Beechwood
Habighorst Cheese & Butter Factory	Wm. Habighorst, Sheboygan Falls
Creamery & Factory	John F. Moehrl, Silver Creek
Creamery & Factory	Buchen Bros., Adell
Glenbeulah Creamery	Albert & Garling, Glenbeulah
Edgewood Creamery	J. H. Thockray, Glenbeulah
Frank Gowin	Plymouth
W. A. Zehn	Plymouth
C. H. Luecke	Plymouth
Wm. Paasch	Plymouth
Ferd. Siemers	Plymouth
Louis Helmer	Plymouth
Champeny Creamery Co.	B. Snell, Plymouth
Jos. Rohda	Plymouth
F. J. Isserstedt	Champeny Creamery Co., Plymouth
Jac. Wolf	Champeny Creamery Co., Plymouth

TAYLOR COUNTY.

Little Black Creamery Co.	J. M. Follensby, Medford
Wm. DeLap Creamery Co.	Medford
Medford Creamery Co.	Medford

TREMPEALEAU COUNTY.

Creamery	J. J. Schaffner, Independence
Unity Co-op. Creamery	Anton M. Rognlieu, Strum
Osseo Creamery Co.	E. Hagen, Osseo
Elk Creek Creamery	McClure & McLain, Elk Creek
Arctic Spring Creamery	E. F. Clark, Prest., Galesville
Whitehall Creamery Assn.	L. D. Parsons, Secy., Whitehall
Pigeon Falls Creamery	P. Ekern, Pigeon Falls
Eleva Creamery	O. A. Breakev, Eleva
Dodge Creamery Co.	Jos. Brejinski, Dodge
Arcadia Creamery Co.	John Maurer, Arcadia

None Such Creamery	Fugina Bros. Fertig Co., Arcadia
Ettrick Creamery Co.	K. K. Hagestad, Mgr., Ettrick
Hegg Creamery	Mc. Manner & McLain, Hegg
Fertig Bros.	Arcadia
Centerville Creamery Co.	N. H. Cashart, Prest., Centerville
Newton Butter & Cheese Assn.	Spangler & Becker, Newton
Elgin Creamery Co.	Westby
Hillsboro Creamery	H Besta, Mgr., Elroy
Chaseburg Creamery	Andrew Gilbertson, Chaseburg
Coon Valley Creamery Assn.	Elgin Creamery Co., Coon Valley
Elgin Creamery Co.	Ontario
Preston Creamery	W. G. Hyslop, Blair
Russell Creamery Co.	Russell
North Star Creamery	Dietrich Bros., Osseo

VERNON COUNTY.

Chaseburg Creamery	A. Gilbertson, Chaseburg
Mt. Tabor	Elgin Creamery Co., Mt. Tabor
The Rocky Run Dairy Co.	Wood
Ontario Creamery Assn.	Ontario
E. V. Warnsick Creamery	Hillsboro
Newry Co. Creamery	Newry
Davis & Rankin Creamery	Newton
Spangler & Co. Creamery	Bristow
Dilley & Co. Creamery	Valley
A. F. Nevy Creamery	Debello

WALWORTH COUNTY.

Walworth Creamery Co.	H. S. Bell, Walworth
N. Bloomfield Creamery	And. Kull, Lake Geneva
Geneva Center Butter Factory (Co-op.)	E. Davidson, Lake Geneva
Kayes Park Creamery Assn.	Lake Geneva
Maple Ridge Creamery	Lake Geneva
Lake View Creamery	Lake Geneva
Farmers' Creamery	Lake Geneva
Center Bloomfield Creamery	E. T. Hibbard, Lake Geneva
Richmond Creamery	J. L. Kilkenney, Richmond
Whitewater & Richmond Creamery	D. F. Zuill, Whitewater
East Richmond Cry	Kachell & Marlette, Whitewater
Prairie Creamery	Beach & McCutchan, Whitewater
Nonpareil Creamery	Beach & McCutchan, Whitewater
Reliance Creamery	Farmers' Stock Co., Whitewater
Clover Valley Creamery	Wright & McIntyre, Whitewater
W. Marshall	Whitewater
Jas. Dyer	Whitewater
Clover Hill Creamery	John Cox, Whitewater
Harry Godfred	Whitewater
Spring Prairie Creamery	J. C. Kochert, Whitewater
La Fayette Creamery	E. A. West, Elkhorn
Fayetteville Creamery	Walter West, Elkhorn
N. Geneva Butter & Cheese Factory	Harris & West, Elkhorn
Elkhorn Creamery Co.	Elkhorn
South Sugar Creek Creamery	Cornell Bros., Elkhorn
Bowers Creamery	M. B. Ranney, Bowers
Silver Lake Creamery	W. Ellis, Tibbets

South Sugar Creek Creamery Co.	F. A. Sage, Mgr., Jacobsville
Sharon Dairy Co.	C. A. Sikes, Secy., Sharon
North Sharon Creamery Co.	Sharon
State Line Creamery	B. Chilson, Sharon
Elgin Creamery Co.	Sharon
Troy Butter & Cheese Co-op. Factory	W. J. Webster, Troy
W. Randolph	E. Troy
Little Prairie Butter & Cheese Factory.....	I. McAdams, Little Prairie
Adams Co-op. Butter & Cheese Factory.....	Adams
Wisconsin Butter & Cheese Co.	Adams
Darien Creamery Co.	Farmers' Co-op. Co., Darien
Darien Creamery Co.	M. E. Cusack, Darien
Mrs. D. H. Hopper	Adams
Fairfield Creamery Co.	Palmer & Rice, Fairfield
Lyons Creamery	C. H. Stubbs, Lyons
Springfield Creamery Co.	J. E. Brett, Springfield
W. Rouse	Springfield
Lake Lawn Creamery	B. C. Martin, Delavan
E. Delavan Creamery	W. C. Winkleman, E. Delavan
Island Creamery	Delavan
Delavan Creamery Co.	Delavan
J. Quigley	Delavan
Chas. Bessecker (Union Creamery)	Delavan
C. Q. Fish	Delavan
Fairfield Creamery	Darien
Genoa Junction Creamery Co.	Genoa Junction
W. J. Hall & Co.	Johnstown
Dan. Zuil	Johnstown
Heart Prairie Creamery	H. Mann, Johnstown
Newell Creamery	W. Borst, Johnstown
Honey Creek Co-op. Creamery	W. E. Babcock, Honey Creek
Delavan Creamery	Williams Bay
J. B. Wells (Columbia Creamery).....	Allen Grove

WASHBURN COUNTY.

Farmers' Co-op. Creamery	Andrew Lyon, Mgr., Shell Lake
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WASHINGTON COUNTY.

Gilt Edge Creamery	Blinniwell & Turck, Hartford
Creamery	Dow Maxon, Cedar Creek
Kewaskum Creamery	M. & A. Rosenhelmer, Kewaskum
J. Gehl Creamery	So. Germantown
Wm. Schessow Creamery	So. Germantown
Erin Butter & Cheese Factory	Aug. Meier, Thompson
West Bend Co-op. Creamery Co.	Geo. W. Jones, Mgr., West Bend
Wayne & Addison Cheese & Dairy Co.	Martin Huron, Kohlsville
E. W. Wittig	Fillmore
J. H. Klessig	Fredonia
Peter Woog	Boltonville
W. H. Graskamp & Co.....	Fillmore
Wm. Donath	Boltonville
Anson Weinreich	Fillmore
Kirchhayne Butter Co.	Kirchhayne P. O.
Maple Hill Creamery Co.....	Hartford

WAUKESHA COUNTY.

Helmers Creamery Co.	Otto Helmerl, Wales
North Prairie Creamery Co.	Chas. Mitchell, North Prairie
Genessee Creamery	E. G. Thomas, Genessee
Saylesville Butter & Cheese Co.	Harris Bros., Genessee
Delafield Creamery	Chas. Bente, Delafield
Creameries (2)	Winkler & Becker, North Lake
Creameries (3)	T. M. Champeny Co., Sussex
Farmers' Creamery	Joe Rambough, Pewaukee
Pewaukee Stock Creamery	Miss Kate Pepper, Pewaukee
Vernon Creamery Co.	Guthrie
Butter Factory	Harris Bros., Waukesha
C. B. McCanna & Co.	Burlington
Jericho Creamery Co.	A. T. Stebbins, Eagle
Wis. Butter & Cheese Co.	Walter A. West, Elkhorn
Creamery	T. M. Champeny Co., Brookfield
Roach Bros. Co.	Palmyra
Hartland Creamery	Hartland
Brown St. Creamery	Becker & Winkler, Oconomowoc
Monterey Creamery	Roach & Seeber, Monterey
North Lisbon Creamery	T. M. Champeny, Sussex
Prospect Creamery	Chas. Champeny, Prospect
Calhoun Creamery	Wis. Butter & Cheese Co., Waukesha
Champeny Creamery Co.	Monches
Stone Bank Creamery Co.	Stone Bank
Mapleton Dairy Co.	Oconomowoc
Waukesha Butter Co.	Waukesha
Big Bend Dairymen's Assn.	Big Bend
Borth Creamery & Butter Mfg. Co.	Poysippi
J. J. Billings	Pewaukee
Chas. Clasen	Marcy
Chris. Clasen	Duplainville
Cold Spring Dairy	Menomonee Falls
Wm. Dawe	Ottawa
Elgin Creamery Co.	Marcy
McKenna & Fraser Co.	Prospect
Muskego Creamery Co.	Muskego
H. Patrick	Oconomowoc
Prince of Wales Creamery	Wales
Andrew Russell	Summit Center
Saylesville Butter & Cheese Co.	Genesee
Silver Spring Creamery	Tess Corners
Vernon Co. Operative Creamery Co.	Guthrie
Winkler & Becker	North Lake
Wisconsin Butter & Cheese Co.	Waukesha
Chas. Bente	Summit

WAUPACA COUNTY.

Waupaca Creamery	Frank Kizer, Waupaca
Royalton Creamery Assn.	Chris. Jensen, Royalton
Baldwin Creamery Co.	C. P. Baldwin, Baldwin's Mills
Unland Creamery	Edmund Treager & Co., Welcome
Gilt Edge Creamery	Folkman Bros., Clintonville
Creamery of Lebanon	W. E. Carter, New London
St. Lawrence Co-op. Creamery Co.	W. Pray, Prest., Scandinavia

Silver Lake Co-op. Creamery Co.	H. Hartvig, Prest., Scandinavia Creamery
B. C. Carter Creamery	C. P. Baldwin, Weyauwega
W. J. Tilkey	New London
Symco Creamery Co.	Symco
Iola Creamery Ass'n.	C. L. Passmen, Iola
Marion Creamery Co.	Marion
Pigeon River Cheese & Butter Co.	Waupaca
Walla Walla Brook Creamery Co.	Lind
Fountain Valley Co-op. Co.	Clintonville
L. D. Churchill	Fremont
R. O. Sells	Royalton
Creamery	Lind

WAUSHARA COUNTY.

Poysippi Creamery	E. M. Mathews, Poysippi
Spring Lake Butter & Cheese Co.	J. Hefferren, Spring Lake
Marion Cheese & Butter Co.	T. H. Johnson, Spring Lake
Waushara Creamery	A. High, Berlin
Auroraville Creamery	A. High, Berlin
Coloma Creamery	A. Kehlet, Westfield
Plainfield Creamery Co.	John Benson, Plainfield
Mt. Morris Butter & Cheese Co.	Fred Mitchell, Mt. Morris
Creamery (Marquette Co.)	Mr. Dure, Westfield
Terrill Creamery	D. J. Jennle & Co., Berlin
Pine River Creamery	E. Mathews, Saxeville
Creamery	C. J. Walter, Brushville
Tustin Star Creamery Co.	Stock Co., Tustin
Wautoma Creamery	W. Tyler, Wautoma
West Bloomfield Creamery.....	Louis Frederic, W. Bloomfield
Saxeville Co.	E. Mathews, Saxeville
C. A. Davenport, Creamery	Berlin
Fountain Valley Creamery	Poysippi
Duncan Dewar (Dakota Creek), Creamery.....	Coloma
Aug. Miller (Almond Creamery)	Plainfield

WINNEBAGO COUNTY.

Oak Hill Creamery	H. J. Frank, Neenah
Rush Lake Creamery Co.	Albert Wilson, Sec., Rush Lake
Noltling Creamery Co.	A. Webster, Mgr., Omro
L. E. Scott Creamery	L. E. Scott, Neenah
Creamery	A. E. Zillmer, Oshkosh
Allenville Spring Creamery	Y. B. Calkins, Pres., Winneconne
Reliance Creamery	S. E. Amend, Rush Lake
Eureka Creamery	Nottleman Bros., Oshkosh
Ring Co-op Creamery	John Owens, Mgr., Ring
Nekimi Corners Dairy Assn.	Ennisson Bros., Eldorado
Omro Junction Creamery	A. Speich, Oshkosh
Omro Creamery	B. F. Webster, Mgr., Omro
Cold Spring Butter & Cheese Co.	Jac. Wohld, Neenah
Rush Lake Creamery Co.	Rush Lake
Mt. Sterling Creamery Co.	Neenah
Clover Leaf Creamery	Aug. Werth, Neenah

Alder Creek Creamery	J. Vogt, Neenah
Twin City Creamery	C. Reed, Neenah
E. Trelevan Co-op. Co. Creamery	Omro
J. H. Foster, Mgr.	Koro
D. Jeffries	Allensville
J. E. Amend	Zion
J. E. Amend	Pickett
J. E. Amend	Fisk

WOOD COUNTY.

Richfield Creamery	Holcomb, Dobratz & Lundt Creamery Co., Marshfield
Seneca Creamery	C. Otto, Vesper
Rocky Run Dairy Co.	Pittsville
Pittsville Creamery	L. W. Querhammer, Findley
Rudolph Creamery	A. J. Chambers, Rudolph
Marshfield Creamery	Fuller & Hathway, Marshfield
Klondike No. 1 Creamery	Holcomb, Dobratz & Lundt, Marshfield
Hansen Creamery	Holcomb, Dobratz & Lundt, Marshfield
Mitchell & Griffiths Creamery	F. Parks, Blenker
Grand Rapids Creamery Co.	Grand Rapids

PRESERVATIVES IN MILK.

IOWA SUPREME COURT DECISION.

In the Supreme Court of Iowa. October term, 1900.
The State of Iowa, Appellant, vs. B. F. Schlenker, Appellee.
Appeal from Polk County District Court.
Hon. C. A. Bishop, Judge.

Defendant was convicted of the crime of selling adulterated milk. His motion in arrest of judgment based on the proposition that the statute was and is unconstitutional, was sustained, and he was released and his bond exonerated. From this order the state appeals.

Milton Remley, Attorney General, and Charles A. Van Vlack, Assistant Attorney General, for the State. W. N. Jordan and James C. Hume, for Appellee.

DEEMER, J.—The statute under which the information was filed reads as follows: "If any person shall sell * * * any adulterated * * * milk * * * he shall be fined," etc. Section 4989. Section 4990 reads: "For the purpose of this chapter the addition of water or any other substance or thing to whole milk or skimmed milk or partly skimmed milk is hereby declared an adulteration," etc.

There is no question that defendant sold milk to various persons into which he had put and mixed boracic acid. Some of them were notified of the adulteration, but others were not. He testifies that he dissolved five pounds of the acid in twenty gallons of water, and added one pint of the solution to ten gallons of milk; that he used it as a preservative and told quite a number of his customers that he was using the solution for the purpose indicated; that he never attempted to deceive any of his customers regarding the use of the solution, and that its use was necessary "to keep the milk from souring." He also introduced experts to show that the quantity of boracic acid used tended to prevent decomposition and would have no deleterious effect upon the consumers.

For the purposes of this case we must assume that the quantity of acid used by the defendant in the milk sold by him had no deleterious effect, but tended to prevent decomposition and the development of germs.

The experts also testified, however, that the addition of an excessive amount of boracic acid would have a deleterious effect in that it would retard the development of the gastric juice in the stomach. The learned district judge filed an opinion, in which he held in effect that the statute construed literally was unconstitutional, and that the evident intention of the legislature was to prohibit the sale of anything that would operate as a fraud upon the buyer or prove deleterious to his health, and that as defendant was guilty of no fraud and the adulteration was harmless, he had violated no law.

These propositions are insisted upon by the appellee and further contention is made that if the statute is not so construed it is unconstitutional, for various reasons that will be referred to during the course of this opinion.

It seems to us that the construction placed upon the statute by the trial court is a strained and unnatural one. The language of the enactment is plain and in view of the previous legislation there is no doubt that the act should have a literal interpretation. That the legislature so intended is not open to serious debate. So construed are the acts constitutional? Section 4990 is said to be void because it invades the judicial province in that it is not permissible for the legislature to make certain evidence conclusive of a question that may be submitted to judicial determination. No doubt the legislature cannot indirectly dispose of a cause by prescribing conclusive rules of evidence; and it has no power to direct the judiciary in the interpretation of existing statutes.

Groesbeck vs. Secley, 13 Mich., 329.

Johns vs. State, 55 Md., 362.

Reiser vs. Asser, 36 Pa. St., 137.

Salters vs. Tobias, 3 Paige, 338.

But it does have power to prescribe legal definitions of its own language and when an act passed by it embodies a definition it is binding on the courts.

Smith vs. State, 28 Ind., 321.

Bird vs. State, 57 Miss., 243.

Herold vs. State, 21 Neb., 50.

People vs. New York, 16 N. Y., 424.

Iowa vs. Surprise, 64 N. H., 243.

S. C., 34 Am. Rep., 440.

Clay vs. Cent. R. R., 84 Ga., 345.

Even declaratory statutes are entitled to respectful consideration by the courts though not always binding.

Cooley's Statute Crimes, 2d Edition, section 91.

People vs. New York, *supra*.

Lambertson vs. Hogan, 2 Pa. St., 25.

The definition given by the legislature in section 4990 of the Code as to the term adulteration is valid and binding. Such legislation does not trench on the powers of the judiciary and is not invalid for the reason suggested.

But it is said that the legislature had no power to forbid the sale without deceit or fraud of a harmless or wholesome article of food. This may be true as a general proposition, but it is also true that in virtue of the police power it may pass such laws as are or may reasonably appear to be necessary for the health, comfort, or safety of the people. No clear or comprehensive definition of the police power has ever been given, and it is doubtful if one can be framed that will be accurate and cover every conceivable case that may arise. It is much easier to determine whether the particular case comes within the scope of the power, than to give a definition that will be applicable to all cases.

In *Hannibal R. R. Co. vs. Husen*, 95 U. S., 465, it is said: "The police power of a state extends to the protection of the lives, limbs, health, comfort and quiet of all persons, and to the protection of all property within the state, and hence to the making of all regulations promotive of domestic order, morals, health and safety."

The power belongs to the several states and not to the Federal government, save in exceptional cases; and so long as the legislature does not pass the limits prescribed by the Federal or State Constitutions, Courts have no authority to interfere on the ground that the acts in question violate natural principles of right and justice. Ordinarily the legislature determines when the public welfare and safety demand its exercise; and as a general rule courts have nothing to do with the policy, wisdom or necessity of the enactment. Of course a state cannot by arbitrarily assuming that a commodity is injurious to the health or comfort of the people, impair individual rights guaranteed by the Constitution. The police power of the state, like every other, is subject to the constitution, and cannot be used as a cloak under which to disregard constitutional rights or restrictions.

R. R. vs. Hausen, *supra*.

In re Jacobs, 98 N. Y., 98.

The question is of a necessity primarily with the legislature and its decision should not be lightly disregarded. Courts will not interfere as a rule, unless there is a plain excess or usurpation of power; and in case of doubt it should be solved in favor of the power of the legislature to make the enactment.

It was an indictable offense at common law, to mix unwholesome ingredients, such as alum in bread, or to mix unwholesome substances in anything intended for food for man.

There is an ancient statute, 51 Hen., III, prohibiting the sale of corrupted wine, contagious or unwholesome flesh, or flesh that is bought of a Jew.

4 Black. Com., 162.

In *Rex vs. Dixon*, 3 M. & S., II, defendant was indicted for furnishing bread not fit for food. It appeared that the loaves were strongly impregnated with alum, and that large pieces of crude alum were found in them. Defendant's motion for a new trial, filed after a verdict of guilty, was overruled, the court saying "that alum being perilous to health in the form used, it was immaterial that if used in certain quantities it was not noxious but wholesome."

Statutes enacted to secure the sale of pure food and to prevent adulteration are quite common in this country, and have ever been referred to the police power.

See English Sale of Food and Drugs, act of 1875.

Laws of Tenn. C. I., Sec. 4, acts 1859 and 1860.

Mass. Rev. Statutes, C. 131, Sec. 1.

They are enacted to prevent fraud and to conserve the public health, and as such are a valid exercise of the police power.

State vs. Campbell, 64 N. H., 492.

Butler vs. Chambers, 36 Minn., 69.

Powell vs. Com., 127 U. S., 679.

People vs. Arensburg, 105 N. Y., 123.

Waterbury vs. Newton, 50 N. J. L., 534.

Com. vs. Waste, 11 Allen, Mass., 264, and 87 Am. Dec., 711.

State vs. Smythe, 14 R. I., 100.

51 Am. Dec., 711. 343.

People vs. Cleperly, 101 N. Y., 634.

Com. vs. Gordon, 159 Mass., 8.

Com. vs. Schaffner, 146 Mass., 512.

That the sale of milk to which water and boracic acid have been added may amount to a fraud upon the purchaser is evident. He has a right to assume that the milk he buys is unadulterated and that it will go through the natural process of oxidation and decomposi-

tion. He may wish to use sour milk for culinary purposes, and has the right to assume that nothing has been added to prevent chemical changes. Counsel for the appellee responds to this thought by saying that defendant notified all persons to whom he sold milk that boracic acid had been added, and that no one of the witnesses for the state was deceived. The record does not bear them out in this contention, but even if it did we would have no help therefrom in solving the non-constitutional question involved. It may be conceded that the milk sold by defendant was not harmful to the health of those who used it; but it is certainly dangerous to the public to permit milkmen and those dealing in milk to adulterate it in such a manner as to change its constituent properties.

The statute does not deprive the defendant of his property but it does impose upon him the duty of so using it that no injury shall result to others most likely to be affected by a disregard on his part of the reasonable health regulations that it enacts. Almost every police regulation affects to a greater or less extent some property right; but these rights are subject to such reasonable limitations in their enjoyment as will prevent them from being injurious, and to such reasonable regulations as the legislature under the constitution may deem necessary and expedient. In the Schaffer case from Massachusetts and the Campbell case from New Hampshire, it is expressly held to be immaterial whether the foreign matter is or is not injurious to health. The court said in the latter case, "that if the legislature has power to fix a standard it must judge whether or not milk below that standard is unwholesome;" and in the former it was held, that the addition of pure water to milk was an adulteration under the statute. In *State vs. Gordon*, supra, it is expressly held that the addition of boracic acid to cream was an offense under the statute of Massachusetts.

See also *Com. vs. Wetherbee*, 26 N. E. Rep., 414.

In *Com. vs. Waite*, 11 Allen, 264, the exact question made by this defendant in this case was decided, the court using the following language: "It is innocent and lawful to sell pure milk, and it is innocent and lawful to sell pure water, and the argument is that the legislature has no power to make the sale of milk and water when mixed a penal offense, unless it is done with a fraudulent intent. But it is notorious that the sale of milk adulterated with water is extensively practiced with fraudulent intent. It is for the legislature to judge what reasonable laws ought to be enacted to protect the people against this fraud and to adapt the protection to the nature of the case. They have seen fit to require that every man who sells

milk shall take the risk of selling a pure article. No man is obliged to go into the business, and by using proper precautions any dealer can ascertain whether the milk he offers for sale has been watered. The court can see no ground for pronouncing the law unreasonable and has no authority to judge as to its expediency."

It is not enough to show that the defendant did not intend to defraud or that the milk he sold was wholesome. If that were true almost any law intended to protect the public health and safety might be overthrown. It is enough that an adulteration such as prescribed by the statute may defraud or prove deleterious to the public health or comfort.

The legislature may well determine that the adulteration of milk tends to facilitate vicious practices, and that it ought to be prohibited. To defeat the act prohibiting such conduct, it is not enough to show that in a particular case the article sold was innocuous. Criminal intent is not an essential element of the offense described in the statute and need not be shown in order to justify a conviction.

Com. vs. Smith, 103 Mass., 444.

Com. vs. Nichols, 10 Allen, 199.

Com. vs. Farren, 9 Allen, 489.

People vs. Kibber, 106 N. Y., 321.

State vs. Smith, 10 R. I., 258.

If the statute required knowledge or intent of course these matters should be shown. These propositions are sufficient answer to the opinion of the trial court holding that an intent to defraud is necessary. Appellee further contends that the statute in question is a violation of the 14th amendment to the Federal Constitution. Such contention is not sound for it is fundamental that this amendment does not impose any restraints on the exercise of the police power of the state for the protection of the safety or the morals of the community.

Barbier vs. Connolly, 113 U. S., 27.

Kidd vs. Pearson, 128 U. S. 1.

In re Rahrer, 140 U. S., 541.

People vs. King, 110 N. Y., 418.

The conclusion of the learned trial judge was made to depend almost wholly on the facts developed by the evidence. If the jury had found the milk as adulterated unwholesome, we have no doubt that the trial court would have sustained the conviction. That the constitutionality of a statute ought not to be made to depend upon the finding of a jury of the facts of a case, is manifest.

If the plain provisions of the constitution have been violated or if the act cannot be said to be a proper exercise of the police power

in view of the facts of which judicial notice may be taken, then the duty of declaring the act invalid is clear. But in the absence of such finding, the act should stand. Ordinarily, it cannot, we think, be a question of fact for a jury.

See *People vs. Sipperly*, supra.

People vs. Smith, 66 N. W. R., 382.

People vs. Marx, 99 N. Y., 377, is relied upon by appellee. That case involved the right to sell oleomargarine and not the question of adulteration. That it is not in conflict with anything we have announced clearly appears from the *Sipperly* case in 101 N. Y., 634.

See also *People vs. Arensburg*, 103 N. Y., 388.

Schollenberger vs. Penn., 171 U. S., 1, involved the commerce clause of the constitution and it was held that the legislature could not under the guise of a police power, absolutely prohibit the sale of articles which are the subjects of interstate commerce. It does not overrule *Powell vs. Penn.*, 127 U. S., 678, or *Plumley vs. Mass.*, 155 U. S., 461, and as those cases sustain our holding, we may well rest thereon.

Lastly, it is said that section 4990 of the Code is void because the subject is not expressed in the title. The act is found in the Code of 1897. Whether or not it existed prior to that time is immaterial to our present inquiry. Some claim is made that the title of the act adopting the Code and particularly that part of it under consideration, is insufficient. Our attention has not been called to any defects in the enactment of the Code as a whole or by titles and chapters, and in the absence of such a showing and of the most cogent arguments in support of the claim, we are not justified in holding that either the Code or any section or chapter thereof is void, because of the constitutional provision defining what shall be embraced in the title of an act. The title to the original act was sufficiently specific.

State vs. Forkner, 62 N. W. R., 772.

State vs. Lunn, 81 Iowa, 642.

Christy vs. Ins. Co., 82 Iowa, 360.

We have covered all the points made in argument and reach the conclusion that the trial court was in error in his conclusions of law and we therefore reverse the same, to the end that the proper rule may be established for such cases.

Reversed.

FINANCIAL STATEMENT.

DAIRY AND FOOD COMMISSION.

DISBURSEMENTS FOR THE YEAR ENDING SEPTEMBER 30, 1899.

Adams, H. C., com'r, salary	\$2,500 00
Adams, H. C., com'r, expenses.....	269 76
Chadwick, W. W., asst. com'r, salary.....	1,600 00
Chadwick, W. W., asst. com'r, expenses.....	1,539 63
Mitchell, A. S., chemist, salary	1,800 00
Mitchell, A. S., chemist, expenses	300 49
Norton, F. Q., stenographer and clerk, salary	900 00
Field, N. J., dairy inspector, per diem and expenses.....	1,692 72
Hicks, E. R., attorney general, expenses.....	9 78
Democrat Printing Co., printing blanks.....	8 28
Democrat Printing Co., printing report.....	1,325 67
Madison post office, postage	277 00
Madison post office, box rent	8 00
Wisconsin Telephone Co., messages	14 65
Dane County Telephone Co., rental.....	24 00
Western Union Telegraph Co., telegrams.....	31 97
Postal Telegraph Cable Co., telegrams.....	1 24
American & U. S. Express Co., expressage	70 82

Laboratory—

Vilas, W. F., rent	500 00
Madison Gas & Electric Co., gas.....	14 35
Frank, H. O., mdse	9 55
Dohmen, F., Co., mdse.....	5 00
Sargent, E. H., & Co., mdse.....	63 96
Creamery Package Mfg. Co., mdse.....	6 10
Drake Bros. Co., mdse.....	2 95
Hollister's Pharmacy, mdse.....	4 55
Goodyear Rubber Co., mdse.....	4 33

\$12,984 80

220 REPORT OF THE WISCONSIN DAIRY & FOOD COMMISSIONER.

DISBURSEMENTS FOR THE YEAR ENDING SEPTEMBER 30TH, 1900.

Dairy and Food Commissioner's Department—

Adams, H. C., com'r, salary.....	\$2,500 00
Adams, H. C., com'r, expenses.....	568 40
Sweeting, C. W., asst. com'r, salary.....	1,334 00
Sweeting, C. W., asst. com'r, expenses.....	1,089 44
Chadwick, W. W., asst. com'r, salary.....	266 00
Chadwick, W. W., asst. com'r, expenses.....	443 67
Mitchell, A. S., chemist, salary.....	1,800 00
Mitchell, A. S., chemist, expenses.....	180 00
Norton, F. Q., stenographer and clerk, salary.....	900 00
Field, N. J., dairy inspector, salary and expenses.....	1,906 10
Democrat Printing Co., printing blanks.....	118 15
Madison Post Office, postage	259 00
Madison Post Office, box rent.....	8 00
Wisconsin Telephone Co., messages	9 75
Dane Co. Telephone Co., rental	24 00
Western Union Telegraph Co., telegrams.....	57 68
Postal Telegraph Cable Co., telegrams.....	1 96
American Express Co., expressage	144 32
United States Express Co., expressage.....	67 95
American & U. S. Express Co., expressage.....	16 70

Laboratory—

Vilas, Wm. F., rent	250 00
Cornish, Curtis & Greene	6 16
Sexton & O'Neill	4 45
Greig, J.	1 35
Drake Bros. Co.	8 43
Blued Bros.	1 65
Madison City, water rent.....	20 59
Richards & Co.	62 29
Elmer & Amend	47 90
Sargent, E. H. & Co.	3 28
Hollister's Pharmacy	2 75
Williams, Ed.	2 60
Madison Gas & Electric Co.	13 68

\$12,120 25

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