Biennial report of the Dairy and Food Commissioner of Wisconsin. For the period ending June 30, 1928.

State Dairy and Food Commissioner
Madison, Wisconsin: Democrat Printing Company, [s.d.]

BIENNIAL REPORT

of the

Dairy and Food Commissioner
OF WISCONSIN

For the Period Ending June 30, 1928

C. J. KREMER
Dairy and Food Commissioner
Ex Officio
State Superintendent of Weights and Measures

Madison, Wisconsin

DEMOCRAT PRINTING COMPANY
MADISON, WISCONSIN

ORGANIZATION OF THE COMMISSION

J. Q. EMERY, Dairy and Food Commissioner, *ex officio*, State Superintendent of Weights and Measures (to September 1, 1926); Consulting Assistant to Dairy and Food Commissioner (from July 1, 1927).

HARRY KLUETER, Ph. G., Dairy and Food Commissioner, *ex-officio*, State Superintendent of Weights and Measures (September 13, 1926–April 28, 1927); Chief Chemist.

C. J. KREMER, Dairy and Food Commissioner, *ex officio*, State Superintendent of Weights and Measures (from April 29, 1927); Food Inspector, (to April 29, 1927).

RICHARD FISCHER, Ph. D., Consulting Director of Laboratory.

GEORGE WARNER, Chief Inspector of Weights and Measures.

M. L. WALTER, Secretary to Commissioner.

HELEN O'CONNELL, Stenographer.

VERA COMSTOCK, Stenographer (to July 20, 1927).

CECILIA V. HOPKINS, Stenographer (from July 18, 1927).

GENEVIEVE M. MCVICAR, Stenographer (to September 1, 1926; temporary November 16–26, 1927).

GUNDA OSTERHUS, Stenographer.

MRS. I. WALKER RUPEL, Stenographer (August 30, 1926–January 19, 1928).

CORA L. LEE, Stenographer (from January 17, 1928).

MADELINE M. KREMER, Stenographer (from June 15, 1928).

SELMA JENKS, Temporary Stenographer (August 1–September 15, 1927).

MARY E. RAMIER, Temporary Stenographer (August 1–21, 1926).

PAULA W. RAMSAY, Temporary Stenographer (August 30, 31, 1926).

LOUENA FINDORFF, Clerk.

A. LORINE FOOTE, Clerk.

HAZEL GARNER, Clerk (from March 1, 1928).

MARGARET E. CUMMINGS, Clerk (part time).

ESTHER ONSTAD, Typist and Clerk (August 26, 1927–February 29, 1928).

PETRA JOHNSON, Temporary Clerk (August 23–25, 1927).

MRS. PAT MCCLOSKEY, Helper (July 19, 1927).

MELVIN S. LURAAS, Laboratory Helper (from June 22, 1928).

E. O. HUEBNER.

I. R. HOWLETT.

HILDA WIESE (to September 18, 1927; temporary June 25–July 31, 1928).

INEZ WILLIAMS.
C. H. WARTINBEE, (from November 1, 1927).
OLIVER D. KNIGHT, (from June 6, 1928).

Chemists

HARRY ESCHRICH, (from August 8, 1927).
J. M. KELLIHER, (to April 1, 1928).
PHILIP KREMER, (from April 9, 1928).
W. N. MACKIN.
STEPHEN J. MILES, (from August 8, 1927).
H. G. TOWN.

Food Inspectors

J. E. BOETTCHER.
A. T. BRUHN.

Senior Dairy Inspectors

W. F. CONWAY, (to March 18, 1927).
R. R. CROSBY.
JACOB LEHNHERR.
P. H. MICKLE.
R. L. RADKE.
W. E. RADKE.
A. J. ROYCRAFT.
R. B. SOUTHARD.
W. A. STEWART.
G. H. STUEBER.
J. M. TOLLEFSON, (from August 8, 1927).
AD. R. VALLESKEY.
J. J. WETAK.

Dairy Inspectors, *ex officio* Sealers of Weights and Measures

GEO. D. GILMAN.
FRANK P. HILLEBRANDT, (from September 12, 1927).
BERNARD HUEBNER.
GEORGE E. JASTER.
E. G. MARTIN.
F. E. TAPPINS.
A. T. THOMPSON, (to August 1, 1927).
E. G. WINELL.

Sealers of Weights and Measures

LIST OF ILLUSTRATIONS

DAIRY AND FOOD COMMISSIONERS OF WISCONSIN

H. C. THOM.....May 29, 1889–May 23, 1891

D. L. HARKNESS.....May 28, 1891–June 11, 1894

THOMAS LUCHSINGER.....June 27, 1894–February 7, 1895

H. C. ADAMS.....February 7, 1895–May 1, 1902

J. Q. EMERY.....December 24, 1902–February 10, 1915

GEORGE J. WEIGLE.....February 10, 1915–February 8, 1921

J. Q. EMERY.....February 8, 1921–August 31, 1926

HARRY KLUETER.....September 13, 1926–April 28, 1927

C. J. KREMER.....April 29, 1927 ———

LETTER OF TRANSMITTAL

HIS EXCELLENCY, FRED R. ZIMMERMAN,

Governor of Wisconsin.

Sir: I have the honor to submit herewith, in compliance with law, the report of the Dairy and Food Commissioner for the biennial period ending June 30, 1928.

C. J. KREMER,

Dairy and Food Commissioner,
Ex Officio State Superintendent
of Weights and Measures.

October 1, 1928.

REPORT OF THE COMMISSIONER

INTRODUCTION

Preparing a report that sets forth in a manner easily comprehended the work of the Dairy and Food Department for a certain two year period is like preparing a chapter for the middle of a story or of a history. To intelligently and correctly appraise the work reported, a knowledge of basic underlying principles and of activities and events of the past are essential. Present day problems are best understood in the light of experience.

Reports of the Dairy and Food Commissioner issued heretofore repeatedly point out underlying principles, set forth the problems encountered, the laws passed, the attitude of the judiciary and enlightened public opinion; these matters are not restated or discussed in this volume except in so far as applying to newly arising problems or drastic changes in laws and their constructions.

In this volume only work done during the period covered is discussed with a brief background necessary to make the situation clear. A detailed itemized statement of all expenses is given, which shows the purposes for which money was spent by the department and the sources from which it was collected.

The Legislature of 1927 passed a number of new laws and charged the Dairy and Food Commissioner with the duty to enforce them. Following is a brief statement of the subjects covered and the records of the new laws in relation thereto.

LAWS ENACTED BY THE 1927 LEGISLATURE RELATING TO THE DAIRY AND FOOD DEPARTMENT

Pasteurization of By-products
Section 94.09

The first law of this type passed was in relation to the pasteurization of whey or buttermilk. Heretofore all whey, buttermilk or skim milk, by-products of a butter or cheese factory, were required to be pasteurized before being distributed as food for man or domestic animals. As these products are fed to cattle, the law was intended to prevent the spread of tuberculosis on the farms. It was amended so as to exempt from pasteurization all skim milk, buttermilk or whey which came from milk produced by herds which have passed a clean tuberculin test. Before exemption becomes operative, however, it is required that the Commissioner of Agriculture certify to the fact that the herds from which milk is being delivered to butter or cheese factories have passed a clean tuberculin test. The act in no way changed the situation in relation to by-products of milk from herds which have not been tuberculin tested or which have not passed a clean tuberculin test. Such by-products must be pasteurized by operators of cheese factories, butter factories or receiving stations before being distributed as food for man or domestic animals as heretofore.

Fraud and Deception in Advertising Food Products
Section 352.085

The second act was a Senate Bill. It has to deal with the advertising of foods by means other than the labels. The first part of that law prohibits placing before the public, in any manner, any advertisement of any sort regarding articles of food, which contains any assertion, representation or statement which is untrue, deceptive or misleading. This requirement, no doubt, was caused by the extensive advertising of food products lately. In effect, it means sellers of food must not lie in printed matter about their products. The truth and nothing but the truth must be told in food advertisements.

The other part of that law deals with so-called "seconds." That is, articles of food which are below the ordinary grade established by law or custom. In this class is low score butter, cheese which for some reason, either poor quality of raw material or poor workmanship, is not of the usual grade, small eggs, tough or dry meats from old animals, defective potatoes and similar articles. Heretofore it has been quite common to advertise such products at a cheap price and buyers of them were deceived into thinking that the articles offered were at least of the ordinary grade, when, in fact, they were much below the ordinary grade usually found in the trade. In this section the law goes further than in the first one. Here it says you

must tell the truth. That is, you must conspicuously state that the article advertised is below and inferior to the usual and the ordinary grade. So we find that the first part of the law merely prohibits lying; if the merchant is selling his wares and says nothing about them, he is not violating the law. However, if the goods he has for sale are "seconds" and low grades, then he must include in his advertising that they are "seconds" or low grades.

Dry Commodity Standards
Section 125.08

The third act passed, established weights per bushel for the following articles: 30 pounds for a bushel of string or green beans and for green peas in the pod; 14 pounds for a bushel of spinach and 46 pounds for a bushel of oranges. These items had been either overlooked or purposely left out when standard weights for a great number of articles were established by statute some years ago.

False Branding of Bread
Section 352.075

The next act, Chapter 230, deals with bread. It is a rather unique law, and nothing similar is found in the laws of other states so far. Schemers, with little regard for the truth and an uncanny knowledge of human frailties, a keen appreciation of the desire of people who are ill to become well, of people who are scrawny to become plump and of people who are plump to become slim, devised elaborate campaigns setting forth the wonderful value of certain breads. In The Journal of the American Medical Association of October 18, 1924, one of these gentry is discussed. In that paper an advertisement is reproduced which, in part, reads: "From the east and west, the north and south, come letters from ladies and gentlemen in praise of _____ bread. Giving grateful thanks. One writes of losing 28 pounds in 17 weeks, another 10 pounds in 2 weeks, still another of the amazing loss of _____ pounds. You too can find help and aid in _____ bread. No longer need you be burdened and embarrassed by overweight. Easily and pleasantly _____ bread restores the beauties of form and features. * * * _____ bread—the enemy of fat made with a special costly flour. * * * _____ bread is unusually low in starch content. White bread, while wholesome is overloaded with starch, so are potatoes, crackers, pastry and rolls. * * * _____ bread combats fat. It is baked under a secret formula known to no other baker and made from a costly, special, anti-starch flour. * * * No other bread is like that; the easy way to reduce, eat _____ bread regularly. The enemy of fat— _____ bread."

This bread was analyzed and found to contain between 29 and 33 per cent of starch and a total of 36 to 40 per cent carbohydrates. The food value of this bread was found to be 1,139 calories per pound as compared with 1,140 calories in whole wheat bread, or 1,145 calo-

ries in white bread. The analyst said, ------ bread is a very ordinary product, presenting a hybrid between a gluten and a whole wheat bread.

The bill provides that when material which imparts color is added to bread and when bread is advertised as having special nutritive, healthful or curative properties, or as preventing illness, then bread must be labeled and the label must state the name of the maker of such bread and plainly and distinctly the ordinary names of all the ingredients, other than water, used in the manufacture in the order of their preponderance by weight. This law puts no obstacle in the way of honest bread of any kind. It says, "When a descriptive name is used, bread shall be true to its name." That means that bread, consisting of a handful of graham flour, with a little molasses to impart color, and low grade flour, cannot be sold as and for whole wheat bread or graham bread, but must be sold for what it is. Bread can no longer be exploited by commercial tricksters and an all too confiding public cannot be inveigled by well studied and obscure phrases into paying out an exhorbitant price for a very ordinary article, for if the ingredients are to be disclosed on the label, even the most credulous will see the absurdity of the claims. This law might well be termed an act to provide for honest bread.

Rooms Not To Be Used For Habitation
Section 98.19

Another act was passed by the Legislature liberalizing, to a certain extent, conditions under which a bakery may be operated. Heretofore no bakery could be licensed and lawfully operated in a room that also was used for restaurant purposes. This proved a hardship in quite a number of restaurants that are being built up in neighborhoods and who want to do some baking for sale in connection with their restaurant business and in the same room where they cook and prepare foods which they serve. The act in question permits them to do so.

Delivery and Exchange of Bakery Products
Section 352.56

Since time immemorial, bakers have placed their products in grocery stores, delicatessen stores, etc., for resale, and have taken back unsold articles. From a sanitary standpoint, this practice never had anything to recommend it, as not all bakery products have been or are now wrapped when offered for sale, and it is not a pleasant thought for a housewife who buys her supply to wonder how many people may have handled and fingered the bread or cake which she is to place on her table. Due to intensive competition, "The exchange" has become quite a problem and has developed into a great waste of bakery products. The theory of the exchange was to prevent stale bread from being given to consumers, but in actual prac-

tice it developed that bread salesmen would accept returns of bread in one store and then very blithely sell it to the next store as and for fresh bread, with the result that often consumers received "fresh bread" which was moldy inside.

There appears to be no doubt but that this waste which bakers were obliged to assume and carry was reflected to the public and absorbed by purchasers of bread. When bakers are relieved of this expense, it may be hoped that the general public is correspondingly benefited.

Kosher Meat
Section 352.66

Another law passed by the last legislature is the so-called Kosher "meat law." The word "Kosher" is defined as "being prepared in accordance with the Jewish ritual and sanctioned by Hebrew orthodox religious requirements." Under its provisions no person may, with intent to defraud, represent meats as Kosher unless the same were in fact prepared in accordance with the Jewish ritual and sanctioned by Hebrew orthodox requirements, nor represent any food product to be prepared in accordance with orthodox Hebrew requirements by labeling it "Kosher" unless it was so prepared.

A further provision is that no person shall sell in the same place of business both Kosher and non Kosher meats unless he indicates in a sign on his window and all display advertising in block letters at least 4 inches in height "Kosher and non Kosher meat sold here," and it is unlawful to display both Kosher and non Kosher meats or meat preparations together unless over each kind of meat is placed a sign in block letters at least 4 inches in height reading either "Kosher Meat" or "Non Kosher Meat," as the case may be. It is further made unlawful to represent, when it was not so prepared, in a restaurant, food as having been prepared "Kosher," and in a place where both Kosher and non Kosher foods are served a sign must be displayed in block letters at least 4 inches in height reading "Kosher and Non Kosher food served here." The fine is not less than $25.00 nor more than $200.00.

State Caustic Alkali Or Acid Law
Section 146.19

Getting away from food a bit, the Legislature enacted "The State Caustic Alkali or Acid Law." In it quite a number of chemical symbols and formidable Latin names are used, but when boiled down, the law provides that household articles used for cleaning and washing purposes containing any dangerous caustic or corrosive substance, (which many of them do,) must be labeled plainly and conspicuously with the word poison and the label besides must bear:

1. The name of the article;
2. The name and place of business of the manufacturer, packer, seller or distributor; and

3. Directions for treatment in case of accidental personal injury by the article.

The Dairy and Food Commissioner is authorized to approve and register brands and labels which may be used under the provisions of this section.

POLICY OF THE COMMISSIONER

It is perhaps well to explain briefly my viewpoint as to the work of the Dairy and Food Department when I was appointed as the eighth Dairy and Food Commissioner.

Several weeks after I was appointed I called the inspectors and field men of the department together for a conference and outlined my thoughts as follows:

"I was made chief of this department not because I sought it, or worked for it, or had asked any man or organization to work for me. I did not ask for the job, neither did any of my friends ask for me. The Governor has known me for thirty years or so, has confidence in me, and he appointed me because he believed I would make a good commissioner.

"Now I want to tell you that I shall try very hard not to disappoint him and to make a good commissioner.

"It will not be possible, however, for me to make a record as a good commissioner unless you men also make records as good inspectors. I believe you are good inspectors and you are willing to do your full share that we may make the Dairy and Food Department of Wisconsin an organization of which we can all be proud to be members. We want to make this department the outstanding State agency that renders service to the people in return for the money invested in us and the trust placed in our honesty and ability.

"When I use the word service to the people I give you the keynote, the dominating thought, the guiding factor that I desire to apply in my administration. Service cannot be rendered without work and a great deal of every day plain, honest work. Work such as I have in mind often has been termed "a grind," which indeed it is. It means having the tasks we are to do uppermost in mind. It means steady, patient and consistent effort. We cannot hurry to go fishing, or to a baseball game, or to get home. We cannot work at our best and have but part of our mind on our work and part in some other place. It requires honest concentration if we are to work right. The inspector who rushes through sufficient work in half a day so as to make a showing for a whole day, or who tries to do enough in several days to be able to write a fairly decent report for a week's work is not fair, is not playing the game, and is not doing his share of team work. To give the service which I have in mind and which will make this department great, team work, the heartiest cooperation of each of us with every other one of us, is essential, not to say indispensable. To do the best team work, it is necessary that members of a team

fully understand and appreciate each other as far as possible. I have asked you to come here out of your fields for an exchange of ideas to the end that we may better understand and appreciate each other. I have asked you to give some thought to the problems confronting you and us, and offer such suggestions as may have occurred to you. I want you to speak your minds fully and freely without reserve, but keep to the point; we want to be frank and candid with each other for we must have faith in each other and I, for one, cannot have any faith in anyone who is not frank with me.

"The position of an inspector is a most peculiar one. He is not to go out for fault finding purposes. His chief mission is to secure compliance with the law. That is not the same thing as to institute prosecutions for violation of law, nor even enforcing law. We cannot consider all of the hundreds of regulatory measures written into statutes as so many commandments, the slightest discretion of which is to be visited by swift punishment. We are not police officers. We have not the power of arrest. We are educators; we are to secure obedience to the law. The aim of the laws we are to enforce is not primarily to collect the fines imposed by the statutes, but to prevent the doing of the things proscribed and the imposition of a fine is merely a means placed at our disposal to give effect to the law. My ideal of an inspector is a man who comes into establishments, or upon premises he is to inspect as a calm, understanding, intelligent and judicious friend. He is not to be a meddlesome busybody. He is not to consider himself super wise, nor endowed with infallible judgment. His greatest job is to sell himself to the party inspected and get his confidence; if he has done that then he can hope to succeed in securing obedience to the laws and giving service to the people, and I do not want to be a driver of men. I do not want men in the department who need to be driven or whose movements must be checked. I am old enough to know that the only really contented man or woman is the man or woman busily engaged in some honest endeavor, and that the greatest happiness is to be found in work well done. Idleness on the part of some and shirking on the part of others is sure to cause dissatisfaction and hamper even the most brilliant organization. So I know that, when I insist that on each day an honest day's work be done, I cannot be wrong."

RESULTS

I believe that the members of this department conducted themselves in accordance with the policy outlined and worked faithfully towards results. The following pages indicate the work done. In how far it was successful, when measured with our hopes and ambitions and the common welfare, is left to the judgment of the people of Wisconsin.

I believe weaknesses in certain of our laws have shown themselves

when the test of enforcement was applied to them; these weak spots I shall point out and discuss frankly that they may be remedied.

I believe Wisconsin wants the best dairy and food laws to be found in any state; food laws based upon everlasting principles of right and conducive to the welfare of all our people.

OLEOMARGARINE LEGISLATION AND THE SUPREME COURT

During all the years of its existence the Dairy and Food Department has had considerable work, difficulty and controversy relating to oleomargarine. In fact to keep the sale of oleomargarine free from fraud has been one of its chief tasks. There have been a number of court cases dealing with various phases of laws passed in relation to oleomargarine and every report contains lengthy references to the problem of oleomargarine as against the interests of the people of this State and the welfare of the dairy industry. The controversy on one side is represented as an effort of the lawmaking bodies to legislate out of existence the oleomargarine business as a competitor of and for the purpose of benefiting the butter and the dairy business. This is denied by the Dairy and Food Department and the situation was described by the Attorney General in his brief on page 94 as follows:

"The history of oleomargarine advertising has shown that the industry from its inception has clung like a parasite to the dairy industry and the reputation established by butter. It has sought to market its product as a dairy product and as a milk product. The fraud is exceedingly subtle and cannot be reached by legislation such as prohibiting color. As long as milk or skimmed milk is used in the manufacture of oleomargarine, just so long can artful advertisers convey misleading impressions and inculcate the public mind with the idea that oleomargarine is a dairy and milk product."

Viewing the situation from that point, the Wisconsin Legislature of 1925 passed Chapter 279, which provides as follows:

"AN ACT to create section 352.365 of the statutes, relating to the manufacture and sale of oleomargarine and other substitutes for butter.

"The People of the State of Wisconsin, represented in Senate and Assembly, do enact as follows:

"SECTION 1. A new section is added to the statutes to read: 352.365 (1) It shall be unlawful for any person, firm or corporation, by himself, his servant or agent, or as servant or agent of another, to manufacture, sell or solicit or accept orders for, ship, consign, offer or expose for sale or have in possession with intent to sell, any article, product or compound which is or may be used as a substitute for butter and which is made by combining with milk or milk fats or any of the derivatives of either any fat, oil or oleaginous substance or compound thereof other than milk fat.

"(2) Any person violating this section shall, for the first offense, be punished by a fine of not less than fifty dollars, nor more than

five hundred dollars, and for each subsequent offense, by imprisonment in the county jail not less than ten days nor more than six months or by a fine of not less than one hundred dollars nor more than five hundred dollars, or by both such fine and imprisonment.

"SECTION 2. This act shall take effect on September 1, 1925."

When the Dairy and Food Department attempted to enforce this law, suit was brought against J. Q. Emery, as Dairy and Food Commissioner of the State of Wisconsin by the John F. Jelke Company, a corporation, plaintiff, and others similarly situated, demanding judgment that J. Q. Emery, as Dairy and Food Commissioner of the State of Wisconsin, his assistants, chemists, inspectors and/or agents, be enjoined and restrained from enforcing the provisions of Chapter 279 of the laws of Wisconsin and that the statute should be construed as not to apply to the business of the plaintiffs and if it was construed as a prohibition upon the manufacture and sale of oleomargarine as manufactured and/or sold by plaintiff, and others similarly situated be decreed to be void and of no effect and that the Dairy and Food Commissioner and his agents be enjoined from enforcing or attempting to enforce or interfere with the manufacture and/or sale of oleomargarine in the State of Wisconsin because of any prohibition or provision of Chapter 279, Laws of 1925. Upon the filing of the complaint a temporary restraining order was issued by the Court reading as follows:

"On reading and filing the verified complaint hereto annexed and it appearing therefrom that plaintiff is entitled to a temporary injunction as prayed for therein,

"NOW THEREFORE, On all the records and files herein and upon MOTION of Richmond, Jackman, Wilkie and Toebaas, attorneys for the plaintiff, it is

"ORDERED, That during the pendency of this action and until further order of the court the defendant J. Q. Emery, as Dairy and Food Commissioner of the state of Wisconsin, his assistants, chemists, inspectors and/or agents, and all persons acting under him be and they are hereby restrained and enjoined from enforcing or threatening to enforce any or all of the provisions of Chapter 279, Laws of Wisconsin 1925, and/or from issuing any statements that the manufacture or sale of oleomargarine is illegal or its manufacture or sale will be prohibited in the state of Wisconsin because of Chapter 279, Laws of Wisconsin 1925.

"IT IS FURTHER ORDERED, That plaintiff shall furnish a written undertaking in the sum of Five Hundred Dollars ($500.00) conditioned as provided by statute.

"IT IS FURTHER ORDERED, That a copy of this order and of the undertaking annexed, together with a copy of the complaint herein be served forthwith on the defendant.

"By the Court,

AUGUST C. HOPPMANN,
Judge.

Dated August 12th, 1925."

The several points raised in the complaint of the plaintiffs are set out and opposite thereto the answers filed to these points by the Attorney General in behalf of the Dairy and Food Commissioner, which will enable readers to compare allegations of the complaint with the reply to them.

ALLEGATIONS IN COMPLAINT

1. Plaintiff is a corporation organized and existing under the laws of the state of Illinois with its principal office and place of business and factory for the manufacture of oleomargarine in the city of Chicago in said state.

2. Defendant is the duly and regularly appointed, qualified and acting Dairy and Food Commissioner of the state of Wisconsin.

3. That oleomargarine, as known for many years as an article of commerce, is a wholesome and nutritious food product made from animal or vegetable oils or fats emulsified with milk or milk products and to which salt has been added. It is now and has been for many years used for cooking, baking, general culinary purposes and as a spread for bread. No oleomargarine is, or has been, manufactured or sold in which milk, either whole milk or skimmed milk, is not used in the process of manufacture.

4. Oleomargarine was invented in 1870 in response to a prize offered by the French Government during the Franco–Prussian War. The inventor in producing the same mixed the oil and fats with milk, emulsifying the same and producing by the addition of salt a product with a palatable flavor and texture. The oleomargarine first produced was of the "animal fat type" in which oleo oil, and oil obtained from the fats of animals, and neutral were the principal oleaginous or fat ingredients. The use of oleomargarine rapidly spread to practically all

ANSWERS OF ATTORNEY GENERAL

1. Defendant admits the allegations contained in paragraph numbered 1 of said complaint.

2. Defendant admits the allegations contained in paragraph numbered 2 of said complaint.

3. Defendant admits the allegations contained in paragraph numbered 3 of said complaint, except that he denies that oleomargarine is a wholesome or nutritious food, and defendant states that he has no information to form a belief as to whether or not oleomargarine is or has been manufactured or sold in which milk, either whole milk or skimmed milk, is not used in the process of manufacture, and defendant therefore puts plaintiff to its proof regarding such allegation.

4. Defendant admits the allegations contained in paragraph numbered 4 of said complaint, except that he denies that the use of oleomargarine has been found satisfactory by the general public, and defendant states that he has no information to form belief as to whether or not large quantities of oleomargarine are used by the United States Government in its various activities and, therefore, puts plaintiff to its proof regarding such allegation.

of the civilized countries of the world and has since been, and now is, in common use. Oleomargarine was introduced into the United States in 1873 and that first manufactured was of the "animal fat" type. The use of cocoanut oil in the manufacture of oleomargarine of the "nut" type came into general use during the period of the late war in response to the general request of governmental authorities to conserve animal fats and its use was found so satisfactory by the general public that the demand has continued. While manufactured as an article of commerce prior thereto its general use and manufacture commenced about the year 1915; since which time it has been a well recognized article of food. Large quantities of oleomargarine are used by the United States government in its various activities.

5. There are two types of oleomargarine known to the trade as:

(1) "Animal fat" oleomargarine which is made from oleo oil, cottonseed oil, peanut oil, neutral, stearine and salt;

(2) "Nut" oleomargarine which is made from refined cocoanut oil, cottonseed oil, and salt.

Each type is emulsified in either cultured or ripened whole or skimmed milk. The milk is ripened by lactic acid culture similar to the manner in which cream is ripened in the manufacture of butter. Manufacturers of oleomargarine vary the formula as to percentages of ingredients in the various brands manufactured by them, but the ingredients as above stated are the ordi-

5. Answering paragraph 5 of plaintiff's complaint defendant states that he has no information to form a belief as to whether or not cultured or ripened milk, either whole milk or skimmed milk, is and/or always has been used in the manufacture of oleomargarine and/or is so used by plaintiff in the manufacture of oleomargarine produced by it, and, therefore, puts plaintiff to its proof regarding such allegation. Defendant further states that he has no information to form a belief as to whether or not no other satisfactory emulsifying and/or flavoring agent had been discovered which can be substituted for milk in the manufacture of oleomargarine. Defendant further states that he has no information to form a belief as

nary and usual ingredients. Cultured or ripened milk, either whole milk or skimmed milk, is and always has been used in the manufacture of oleomargarine and is so used by plaintiff in the manufacture of the oleomargarine produced by it. No other satisfactory emulsifying and flavoring agent has been discovered which can be substituted for milk in the manufacture of oleomargarine. In the manufacture of "nut" oleomargarine no animal fats other than such butter fat as may be contained in the milk in the emulsifying process is used. The ordinary and usual method of manufacturing oleomargarine is as follows: The oils and fats are heated to a high temperature until in liquid form; the liquid oils and fats are then mixed with the ripened or cultured whole or skim milk and agitated. The emulsion so produced is then brought into contact with ice cold water which solidifies or crystalizes the emulsion. The resultant product is then worked, usually with wooden rollers, to remove water and to improve the texture. Salt is added during the working process which gives it a palatable flavor. The use of milk, either whole or skimmed is for the purpose of aiding in development of a palatable flavor and for the purpose of giving the finished product texture and "spreading" qualities. All materials used are of good quality and all oils and fats are refined at high temperatures so as to insure purity. All milk used is heated to a high temperature so as to insure purity before emulsification. The color of the finished product manufactured or to whether or not all materials used are of good quality, and/or all oils and/or fats are refined at high temperature so as to insure purity or that all milk used is heated to a high temperature so as to insure purity before emulsification and, therefore, puts plaintiff to its proof regarding such allegations. Defendant denies that the finished product manufactured or sold in Wisconsin is white or nearly so, and further denies that the resultant product, namely, oleomargarine, is a nutritious and/or healthful article of food. Defendant admits the remaining allegations in paragraph numbered 5 of said complaint.

sold in Wisconsin is white or nearly so. The resultant product is a nutritious healthful article of food with a well established place in the dietary. It has caloric value slightly higher than butter; its digestibility is approximately the same.

6. Oleomargarine has been sold by plaintiff for many years for shipment to the state of Wisconsin and is a well known food product. It is sold and advertised as oleomargarine and is not sold as or for butter. It is labeled as oleomargarine and all Federal and State regulations and statutes are at all times fully complied with. The purchaser is at all times advised as to the nature of the product purchased and that the same is oleomargarine. As ordinarily sold in Wisconsin oleomargarine is sold at retail to consumers in cartons labeled as herein stated and the purchaser does not see the contents of the package and does not taste the same at the time of purchase. The records of the Dairy and Food Commissioner of the state of Wisconsin show that for more than ten years prior to the commencement of this action no cases have been reported or prosecuted for the sale of oleomargarine as or for butter, nor has any case been reported or prosecuted where the purchaser has bought oleomargarine under the belief that it was butter. Plaintiff further says that no condition exists in the state of Wisconsin which would warrant or demand the enactment of such legislation as is hereinafter complained of.

6. Answering paragraph 6 of said complaint, defendant denies that oleomargarine is always sold and/or advertised as oleomargarine and denies that it is not sold as or for butter, and alleges on information and belief that oleomargarine is in fact sold for butter in numerous instances. Defendant states that he has no information to form a belief as to whether or not oleomargarine is labeled oleomargarine, or that all federal and/or state regulations and, or statutes are at all times fully complied with and, therefore, puts plaintiff to its proof regarding said allegations. Defendant denies that the purchaser is at all times advised as to the nature of the product purchased. Defendant admits that as ordinarily sold in Wisconsin, oleomargarine is sold at retail to consumers in cartons labeled as stated in the complaint, and that the purchaser does not see the contents of the package and does not taste the same at the time of the purchase. Defendant denies that no condition exists in the state of Wisconsin which would warrant or demand the enactment of the legislation referred to in plaintiff's complaint and/or complained of therein. Defendant admits that the records of the Dairy and Food Commissioner of the state of Wisconsin show that for more than ten years prior to the commencement of

7. Oleomargarine is, and has been, for many years widely used in the state of Wisconsin by all classes of citizens as a cooking and baking medium and as a spread for bread. It is used to a large extent by farmers who produce milk, sell the milk and butter fat and purchase oleomargarine. It is used by commercial bakers in the manufacture of many products where no satisfactory substitute is known. The high price of butter is notorious and has resulted in the use of oleomargarine by many of small income for cooking, baking and as a spread for bread. It furnishes edible fats essential to the human system. The retail price of oleomargarine varies according to the cost of the ingredients entering into its manufacture, but is ordinarily approximately 50% to 60% of the retail price of butter. It is purchased by people of limited incomes as a matter of economy and because of the fact that it has been well and favorably known for many years as a pure, healthful and nutritious food product. Many people of ample means also purchase the same because of the purity and high quality of the ingredients, the scientific methods of manufacture and the cleanliness and sanitary conditions under which it is manufactured as distinguished from the uncleanly and foul conditions which exist in this action no cases have been prosecuted for the sale of oleomargarine as or for butter, and further admits that no case has been prosecuted where the purchaser has bought oleomargarine under the belief that it was butter.

7. Defendant denies that oleomargarine is or has been for many years widely used in the state of Wisconsin by all classes of citizens as a cooking and/or baking medium or as a spread for bread. Defendant admits that some farmers produce milk and sell the milk and butter fat and purchase oleomargarine, but alleges that he has not sufficient information to form a belief as to whether or not such practice is adopted to a large extent by the farmers. Defendant admits that commercial bakers use oleomargarine in the manufacture of many products, but denies that no satisfactory substitute for oleomargarine is known. Defendant denies that the high price of butter is notorious but admits that some people of small incomes use oleomargarine for cooking, baking and as a spread for bread. Defendant denies that oleomargarine furnishes edible fats essential to the human system. Defendant denies that the retail price of oleomargarine varies according to the cost of the ingredients entering into its manufacture, and further denies that such retail price is approximately 50% to 60% of the retail price of butter. Defendant admits that some people of limited means use oleomargarine as a matter of economy but denies that it has been well and/or favorably known as a pure and/

many factories manufacturing butter and the fact that much butter is manufactured at centralized plants and from whey.

8. By the Act of Congress August 2, 1886, and the amendments thereto and regulations promulgated thereunder, which said act related to taxing the manufacturers and sellers of oleomargarine, a comprehensive statute was enacted, which insured to the public not only a pure and wholesome product made under sanitary conditions, but also against deceit in its sale. Under these regulations all oleomargarine is required to be packed in packages of not less than ten pounds in weight by the manufacturer, and the package stamped showing payment of the tax. Each original package must have the word "Oleomargarine" printed or branded thereon in letters ¾ inch high and of proportionate width and also the factory number, district and state. Each carton in which prints are packed must be branded on the two principal panels with the word "Oleomargarine" in plain Gothic letters of not less than 20 point type, which must be printed in a conspicuous color which forms a strong contrast with the

or healthful and/or nutritious food product. Defendant denies that people of ample means purchase oleomargarine because of the purity and/or high quality of the ingredients entering into its manufacture and/or the scientific methods of manufacture and/or the cleanliness and/or sanitary conditions under which it is manufactured, and defendant denies that uncleanly and/or foul conditions exist in factories manufacturing butter, and further denies that much butter is manufactured at some centralized plants from whey.

8. Defendant admits that Congress has passed legislation of substantially the same effect as set forth in paragraph numbered 8, but defendant denies that such legislation insures either a pure or wholesome product and further denies that it insures against deceit in the sale of oleomargarine. Defendant alleges that under the law when oleomargarine comes to rest in the state and is sold at retail it becomes subject to the state laws and the federal regulations do not govern.

color of the package. No device or words can be used calculated to induce the public to believe that it is the product of the dairy. Specimens of all cartons and wrappers must be submitted to the Commissioner of Internal Revenue for approval.

The manufacturer, wholesaler and retailer each pay a separate annual Special Tax and must register with the Collector of Internal Revenue and are subject to supervision by the Department of Internal Revenue and the United States Department of Agriculture.

Wholesalers can sell only in the original stamped package of shipment. Retailers can sell only in quantities not exceeding 10 pounds, and must sell the cartons from the box of original shipment. Each retailer must see that each carton sold is labeled so as to comply with the regulations.

9. The state of Wisconsin has for many years recognized oleomargarine as a legitimate article of food. Its manufacture and sale has been regulated by statute. Section 4607e Wisconsin statutes 1923, prohibits the manufacture or sale of oleomargarine in imitation of "yellow" butter. Section 4607d provides for labeling as oleomargarine and for conspicuous notice where it is sold, and for notice to guests at restaurants or hotels where served. Section 4706d—4 (1) prohibits the use of any words or symbols which tend to convey the idea that it is a dairy product.

The Wisconsin statutes and the Federal statutes and regulations have for many years afforded a full and complete pro-

9. Defendant denies that the state of Wisconsin has recognized oleomargarine as a legitimate article of food. Defendant admits that Wisconsin has enacted laws substantially as set forth in paragraph numbered 9 of said complaint. Defendant denies, however, that the Wisconsin statute and/or the federal statutes and regulations have or do afford a full and/or complete protection to the public from fraud or deceit in the sale of oleomargarine or that they have guaranteed to the purchaser or consumer that they are obtaining oleomargarine. Defendant denies that the reports of the Dairy and Food Commissioner of the state of Wisconsin for ten years last past or any other period disclose

tection to the public from any possible claim of fraud or deceit in the sale of oleomargarine and have guaranteed to the purchaser and consumer that they are obtaining oleomargarine. The reports of the Dairy and Food Commissioners of the State of Wisconsin, for ten years last past, made pursuant to statute, disclose "no public need or purpose" of legislation of the character hereinafter complained of. The product as manufactured and marketed is not one peculiarly susceptible to fraud and its manufacture and sale is on a high plane and its manufacture and sale has been singularly free from criticism.

no public need or purpose for the legislation complained of in plaintiff's complaint. Defendant denies that the product as manufactured and marketed is not peculiarly susceptible to fraud, and further denies that its manufacture and sale is on a high plane, and denies that its manufacture and/or sale has been free from criticism, and alleges the fact to be that oleomargarine is a product peculiarly susceptible to fraud.

10. Oleomargarine is sold in Wisconsin at retail for private consumption mostly in one pound prints. Each print is wrapped in paper. The print so wrapped is enclosed in a carton of waxed paper which bears on two sides the word "Oleomargarine" in letters not less than 20 point plain Gothic type and must be sold in conformity with the Federal and State Statute and regulations hereinbefore referred to. When sold to bakers, confectioners, and for similar uses, in large packages or containers it is labeled in the manner hereinbefore described so as to preclude the purchaser being misled as to the nature of the product sold.

10. Defendant states that it has no information to form a belief as to the truth of the allegations as contained in paragraph 10 of said complaint and, therefore, puts plaintiff to its proof regarding the same.

11. During the government fiscal year ending June 30, 1924, wholesale dealers in the state of Wisconsin making report to the Collector of Internal Revenue at Milwaukee reported sales of 4,200,000 pounds of oleomargarine. In addition to this, large quantities were shipped direct to

11. Answering paragraph 11 of plaintiff's complaint, defendant denies that the prohibition of the manufacture or sale of oleomargarine would cause large or irreparable loss or injury to manufacturers, dealers, wholesalers or to their employes. As to the remaining allegations of said para-

bakers and others by the plaintiff and other manufacturers in interstate commerce, the amount of which cannot be definitely ascertained. During the same period there were, according to the records of the same office 66 wholesalers and 5,226 retailers in Wisconsin engaged in the sale of oleomargarine. The manufacture and sale of oleomargarine in Wisconsin gives employment to a large number of persons and to prohibit its manufacture and sale would cause large and irreparable loss and injury to the manufacturers, dealers and wholesalers, and to their employees.

graph numbered 11 defendant alleges that he has not sufficient information to form a belief as to the truth of such allegations and, therefore, puts plaintiff to its proof regarding the same.

12. That for some time past those interested in the butter industry have endeavored to prevent the manufacture and sale in Wisconsin of oleomargarine for the purpose of benefiting the business of those engaged in the manufacture and sale of butter. Various organizations and individuals by their acts attempted to interfere with the sale thereof and on April 25, 1925, after full hearings, an order was issued by the Federal Trade Commission against certain organizations and individuals, some of whom were members of the Wisconsin legislature of 1925, and active in an effort to enact the legislation hereinafter complained of, directing them to cease and desist from conspiring to hinder, obstruct or prevent the sale of oleomargarine shipped into Wisconsin in interstate commerce.

12. Defendant denies the allegations contained in paragraph numbered 12 of plaintiff's complaint.

13. That Chapter 279 of the Laws of Wisconsin, 1925, hereinafter referred to, was not enacted for the benefit of the public health, safety or morals of the people of the state of Wisconsin

13. Defendant denies the allegations contained in paragraph numbered 13 of said complaint.

and that there was no necessity or legitimate public demand for same. That it was enacted at the instance of persons interested in a competing industry and for the benefit thereof.

14. That at the 1925 session of the legislature of the state of Wisconsin there was passed an act which act was signed by the governor and published in the official paper and which act in and by its terms became effective September 1, 1925.

That said act is known as Chapter 279 of the Laws of 1925 and reads as follows:

"AN ACT to create section 352.365 of the statutes, relating to the manufacture and sale of oleomargarine and other substitutes for butter.

The People of the State of Wisconsin represented in Senate and Assembly, do enact as follows:

SECTION 1. A new section is added to the statutes to read: 352.365 (1) It shall be unlawful for any person, firm or corporation, by himself, his servant or agent, or as servant or agent of another, to manufacture, sell or solicit or accept orders for, ship, consign, offer or expose for sale or have in possession with intent to sell, any article, product or compound which is or may be used as a substitute for butter and which is made by combining with milk or milk fats or any of the derivatives of either any fat, oil, or oleaginous substance or compound thereof other than milk fat.

(2) Any person violating this section shall, for the first offense, be punished by a fine of not less than fifty dollars nor more than five hundred dollars, and for each subsequent offense, by imprisonment in the county jail not less than ten days nor more than six months or by a fine of not less than one hundred dollars nor more than five hundred dollars,

14. Defendant admits that in the 1925 Session of the Legislature a law was passed which is set forth in paragraph numbered 14 of said complaint, but denies that said act prohibits the manufacture, shipment or sale of oleomargarine, and defendant further denies the remaining allegations contained in paragraph numbered 14.

or by both such fine and imprisonment.

SECTION 2. This act shall take effect on September 1, 1925."

That said act by its terms prohibits the manufacture, shipment or sale of oleomargarine including the oleomargarine manufactured by plaintiff and others similarly situated and shipped to or sold in Wisconsin as herein set forth, but by its terms permits the sale of the same animal and/or vegetable fats or oils not emulsified with milk. It is in effect an act prohibiting the manufacture and sale of oleomargarine.

Butter, as the same is generally manufactured and sold in Wisconsin, is artificially colored yellow so as to give to the same a color similar to that possessed by June butter. The coloring matter used contains cottonseed oil which is a vegetable oil and which is combined with the milk fats in the manufacture of butter. That if said act permits the use of cottonseed oil in a product manufactured from milk fat which the same is designated as butter and prohibits the use of the same when used with milk in the manufacture of oleomargarine, said legislation is arbitrary, unreasonable and discriminatory.

15. That the defendant and his assistants, chemists, inspectors, and/or agents is charged by statute with the enforcement of the provisions of said act and defendant claims, as plaintiff is informed and believes and so charges the fact to be that it is a valid law of the state of Wisconsin and that it is his duty to enforce the same. That said defendant as such Dairy and Food

15. Answering paragraph 15 of plaintiff's complaint, defendant admits that he and his assistants are charged with the enforcement of the law and that it is his duty to enforce it and that he believes that it is a valid law. Defendant however denies that he has a large force of deputies in this state. Defendant further denies that he has made any statement to the effect that he will institute

Commissioner has a large force of deputies in various sections of the state who are continually going from place to place and into the factories, stores and places of business of those engaged in the manufacture and sale of oleomargarine, including stores and places of business of those selling the product manufactured by the plaintiff. That inspectors and/or agents of defendant have notified persons engaged in the sale of oleomargarine in Wisconsin that the sale thereof would not be permitted after September 1, 1925, and that they would not be allowed to possess oleomargarine for sale after that date. That, as plaintiff is informed and verily believes, and so charges the fact to be, the defendant intends and threatens to strictly enforce the provisions of said act against this plaintiff and manufacturers, wholesalers and retailers who manufacture, sell or exchange, or those who solicit or accept orders for oleomargarine in Wisconsin irrespective as to whether said product is manufactured or sold in Wisconsin or shipped in the original packages in interstate commerce from points outside the state of Wisconsin to points in Wisconsin. That the said law and its threatened enforcement has seriously interfered and is now interfering with the business and property of the plaintiff and others similarly situated and of wholesalers and retailers now engaged in the sale of oleomargarine in Wisconsin who have paid their special tax to the United States for the fiscal year, no portion of which can or will be refunded.

prosecutions for oleomargarine sold in interstate commerce. Defendant denies the remaining allegations contained in paragraph numbered 15 of said complaint.

16. That the plaintiff for many years last past has been engaged in the manufacture of oleomargarine of the types hereinbefore referred to. It manufactures said oleomargarine at Chicago, Illinois.

Plaintiff is a manufacturer and is not engaged in the retail trade and maintains no office or place of business in Wisconsin. It has agreements and contracts to ship and sell its product to various persons and corporations in Wisconsin. All business transacted by it is strictly of an interstate character. The product manufactured by it is sold at Chicago, Illinois, and shipped in original packages in interstate commerce to wholesalers and others resident in Wisconsin, many of whom in turn sell in the original package of shipment to retailers who in turn sell to the consumer. All oleomargarine manufactured by plaintiff and others similarly situated and shipped by it into Wisconsin and sold therein is produced, shipped and sold in full compliance with all Federal and state laws and regulations, including the National Food and Drug Act, National Packers and Stockyards Act of 1921, so far as applicable, and the Federal Trade Commission Law.

That plaintiff sells the product manufactured by it under distinctive trade names as follows:

"Good Luck", "Gilt Edge", "Keystone", "Union" and "Delicia", which are packed in form for consumption in the home, and "Hi-Puff", "Delite", "Roll-in-Mix", "Fancy Cake Mixture", which are packed for the commercial baking trade.

The oleomargarine manufac-

16. Defendant states that he has no information sufficient to form a belief as to the truth of the allegations contained in paragraph numbered 16 of said complaint and, therefore, put plaintiff to its proof regarding the same, except that defendant admits that plaintiff sells its product under distinctive trade names as follows: "Good Luck"—"Gilt Edge" — "Keystone" — "Union" —and "Delicia", which are packed in form for consumption in the home, and "Hi-Puff"—"Delite"—"Roll-in-Mix" — "Fancy Cake Mixture", which are packed for the commercial baking trade.

tured by the plaintiff is produced in the manner hereinbefore set forth and contains no ingredients except the best grades of animal and/or vegetable fats and/or oils, and salt emulsified in ripened or cultured whole or skimmed milk, and is manufactured under the most sanitary conditions and subject to Federal supervision. Each of the ingredients entering into the manufacture of said oleomargarine are healthful and nutritious articles of food and are so recognized and standardized by the state of Wisconsin. The oleomargarine manufactured and sold by the plaintiff is a healthful product and contains no element deleterious to health. It is labeled and sold as and for oleomargarine.

Plaintiff has for many years, carried on a national advertising campaign and has spent large sums of money therefor and has created, in Wisconsin and elsewhere, a market and use for oleomargarine as a distinctive food product; and has created by said advertising and otherwise a good will and trade of large value throughout the United States and in the State of Wisconsin. It ships large quantities of its product to Wisconsin.

17. That the oleomargarine manufactured and sold by the plaintiff is a lawful article of trade and commerce and its manufacture as herein set forth and sale in Wisconsin does not in any manner affect the public health, safety, morals or welfare of the community, and that plaintiff and each of the wholesalers and/or retailers engaged in selling said product are engaged in lawful business.

17. Defendant denies the allegations contained in paragraph numbered 17 of said complaint.

18. That the enforcement of said statute will seriously affect the rights and property of the plaintiff and others similarly situated, and of each of the persons engaged in the sale of oleomargarine manufactured by the plaintiff in the state of Wisconsin, and the threatened action and action already taken have already impaired and injured plaintiff's business, property and good will, and the property, good will and business of those engaged in the sale of oleomargarine, and will, unless restrained, completely destroy the business of the plaintiff in the state of Wisconsin and the business of those engaged in the sale of the oleomargarine manufactured by the plaintiff, and cause irreparable injury and damage without any adequate remedy at law. That said acts are preventing, and will prevent them and each of them from carrying on a legitimate business and from enjoying, using and disposing of their property; that by reason of the fact that many of the customers and dealers of the plaintiff will be prosecuted by said defendant, and his agents, if they sell said oleomargarine said wholesalers and retailers have been and are intimidated and afraid to continue to handle oleomargarine lest they subject themselves to prosecution and that by reason thereof the business of the plaintiff with its customers in this state has been, and will be impaired to its great damage and loss and that should prosecutions be instituted, as defendant threatens to do, the same would result in a multiplicity of suits and the right to manufacture, possess and sell oleomargarine would be in-

18. Defendant denies the allegations contained in paragraph numbered 18 of said complaint.

volved in all said suits, but that this plaintiff would not be a party to any of said suits or have the right to defend the same or to establish the legality of the manufacture and/or sale of oleomargarine and the unconstitutionality of any law of the state of Wisconsin forbidding its manufacture or sale, and particularly Chapter 279, Laws of 1925, and in such prosecutions no defense could be made properly representing the interests of this plaintiff and others similarly situated. That even though said prosecutions should uniformly result in the acquittal of the persons charged, yet by reason of the multiplicity thereof said prosecutions would deter many, if not all, dealers from further purchase or sale of oleomargarine. That there are now, as plaintiff is informed and believes, and so charges the fact to be, several thousand dealers in Wisconsin handling oleomargarine who have paid the special tax required by the laws of the United States.

19. That plaintiff and those similarly situated have, and will have, no adequate remedy at law. That unless equitable relief by temporary and permanent injunction is granted by this court the business in Wisconsin of the plaintiff and others similarly situated, derived from the sale of oleomargarine, and its property will be destroyed before the validity of said Statute can be determined. That the penalties provided by law are so severe as to render it impractical to test the validity of said statute by the many wholesalers and retailers selling oleomargarine in Wisconsin. That unless a temporary in-

19. Defendant denies the allegations contained in paragraph numbered 19 of said complaint.

junction is granted restraining the defendant and his deputies and agents during the pendency of this action from enforcing or threatening to enforce the provisions of Chapter 279, Laws of Wisconsin, 1925, in violation of the rights of the plaintiff and others similarly situated that the final judgment rendered herein will be ineffectual.

20. This action is brought by plaintiff on its own behalf and on behalf of all similarly situated, who are affected by the provisions of Chapter 279, Laws of Wisconsin 1925, and the threats of enforcement thereof.

20. Defendant admits the allegations contained in paragraph numbered 20 of said complaint.

21. That chapter 279 of the Laws of 1925 is invalid and void for the reason that the same violates the constitution of the state of Wisconsin and the constitution of the United States and the amendments thereto in that:—

21. Defendant denies the allegations contained in paragraph numbered 21 of said complaint.

A. It is unreasonable, arbitrary, oppressive and discriminatory;

B. It denies to the plaintiff and others similarly situated an equal protection of the law by permitting the manufacture and sale of products made of animal and/or vegetable fats and/or oils in the manufacture of which milk is not used, but denies to plaintiff and others similarly situated the right to manufacture and sell oleomargarine from the same ingredients if milk is used in the process of manufacture;

C. It denies the right to carry on a lawful business in a lawful manner;

D. It takes and destroys property and property rights without just cause or reason;

E. It unreasonably infringes on the freedom of contract;

F. It acts as a confiscation of property without due compensation;

G. It prevents the manufacture and/or sale of a wholesome article of food without any lawful reason therefor;

H. It is by its provisions in restraint of trade prohibitory of lawful acts done in the conduct of a lawful business; that the penalty, fines and imprisonment provided for the enforcement of said act are so onerous, drastic and excessive as to deter the parties affected thereby from violating said law and testing the validity thereof in a court of law;

I. It is class legislation enacted for the benefit of and at the instance of a competing business and has no relation to the public health, morals or welfare of the people of the state of Wisconsin and is enacted for the avowed purpose of increasing the price of butter in the state of Wisconsin by prohibiting the manufacture and sale of oleomargarine;

J. It is an interference with interstate commerce in that it (a) prohibits the manufacture for the purposes of export out of the state of Wisconsin of a wholesome and nutritious food product, (b) prohibits the shipment in the original package of oleomargarine into the state of Wisconsin and the sale in the original package of shipment therein;

K. It is contrary to and inconsistent with the laws of the United States and lawful regulations made pursuant thereto;

L. It denies the manufacturers, dealers, purchasers and consumers of oleomargarine the equal protection of the law.

WHEREFORE, Plaintiff demands judgment that the defendant, J. Q. Emery as Dairy and Food Commissioner of the state of Wisconsin, his assistants, chemists, inspectors and/or agents be enjoined and restrained from enforcing the provisions of Chapter 279 of the Laws of 1925, so far as the same applies to the manufacture and sale of oleomargarine in the state of Wisconsin; that said act be so construed as not to apply to the business of the plaintiff and others similarly situated as conducted in the manner hereinbefore set forth; that the said J. Q. Emery as Dairy and Food Commissioner and his assistants, chemists, inspectors and/or agents be enjoined and restrained from interfering with wholesalers, jobbers, retail merchants, and others who may possess, sell or offer for sale, or solicit or accept orders for oleomargarine manufactured and/or sold by plaintiff or others similarly situated in the manner hereinbefore described, and that said statute, if in the same shall be construed as a prohibition upon the manufacture and sale of oleomargarine as manufactured and/or sold by plaintiff and others similarly situated be decreed to be void and of no effect and for such other and further relief as to the court may seem just and equitable.

Plaintiff on behalf of itself and others similarly situated prays

22. Further answering said complaint, defendant denies each and every allegation in said complaint contained not hereinbefore specifically admitted, qualified or denied.

WHEREFORE defendant demands a judgment that the complaint of the plaintiff be dismissed with costs and that the injunction heretofore granted be vacated and set aside, and for such other and further order or relief as to the court may appear just and equitable.

The complaints in the other three cases are the same except that they present different phases of the general proposition. The Wisconsin Food Products Company manufactures oleomargarine in Wisconsin and sells it outside of Wisconsin and also within the state. Hanley and Murphy Company is a wholesale grocery firm in Janesville, Wisconsin, and sells oleomargarine at wholesale. Charles Petri is a retail grocer, selling oleomargarine at retail in the city of Milwaukee. The various answers present the same issues.

that the defendant, J. Q. Emery as Dairy and Food Commissioner of the state of Wisconsin, his assistants, chemists, inspectors and/or agents be enjoined, pending the final determination of the issues herein, from enforcing, attempting to enforce, threatening to enforce, or in any manner interfering with the manufacture and/or sale of oleomargarine in the state of Wisconsin because of any prohibition or provision of Chapter 279, Laws of 1925.

The issue was tried before the Honorable A. C. Hoppmann, Judge of the Circuit Court for Dane County, on the first day of December 1925, when the similar cases brought by the Wisconsin Food Products Company and by Hanley and Murphy Company and Charles Petri against J. Q. Emery as Dairy and Food Commissioner of the State of Wisconsin, were consolidated. Mr. Emery had been adversely examined prior to that trial and the following witnesses testified in behalf of complainant:

R. J. Putnam, Wm. M. Steele, W. C. Potter, Carl A. Baumann, John A. Wesener, Charles J. Petri, J. S. Abbott, Anton J. Carlson, G. N. Otis, W. D. Richardson, H. H. Bodtt, V. K. Cassady, Joseph Poelmann, Edward L. Dzemske, E. C. Hampe, Frank Schuster, John H. Williams, Homer H. Smith, E. J. Murphy, Mrs. Wm. Johnson, Mrs. Leonard White, F. C. Allen, A. D. Henss, Elmer Sebringhaus, and Irwin Pire.

The following offered testimony in behalf of the Dairy and Food Commissioner:

J. E. Boettcher, H. Klueter, C. J. Kremer, George Warner and A. M. Davis.

The following Statement of Facts appears in the Brief of the Attorney General filed with the Supreme Court:

STATEMENT OF FACTS

The caption includes four cases which were brought by the various parties to restrain the Dairy and Food Commissioner from enforcing the provisions of chapter 279, Laws 1925, now section 352.365, Statutes of 1925.

The plaintiff John F. Jelke Company is a manufacturer of oleomargarine, with its principal place of business and factory in Chicago, Illinois (R. 132–133, C. 45). It sells oleomargarine to wholesalers and retailers in the state of Wisconsin. The plaintiff, Wisconsin Food Products Company, is a corporation engaged in the business of man-

ufacturing and selling oleomargarine, having its factory and place of business at Jefferson, Wisconsin (R. 212, C. 62). The plaintiff Hanley and Murphy Company is a corporation engaged in the wholesale grocery business and having its place of business at Janesville, Wisconsin (R. 392, C. 96). It sells oleomargarine at wholesale in the city of Janesville and in the territory surrounding Janesville. The plaintiff Charles Petri is a retail grocer whose place of business is in Milwaukee, Wisconsin (R. 262, C. 70). On motion of counsel for the plaintiffs, the four actions were consolidated and tried as one.

The complaint sets forth the history of oleomargarine, the different types of oleomargarine, and the various processes in the manufacture of oleomargarine. It alleges that oleomargarine is a wholesome food product. It is further alleged that in the manufacture and sale of oleomargarine, all state and federal laws and regulations are complied with and that the sale of oleomargarine is free from fraud. The complaint alleges that chapter 279, Laws 1925 violates both the state and federal constitution; that it is unreasonable, arbitrary, oppressive, and discriminatory; that it denies to the plaintiffs the equal protection of the law; that it is unlawful interference with interstate commerce; that it takes property without due process of law; and that it is class legislation. The allegations of the complaint are put in issue by the answer except the allegations as to the history of oleomargarine and the method of manufacture.

The evidence discloses that there are two types of oleomargarine in use throughout the United States; namely, the animal fat type and the vegetable type. The animal fat type is manufactured by mixing oleo oil, neutral lard, cottonseed oil or peanut oil, and either whole or skimmed milk. It does not appear, however, in the evidence, that there was any other company except the Jelke Company which used whole milk. All other producers who testified stated that they used skimmed milk in their product, with the exception of Mr. Henss of Armour and Company. On direct examination, he testified that both whole and skimmed milk was used (R. 418, C. 101), but on cross-examination, it was brought out that the only whole milk used was in the preparation of the starter (R. 431, C. 103), which would mean but an insignificant portion of whole milk.

The vegetable type of oleomargarine is commonly composed of cocoanut oil, cottonseed oil or peanut oil, and skim milk.

There was considerable testimony with reference to the refining process used in the manufacture of oleomargarine. It is important to note that the testimony clearly shows that one of the processes of refining is to eliminate the characteristic flavor of the fat or oil itself so that, when whole milk or skim milk is added, the resultant flavor of the finished product will be derived from the milk and will imitate the flavor of butter (R. 167, C. 53). It was developed that there are various grades of oleomargarine. The most expensive grade is that which is so selected as to have the least characteristic flavor of its own, whereas the cheaper grade has more characteristic flavor and therefore results in a less desirable finished product. This is obvi-

ously because the characteristic flavor of the fat takes away part of the butter flavor of the finished product. The same situation was shown to be true in the vegetable type of margarine. This was clearly developed in the cross-examination of Mr. Henss, the manager of Armour and Company's oleomargarine plant (R. 430, C. 103).

The testimony as to the various methods of making oleomargarine, it is submitted, has a strong bearing upon the issues involved in this case. Butter for centuries has been manufactured in the same manner, namely, by churning the milk so as to separate the butter fat therefrom. On the other hand, there is no fixed standard or method of making oleomargarine. Some manufacturers use cocoanut oil and skimmed milk entirely. Others use cocoanut oil and cottonseed oil. Others use one grade of oleo oil with skimmed milk, while one, at least, uses oleo oil with whole milk. The proportions of the various ingredients vary. Sometimes a higher grade fat may be used and sometimes a lower grade fat may be used. It may be that in the future still other fats or oils will be used in the manufacture of oleomargarine. There is, therefore, no definite standard by which a purchaser is informed when he purchases a pound of oleomargarine, as to what the ingredients entering into its manufacture are, and what is the proportion of the various ingredients.

There was also considerable testimony as to the necessity of milk as an emulsifying agent in the manufacture of oleomargarine. The issue was presented as to whether the fats entering into its composition could be satisfactorily emulsified in any other method. This testimony, however, will be considered later in connection with the argument. It is sufficient to say at this time that the plaintiff clearly did not demonstrate that milk was necessary in order to emulsify the fats.

The defendant offered evidence as to the process of manufacturing butter as contrasted with the process of manufacturing oleomargarine. He also introduced evidence showing that the fats in oleomargarine could, in fact, be emulsified without the use of milk.

There was a considerable amount of evidence as to the advertising practices of the oleomargarine producers, which, it is submitted, demonstrated conclusively the fraud existing in the sale of oleomargarine and the necessity for some effective measures to eliminate such fraud. A detailed review of this evidence appears in a later portion of the brief.

After the trial both the plaintiff and the defendant submitted findings and requested the court to make these findings.

FINDINGS OF FACT AND CONCLUSIONS OF LAW IN THE ACTION

The plaintiff's and defendant's requested findings are, for the purpose of easy comparison, set opposite each other:

PLAINTIFF'S FINDING OF FACTS	DEFENDANT'S FINDING OF FACTS
(1) Oleomargarine as manufactured and sold in Wisconsin is of two kinds— (a) The animal fat type, the ordinary ingredients of which are oleo oil, neutral lard, refined cottonseed oil or peanut oil, emulsified in ripened whole or skimmed milk and salt added, and (b) The nut type, the ordinary ingredients of which are refined cocoanut oil, refined cottonseed oil, emulsified in ripened skimmed milk and salt added.	(1) That the plaintiff, John F. Jelke Company is a corporation, duly organized and existing under the laws of the State of Illinois; that its principal office place of business and factory is in the State of Illinois; that it sells oleomargarine to wholesalers and retailers in the State of Wisconsin.
(2) That oleomargarine of the animal fat type has been sold in Wisconsin for more than thirty years last past, and the animal fat type has been manufactured and sold in Wisconsin for more than ten years last past.	(2) That the Wisconsin Food Products Company is a corporation duly organized and existing under the laws of the State of Wisconsin; that it has its principal office of business and factory at Jefferson, Wisconsin; that it manufactures and sells oleomargarine; that most of its product is shipped to places outside the State of Wisconsin.
(3) That oleomargarine has been in general use throughout the United States and Europe for more than thirty years last past, and is a well known article of food. That it is used by the United States Government in various of its activities.	(3) That the Hanley and Murphy Company is a corporation organized and existing under the laws of the State of Wisconsin with its principal office and place of business at Janesville, Wisconsin; that it is engaged in the business of selling groceries at wholesale, and that it sells oleomargarine to retailers in Janesville and in the vicinity of Janesville.
(4) That oleomargarine as generally manufactured and sold	(4) That Charles Petri operates a retail grocery store in the

in the state of Wisconsin for many years has always contained either ripened whole milk or ripened skimmed milk as an ingredient used in the process of manufacture, and that oleomargarine, as generally manufactured in the United States, has always contained either ripened whole or skimmed milk.

(5) That there are certain baking compounds which have a high melting point manufactured especially for bakers' and confectioners' use, and which do not have the spreading qualities of oleomargarine, which do not contain milk, and that the federal government does not require a tax to be paid upon said products in which milk is not used.

(6) That the oleomargarine as manufactured and sold in Wisconsin is not artificially colored. That it is nearly white in color. That the butter manufactured in Wisconsin is artificially colored yellow, either with a vegetable coloring matter known as anato, or with a coal tar dye known as OB or AB. That both anato and the coal tar dye are dissolved in cottonseed oil which is added to the butter for the purpose of giving color.

(7) That since 1886 the manner of the sale of oleomargarine has been regulated by the federal government, and that as sold in Wisconsin for many years prior to 1925 the ordinary oleomargarine of commerce has been sold in prints which are wrapped in waxed or oiled paper enclosed in a paper carton which has on both sides of the carton the word "Oleomargarine" in plain letters of not less than 20 point plain Gothic type.

City of Milwaukee and that he sells oleomargarine at retail in his store.

(5) That the animal fat type of oleomargarine is usually made from oleo oil, neutral lard, cotton seed oil, or peanut oil, and ripened whole or skim milk, together with salt.

(6) That the vegetable type of oleomargarine is ordinarily made of cocoanut oil, cottonseed oil, ripened skim milk, and salt.

(7) That in the case of the animal fat type of oleomargarine the fats are carefully selected and the oils refined so as to eliminate the characteristic aroma and flavor of the fat or oil, so that when the ripened milk or skim milk is added the flavor and aroma imparted to the finished product will be from the milk or skim milk and will be a flavor and aroma in imitation of that of butter.

(8) That the federal regulations further require all sales of oleomargarine by retail dealers to be made out of the original package of shipment, and require the original package or box to be labeled plainly as oleomargarine. That the state laws which have been in force for many years require a sign to be placed in the retail store stating that oleomargarine is sold; prohibit oleomargarine being colored in imitation of yellow butter, and require notice to be given, either by sign or verbally where oleomargarine is served in a boarding house. The federal regulations prohibit a boarding housekeeper from coloring oleomargarine except upon payment of a tax as a manufacturer.

(8) That in the case of the vegetable type of oleomargarine the oils are also refined in order to eliminate the characteristic flavor so that when the ripened skim milk is added the flavor imparted to the finished product will be from the milk and will be a flavor in imitation of that of butter.

(9) That oleomargarine has not been sold as or for butter in Wisconsin for many years prior to 1925, and that there is, and has been, no fraud or deception practiced in the sale of oleomargarine. That oleomargarine has been sold as a distinctive trade product under its own name. That it is a well-known article of food. That as generally sold it is sold with a brand name which is registered.

(9) That the fats or oils having the greatest value are those from which the characteristic flavor of the fats or oils have been eliminated, so that the butter flavor can be more easily imparted to the finished product.

(10) That the materials used in the manufacture of oleomargarine are of good quality. The oils and fats used are refined at high temperatures so as to insure purity. That the milk used is treated at a high temperature. That the product that results is a wholesome and nutritious food product. That it contains no elements deleterious to health. That it furnishes elements which are necessary for human life. That

(10) That the history of the oleomargarine industry and the methods of manufacture show a conscious and studied attempt to imitate the flavor of butter by the use of milk or skim milk.

its digestibility and caloric value are equal to that of butter.

(11) That in the sale of oleomargarine for many years the federal and state regulations have been fully complied with, and that the investigations of the Dairy and Food Department show no violations of any laws in its sale, nor have there been any prosecutions for the sale of oleomargarine as or for butter.

(12) That oleomargarine sold at retail at the time of the hearing at about 50 per cent of the price of creamery butter, and has sold for a number of years last past at approximately from 50 to 60 per cent of the retail price of butter.

(13) That during the fiscal year ending June 30, 1924, there were two manufacturers in Wisconsin, one located at Evansville, Wisconsin, and the other the Wisconsin Food Products Company, one of the plaintiffs, located at Jefferson, Wisconsin, and that these two concerns manufactured a little over 4,000,000 pounds of oleomargarine, the larger portion of which was shipped out of the state of Wisconsin. That less than 5 per cent of the product manufactured at Jefferson, being about 2,000,000 pounds was sold in Wisconsin. That there were during the same period 66 wholesalers and 5,226 retail dealers in Wisconsin selling oleomargarine.

(14) That each of the ingredients entering into the manufacture of oleomargarine is a wholesome and nutritious food product, and that each of the ingredients is standardized by the state of Wisconsin. That no chemical change takes place by the mixing of the different ingredients, and

(11) That there are a large number of different ways to make oleomargarine; that it is not a standard product and that a purchaser buying the same does not know what ingredients entered into its manufacture or the proportions of the various ingredients.

(12) That butter, for many years, has been manufactured in substantially the same way; that is, by a process of churning so as to separate the butter fat from the milk or cream.

(13) That it has not been shown that milk is necessary in order to emulsify the fats or oils and get the texture or spreading qualities, but on the contrary it appears that oleomargarine or a substitute for butter having the desired spreading qualities could be made without the use of milk or milk products.

(14) That the plaintiff manufacturers have made no attempts to manufacture oleomargarine or a butter substitute without the use of milk or milk products.

that the mixing does not in any way interfere with the nutritional value of each of the ingredients entering into the manufacture, but on the contrary the various ingredients supplement other ingredients and that the addition of milk adds to the finished product valuable food elements.

(15) That either ripened skimmed milk or ripened whole milk is used in the process of manufacturing for the purpose of getting a proper emulsion, the giving of texture and the milk is ripened for the purpose of developing with the addition of salt a palatable flavor. That no other satisfactory emulsifying agent other than milk has ever been discovered, although experiments have been made in Germany and elsewhere.

(15) That milk or milk products are used in order to imitate the flavor of butter and to furnish the basis for fraudulent, misleading, and deceptive advertisements.

(16) That milk is ripened by the adding of a lactic acid culture, and that there is developed in the process of ripening certain bacteria which give to the milk a flavor which is in turn imparted to a certain degree into the finished product. That this flavor is inherent in the product itself, and that a flavor resembling the same is likewise inherent in butter, due to the fact that the bacteria which develop in the process of ripening develop in the course of manufacture of both products.

(16) That the oleomargarine manufacturers have constantly emphasized the use of milk, and so worded their advertisements that the public is led to believe that oleomargarine is a milk product and a dairy product and product of the farm.

(17) That in the process of emulsification the oil and fats are agitated in a receptacle at a high temperature and are then brought in contact with cold water where the product crystalizes. That in the manufacture of butter the ripened cream or milk is agitated or churned in a receptacle at a low temperature and the fat is

(17) That oleomargarine is not in fact a milk product or a dairy product; that in the finished product there is not to exceed 2% of milk solids and not to exceed 11% of the milk even when the water content of the milk is considered; that as long as milk is used in the process of manufacturing oleomargarine or a but-

separated from the milk in the churn. Both butter and oleomargarine are worked to take out moisture. Butter as a finished product contains approximately 16 per cent of moisture and oleomargarine from 10 to 11 per cent. Salt is added in the process of manufacture of both butter and oleomargarine for the purpose of preserving and adding to the flavor.

(18) Various flavoring compounds have been invented for the purpose of imparting to fats the flavor developed by the lactic acid bacteria in the process of ripening, but no satisfactory substitute can be found for milk as the emulsification agent for the purpose of giving texture.

(19) That oleomargarine as sold in Wisconsin is peculiarly free from fraud or deceit in its sale, due to the fact that it is not colored, and that its color does not resemble that of the butter of commerce, and due to the further fact that its manner of sale has been so prescribed by federal and state statutes and regulations which have been in effect for many years, and due to the further fact that it is generally sold

ter substitute, just so long will the advertiser be able to convey the impression to the public that oleomargarine is a milk product, dairy product and a farm product; that this can be done without making statements which are absolutely false; that advertisements can be worded so as to convey the idea that oleomargarine is made principally from milk, even without making any single statement which is in fact untrue; that such advertising practices in addition to being a fraud upon the public presents a case of unfair competition with the dairy industry and creates a false impression regarding dairy products; that Wisconsin is the greatest dairy state in the union, and that the legislature has power to enact laws to protect the dairy industry from such unfair competition.

(18) That oleomargarine ever since it has been sold in this country has been recognized as a product inherently fraudulent; that every state in the union has passed laws regulating the sale of oleomargarine, and that the federal government under its taxing power has been compelled to prescribe regulations governing its sale.

in cartons properly labeled, that there is little chance of any purchaser being deceived. That there have been no complaints of fraudulent sales.

(20) That oleomargarine is used and has been used by all classes of people, both for cooking and culinary purposes, baking and as a spread for bread.

(21) That oleomargarine as advertised prior to 1923 was advertised as oleomargarine. That certain of the advertisements contain the word "churned", or the statement that the oils and fats were "churned in milk;" other advertisements contained the statement that milk was used in the process of manufacture; that the milk came in certain instances from farms which were inspected; other advertisements stated in speaking of the nut type of oleomargarine that it was a nut butter, but at the same time stated that it was made from cocoanut and peanut oils and milk. That none of the advertisements stated that oleomargarine was butter, or stated that it was anything other than oleomargarine. That the facts set forth in said advertisements were true. That a large number of the advertisements introduced in evidence were in a food journal, and that there was no proof that this food journal had any circulation in Wisconsin, its total circulation in the United States being only 2,500.

(22) That no one was misled from any of said advertisements into believing that the product advertised was butter, or anything other than oleomargarine, and that all of the advertisements

contain the word "oleomargarine" some place in the advertisement.

(23) That subsequent to the enactment of Chapter 147 of the Laws of 1923, by the legislature of Wisconsin, no advertisements have appeared which used the word "butter," "creamery," or "dairy", or the name or representation of any breed of dairy cattle, or any words or symbols or combinations commonly used in the sale of butter, and that said statute has been carefully observed. That the federal government in 1923, as of June 22, 1923, amended its regulations prohibiting the use of any words, pictures or devices which would convey or tend to convey the impression that oleomargarine is a product of the dairy. (Regulations sec. 50 (b)).

(24) That there is no record or proof of any fradulent advertising in connection with the sale of oleomargarine for many years last past, and no proof of the use of any dairy terms since 1923. That oleomargarine is not fraudulently or deceitfully advertised, and that no person has been deceived by any advertisement.

(25) That the John F. Jelke Company is a corporation, organized under the laws of the State of Illinois. That it has been in business for many years and that the oleomargarine manfactured by it at its factory in Chicago is shipped in interstate commerce to wholesale dealers in the state of Wisconsin in original packages, and re-sold by said wholesale dealers to retail dealers in the original package of shipment. That in addition the said John F. Jelke Company ships to certain large consumers in the state of

Wisconsin oleomargarine in interstate commerce. That it maintains no office in Wisconsin. That it has advertised its product as oleomargarine and has sold it as such. That it has built up a large business and good will and ships into the state of Wisconsin approximately 3,000,000 pounds of oleomargarine per year.

(26) That the Wisconsin Food Products Company is a corporation, organized under the laws of the state of Wisconsin, with its principal place of business and factory at Jefferson, Wisconsin. That it manufactures oleomargarine and manufactured during the last calendar year approximately 2,000,000 pounds of oleomargarine, of which approximately 5 per cent only was sold in Wisconsin, the balance being shipped outside of the state to wholesalers and consumers in other states in interstate commerce. That it has invested in its plant and equipment at Jefferson, Wisconsin, approximately $150,000, and that it has built up a large and valuable good will.

(27) That the Hanley and Murphy Company is a corporation, organized under the laws of the state of Wisconsin, with its principal office and place of business at Janesville. That it sells oleomargarine as a wholesaler, selling in the original packages of shipment as received by it in not less than 10 pound lots to retail dealers who in turn sell to the consumer. That it has built up a large and valuable business extending over a period of many years. That it maintains a warehouse and storehouse in the city of Janesville.

(28) That Charles Petri is a

resident of the city of Milwaukee, and has been for many years. That he maintains a retail grocery store and that he sells and has sold for many years oleomargarine in less than 10 pound lots to consumers selling out of the original package of shipment.

(29) That none of the plaintiffs in these cases have sold oleomargarine in violation of law.

(30) That J. Q. Emery is the Dairy and Food Commissioner of the State of Wisconsin, and as such intends to strictly enforce the provisions of Chapter 279 of the laws of 1925, and to prevent the manufacture and sale in Wisconsin of oleomargarine where the same has been made by the use of either whole or skimmed milk as an ingredient, and that said Dairy and Food Commissioner intends to prosecute all persons manufacturing and selling oleomargarine so manufactured.

PLAINTIFFS' CONCLUSIONS OF LAW

(1) That Chapter 279 of the Laws of 1925 is arbitrary, unreasonable and discriminatory, in that

(a) It permits the manufacture and sale of compounds containing the same ingredients as oleomargarine and having the same taste as oleomargarine if milk is not used in the process of manufacture, while prohibiting to a manufacturer of oleomargarine the right to make oleomargarine because of the fact that milk is added, without regard to whether the addition of

DEFENDANTS' CONCLUSIONS OF LAW

(1) That Chapter 279 of the laws of 1925 is in all respects valid and constitutional; that it was enacted under the police power of the state in order to promote the public welfare and prevent fraud.

milk renders the product deleterious.

(b) It interferes with the process of manufacturing a wholesome and nutritious food product in the manner in which it has been manufactured for many years without any reason or necessity for such interference.

(2) Said Act denies to the complainants and others engaged in the manufacture and sale of oleomargarine the right to carry on a lawful business in a lawful manner.

(3) The prohibition of the use of milk will prohibit the manufacture of oleomargarine in the manner in which it has been manufactured for many years, and will prohibit the manufacture of oleomargarine as it has been known as an article of commerce in Wisconsin for many years, and as such will destroy the business and property of the plaintiffs and others similarly situated without cause.

(4) The statute has no relation to the public health or welfare. It was enacted not for the purpose of promoting the public health or preventing deceit or fraud in the sale of oleomargarine, but was manifestly enacted solely for the purpose of aiding the butter industry as such in an effort to prevent the competition of oleomargarine with butter.

(5) That there was no necessity or demand for said legislation for the reason that there was no question of public health involved as such, nor was there any fraud or deceit in the manufacture or sale of oleomargarine which required its enactment.

(6) That it is an unlawful interference with interstate com-

(2) That the complaints in the above entitled actions should be dismissed and the temporary injunctions vacated.

merce in that it prohibits the shipment into Wisconsin from outside the state of an article recognized by the federal government as a lawful article of commerce to consumers and others inside the state, said shipments being made in the original package of shipment.

(7) That said statute is unconstitutional and a violation of the rights guaranteed under Article I, of the state constitution, and of the Fourteenth Amendment to the federal constitution.

(8) That the plaintiffs in the above entitled actions are entitled to an injunction restraining the Dairy and Food Commissioner, and his agents, from the enforcement or threatened enforcement of said statute.

RICHMOND, JACKMAN, WILKIE & TOEBAAS,
Attorneys for the Plaintiffs.
Dated December 21st, 1925.

The following are the Courts Findings of Facts and Conclusions of Law in declaring the act unconstitutional:

Findings of Facts

(1) That the John F. Jelke Company is a corporation organized under the laws of the state of Illinois. That it has been in business for many years and that the oleomargarine manufactured by it at its factory in Chicago is shipped in interstate commerce to wholesale dealers in the state of Wisconsin in original packages and resold by said wholesale dealers to retail dealers in the State of Wisconsin in the original packages of shipment. That in addition the said John F. Jelke Company ships to certain large consumers in the State of Wisconsin oleomargarine in interstate commerce. That it maintains no office in the State of Wisconsin. That it has advertised its product as oleomargarine and has sold it as such. That it has built up a large business and good will and ships into the State of Wisconsin approximately 3 million pounds of oleomargarine per year.

(2) That the Wisconsin Food Products Company is a corporation organized under the laws of the State of Wisconsin with its principal place of business and factory at Jefferson, Wisconsin. That it manu-

factures oleomargarine and manufactured during the last calendar year approximately 2 million pounds of oleomargarine, of which approximately 5 per cent only was sold in the State of Wisconsin. That the balance was shipped outside of the state to the wholesalers and consumers in other states in interstate commerce. That it has invested in its plant and equipment at Jefferson, Wisconsin, approximately $150,000.00. That it has built up a large and valuable good will.

(3) That the Hanley & Murphy Company is a corporation organized under the laws of the State of Wisconsin with its principal office and place of business at Janesville, Wisconsin. That it sells oleomargarine as a wholesaler, selling in the original packages of shipment as received by it in not less than 10 pound lots to retail dealers who in turn sell to the consumers. That it has built up a large and valuable business extending over a period of many years. That it maintains a warehouse and storehouse in the city of Janesville, Wisconsin.

(4) That Charles Petri is a resident of the city of Milwaukee, Wisconsin, and has been for many years. That he maintains a retail grocery store and that he sells and has sold for many years oleomargarine in not less than 10 pound lots to the consumers, selling out of the original package of shipment.

(5) That J. Q. Emery is the Dairy and Food Commissioner of the State of Wisconsin and as such intends to strictly enforce the provisions of Chapter 279 of the Laws of 1925, and to prevent the manufacture and sale in Wisconsin of oleomargarine where the same has been made by the use of either whole or skimmed milk as an ingredient and that said Dairy and Food Commissioner intends to prosecute all persons manufacturing and selling oleomargarine so manufactured.

(6) That none of the plaintiffs in these cases have sold oleomargarine in violation of law.

(7) That oleomargarine, as manufactured and sold in Wisconsin is of two kinds, to wit:

(a) The animal fat type, wherein the ordinary ingredients consist of oleo oil, neutral lard and refined cottonseed oil or peanut oil, all of which are emulsified in ripened whole milk or skimmed milk and to which salt is added. That this type of oleomargarine has been sold in Wisconsin for over 30 years last passed.

(b) The nut type, wherein the ordinary ingredients consists of refined cocoanut oil and refined cottonseed oil which are emulsified in ripened skimmed milk to which salt is added. That this type of oleomargarine has been manufactured and sold in Wisconsin for more than 10 years last past.

(8) That oleomargarine, as generally manufactured and sold in the United States and in the State of Wisconsin, has always contained either ripened whole milk or ripened skimmed milk. That such milk is used for the purpose of getting a proper emulsion, the giving of texture and a palatable flavor. That no other satisfactory emulsifying agent than milk has ever been discovered.

(9) That oleomargarine, as manufactured and sold in Wisconsin, is nearly white in color. That it is not artificially colored. That the color of oleomargarine does not resemble that of the butter of commerce.

(10) That oleomargarine has been in general use by that trademark name throughout the United States for more than 30 years last past and is a well-known article of food. That during practically all of that time it has been used and is now being used by all classes of people both for cooking and culinary purposes, baking and as a spread for bread.

(11) That the materials used in the manufacture of oleomargarine are of good quality, pure and contain no elements which are deleterious to health. That the product which results is a wholesome and nutritious food product. That its caloric value is almost equal to that of butter.

(12) That oleomargarine has not been sold as for butter in Wisconsin for many years prior to 1925. That there has been no fraud or deception practiced in its sale in Wisconsin for many years. That it is advertised, held out and sold under its own name. That the ordinary oleomargarine of commerce has for years prior to 1925 been sold in Wisconsin in prints which are wrapped in waxed or oiled paper, enclosed in a paper carton and on both sides of which carton appears the word, "oleomargarine", in plain letters in not less than 20 point plain Gothic type. That there have been no complaints of fraudulent advertisements or sales in Wisconsin for many years prior to 1925.

(13) That for a number of years last past oleomargarine has sold for a price ranging from 40 to 60 per cent of the retail price of butter.

(14) That during the fiscal year ending June 30, 1924, there were 66 wholesalers of oleomargarine and 5,223 retailers in the State of Wisconsin.

Conclusions of Law

(1) That Chapter 279 of the Laws of 1925 is arbitrary, unreasonable and discriminatory.

(2) That said act denies to the complainants and others engaged in the manufacture and sale of oleomargarine the right to carry on a lawful business in a lawful manner.

(3) That said act is an unlawful interference with the interstate commerce.

(4) That said act is unconstitutional and in violation of the constitution of the State of Wisconsin and of the constitution of the United States.

(5) That the plaintiffs are entitled to judgment permanently enjoining the Dairy and Food Commissioner of Wisconsin and his agents from enforcing said act.

Let judgment be entered accordingly.

Dated January 18th, A. D. 1926.

By the Court:

(Signed) AUGUST C. HOPPMANN,

Judge.

From the decision of the Circuit Court, the Dairy and Food Commissioner appealed to the Supreme Court of the State. The case being so very important, and based upon the very fundamentals of the Wisconsin Constitution, the decision of the Supreme Court in the matter as reported on pages 311 to 324, inclusive, of Volume 193, Wisconsin Reports, is herewith given:

John F. Jelke Company, Respondent, *vs.* Emery, as Dairy and Food Commissioner, Appellant.
Wisconsin Food Products Company, Respondent, *vs.* Same, Appellant.
Petri, Respondent, *vs.* Same, Appellant.
Hanley & Murphy Company, Respondent, *vs.* Same, Appellant.

April 9—June 20, 1927

FOOD: Statute prohibiting manufacture and sale of oleomargarine:

Validity

1. In determining the validity of ch. 279, Laws of 1925, prohibiting the manufacture and sale of a butter substitute when milk or milk fats are combined with any fat, oil, or oleaginous substance, the court will regard it as a statute prohibiting the sale and manufacture of oleomargarine as that term is understood in law and in commerce. p. 316.

2. Ch. 279, Laws of 1925, is invalid as an unlawful exercise of the police power, since it prohibits the sale of a healthful, nutritious food, and such prohibition is not necessary to protect the public health, morals, or safety, to prevent fraud, or to promote the public welfare. pp. 318, 324.

3. Courts take judicial notice that oleomargarine is a healthful, nutritious food. p. 321.

4. In a doubtful case the final responsibility of supporting the constitution is with the courts; but in a case reasonably plain it is the duty of every officer to support it, even though his act may have undesirable consequences to himself. p. 322.

5. Ch. 279, Laws of 1925, cannot be justified on the ground that the legislature may prohibit the manufacture and sale of oleomargarine to protect the dairy industry from unfair competition. p. 322.

6. Where a proper exercise of the police power results in advantage to a particular class and to the disadvantage of others, and that is the principal purpose of the measure, the courts will look behind even the declared intent of legislatures and relieve citizens against oppressive acts, where the primary purpose is not the protection of the public health, safety, or morals. p. 323.

APPEAL from a judgment of the circuit court for Dane county: AUGUST C. HOPPMANN, Circuit Judge. *Affirmed.*

Injunction. The plaintiff, *John F. Jelke Company* is a manufacturer of oleomargarine, with its principal place of business and factory in Chicago, Illinois. It sells oleomargarine to wholesalers and

retailers in the state of Wisconsin. The plaintiff *Wisconsin Food Products Company* is a corporation engaged in the business of manufacturing and selling oleomargarine, having its factory and place of business at Jefferson, Wisconsin. The plaintiff *Hanley & Murphy Company* is a corporation engaged in the wholesale grocery business and having its place of business at Janesville, Wisconsin. It sells oleomargarine at wholesale in the city of Janesville and in the territory surrounding Janesville. The plaintiff *Charles Petri* is a retail grocer whose place of business is in Milwaukee, Wisconsin. He sells oleomargarine at retail. The plaintiffs sought to enjoin the enforcement by the dairy and food commissioner of ch. 279 of the Laws of 1925. The four actions were begun in order that every phase of the issue might be presented. They were subsequently consolidated and tried as a single action.

The complaint sets forth the history of oleomargarine, the different types of oleomargarine, and the various processes that are employed in the manufacture of oleomargarine. It is alleged that oleomargarine is a wholesome food product; that in its manufacture and sale in Wisconsin all state and federal laws and regulations are complied with, and that the sale of oleomargarine is free from fraud. It sets out ch. 279 of the Laws of 1925 and alleges that it violates both the state and the federal constitution, that it is unreasonable, arbitrary, oppressive, and discriminatory, and it denies to the plaintiffs the equal protection of the law; that it is an unlawful interference with interstate commerce; that it takes property without due process of law, and that it is class legislation.

The answer put in issue matters alleged in the complaint except the allegations as to the history of oleomargarine and the method of its manufacture.

Upon the trial a considerable amount of expert testimony was taken. The court made and filed findings of fact. Findings (1), (2), (3), and (4) relate to the corporate character and kind of business carried on by the plaintiffs. In the fifth finding defendant is found to be the dairy and food commissioner of the state of Wisconsin and that it was his intention to strictly enforce the provisions of ch. 279 of the Laws of 1925 and thereby prevent the manufacture and sale of oleomargarine where the same has been made by the use of either whole or skimmed milk as an ingredient.

It is further found that none of the plaintiffs have sold oleomargarine in violation of law.

It is further found:

"(7) That oleomargarine, as manufactured and sold in Wisconsin, is of two kinds to wit:

"(a) The animal-fat type, wherein the ordinary ingredients consist of oleo oil, neutral lard, and refined cottonseed oil or peanut oil, all of which are emulsified in ripened whole milk or skimmed milk and to which salt is added. That this type of oleomargarine has been sold in Wisconsin for over thirty years last past.

"(b) The nut type, wherein the ordinary ingredients consist of refined cocoanut oil and refined cottonseed oil which are emulsified in ripened skimmed milk to which salt is added. That this type of oleomargarine has been manufactured and sold in Wisconsin for more than ten years last past.

"(8) That oleomargarine, as generally manufactured and sold in the United States and in the state of Wisconsin, has always contained either ripened whole milk or ripened skimmed milk. That such milk is used for the purpose of getting a proper emulsion, the giving of texture and a palatable flavor. That no other satisfactory emulsifying agent than milk has ever been discovered.

"(9) That oleomargarine, as manufactured and sold in Wisconsin, is nearly white in color. That it is not artificially colored. That the color of oleomargarine does not resemble that of the butter of commerce.

"(10) That oleomargarine has been in general use by that trademark name throughout the United States for more than thirty years last past and is a well-known article of food. That during practically all of that time it has been used and is now being used by all classes of people both for cooking and culinary purposes, baking, and as a spread for bread.

"(11) That the materials used in the manufacture of oleomargarine are of good quality, pure, and contain no elements which are deleterious to health. That the product that results is a wholesome and nutrious food product. That its caloric value is almost equal to that of butter.

"(12) That oleomargarine has not been sold as for butter in Wisconsin for many years prior to 1925. That there has been no fraud or deception practiced in its sale in Wisconsin for many years. That it is advertised, held out, and sold under its own name. That the ordinary oleomargarine of commerce has for years prior to 1925 been sold in Wisconsin in prints which are wrapped in waxed or oiled paper, inclosed in a paper carton, and on both sides of which carton appears the word 'oleomargarine', in plain letters in not less than twenty point plain Gothic type. That there have been no complaints of fraudulent advertisements or sales in Wisconsin for many years prior to 1925.

"(13) That for a number of years last past oleomargarine has sold for a price ranging from forty to sixty per cent of the retail price of butter.

"(14) That during the fiscal year ending June 30, 1924, there were sixty-six wholesalers of oleomargarine and 5,223 retailers in the state of Wisconsin."

The court concluded as a matter of law that ch. 279 of the Laws of 1925 is arbitrary, unreasonable and discriminatory; that the act denies to complainants the right to carry on a lawful business in a lawful manner; that it constitutes an unlawful interference with interstate commerce; that it is in violation of the constitution of the state of Wisconsin and of the United States.

Judgment was entered accordingly perpetually enjoining the defendant dairy and food commissioner and his agents from enforcing the act, from which judgment the defendant appeals.

John W. Reynolds, attorney general, and *Suel O. Arnold*, assistant attorney general, for the appellant.

For the respondents there was a brief by *Richmond, Jackman, Wilkie & Toebaas* of Madison, and oral argument by *Ralph W. Jackman.*

ROSENBERRY, J. Ch. 279, Laws of 1925, is as follows:

"AN ACT to create section 352.365 of the statutes, relating to the manufacture and sale of oleomargarine and other substitutes for butter.

"*The People of the State of Wisconsin, represented in Senate and Assembly, do enact as follows:*

"SECTION 1. A new section is added to the statutes to read: 352.365. (1) It shall be unlawful for any person, firm or corporation, by himself, his servant or agent, or as servant or agent of another, to manufacture, sell or solicit or accept orders for, ship, consign, offer or expose for sale or have in possession with intent to sell, any article, product or compound which is or may be used as a substitute for butter and which is made by combining with milk or milk fats or any of the derivatives of either any fat, oil or oleaginous substance or compound thereof other than milk fat.

"(2) Any person violating this section shall, for the first offense, be punished by a fine of not less than fifty dollars nor more than five hundred dollars, and for each subsequent offense, by imprisonment in the county jail not less than ten days nor more than six months or by a fine of not less than one hundred dollars nor more than five hundred dollars, or by both such fine and imprisonment.

"SECTION 2. This act shall take effect on September 1, 1925."

In determining whether or not the provisions of ch. 279 contravene the constitution of the state of Wisconsin or of the United States it is necessary to settle some preliminary questions. In the first place it is argued that ch. 279 does not prohibit the manufacture and sale of oleomargarine; that it only prohibits such manufacture and sale when milk or milk fats are combined with any fat, oil, or oleaginous substance. Under the evidence produced in this case this contention is little more than a quibble. There is not a scintilla of evidence that there has ever been on the market in commercial form a substance known as oleomargarine which did not combine milk or milk fats with some oleaginous substance. It was proven upon the trial that a laboratory experiment had been performed which showed that a substance which was not a substitute for butter and did not possess the qualities of either butter or oleomargarine might be produced, and it is contended that this substance answers the technical definition of oleomargarine; that the manufacture of this substance is not prohibited and the act is therefore valid. There can be no doubt that ch. 279 had for its sole purpose the prohibiting of the manufacture and sale within the state of Wisconsin of oleomargarine as that term is defined by the laws of the United States and as it is ordinarily used and understood in commercial transactions. While the term "oleomargarine" is not used in the body of the act, the title of the act is

"An act to create section 352.365 of the statutes, relating to the manufacture and sale of oleomargarine and other substitutes for butter." We shall therefore, in considering the questions raised, regard the statute as one which prohibits the sale and manufacture of oleomargarine as that term is known and understood both in law and in commerce.

It further appears without dispute that oleomargarine is a nutritious, wholesome, healthful food. While it is true that it does not possess all of the healthful properties of butter and is not in all respects a substitute for butter, it on the other hand contains no deleterious or unhealthful ingredients.

It further appears that while it is in fact a substitute for butter, it is sold upon its own merits and under such circumstances that every purchaser and every user is fully advised that he is purchasing or using, as the case may be, oleomargarine and not butter. The facts are disclosed in a very concise and accurate way by the testimony given by the defendant upon the witness stand. He testified substantially as follows:

"I have held the office of dairy and food commissioner of the state of Wisconsin for seventeen years. During that time I have had various analyses of oleomargarine made to determine its legal status. When the term 'oleomargarine' is used, we understand it to mean the product as defined under the federal law.

"At various times we have had analyses of oleomargarine made, and to the extent of my knowledge there never has been any of it that did not contain casein. My understanding is that the federal government insisted that milk was a constituent element of oleomargarine. I know of no product that enters into the manufacture of oleomargarine which is deleterious to health.

"I have not found oleomargarine to be noxious or unwholesome. It has elements of nutrition. It has some that are not contained in butter. I have no recollection of ever hearing any expert testify or say that oleomargarine was not nutritious, and as far as I know whole or skim milk is always used. I recall no complaints from purchasers of oleomargarine that they were not satisfied with it. Within the last five years I have known of no case where a purchaser has asked for butter and been sold oleomargarine.

"Limiting my answer to the question of public health, I know of no reason requiring the enactment of the law in question prior to 1925."

No one familiar with the matter will charge the defendant with any lack of intelligent zeal in the enforcement of laws relating to food and food products, and if there were violations of the law either with respect to the content of oleomargarine or its branding and sale, it is most probable that it would have come to the attention of the defendant.

Ch. 279 was passed in the exercise of the police power. It prohibits the carrying on of a legitimate profitable industry and the sale of a healthful, nutritious food. This prohibition can only be justified upon the ground that it is necessary in order to protect the public health, public morals, public safety, prevent fraud, or promote the public welfare. As already indicated, the public health is not endangered by the manufacture and sale of oleomargarine and certainly no

question of morals is involved. There is not the slightest evidence that the prohibition is justified in order to prevent fraud because under the evidence there is no fraud, and certainly there is not such a state of affairs as enables the court to take judicial notice of a fact which in five years has not come to the attention of the dairy and food commissioner.

It is quite probable that this case would not be here were it not for the decision of the United States supreme court in *Powell v. Pennsylvania*, 127 U. S. 678, 8 Sup. Ct. 992. That case seems to have turned upon a very narrow question. The defendant offered to show by expert testimony that the article for the sale of which he was being prosecuted was made from pure animal fats; that the process of manufacture was clean and wholesome, the article containing the same elements as dairy butter, the only difference between them being that the manufactured article contained a small portion of the fatty substance known as butterine; that this butterine existed in dairy butter in the proportion of from three to seven per cent., and in the manufactured article in a smaller proportion, and was increased in the latter by the introduction of milk and cream; that this having been done, the article contained all the elements of butter produced from pure unadulterated milk or cream from the same except that the percentage of butterine was slightly smaller. All evidence in support of these facts was excluded.

In affirming the ruling of the trial court the supreme court of the United States said:

"It will be observed that the offer in the court below was to show by proof that the particular articles the defendant sold, and those in his possession for sale, in violation of the statute, were in fact wholesome or nutritious articles of food. It is entirely consistent with that offer that many, indeed that most kinds of oleomargarine butter in the market contain ingredients that are or may become injurious to health. The court cannot say, from anything of which it may take judicial cognizance, that such is not the fact. Under the circumstances disclosed in the record, and in obedience to settled rules of constitutional construction, it must be assumed that such is the fact."

Proceeding upon that assumption the court sustained the conviction of Powell. Mr. JUSTICE FIELD wrote a very strong dissenting opinion, which was ten years later to become the law. *Powell v. Pennsylvania, supra*, was decided in 1887. In 1897 the case of *Schollenberger v. Pennsylvania*, 171 U. S. 1, 18 Sup. Ct. 757, arose. In that case it was made to appear, as the fact was, that oleomargarine was a wholesome, nutritious, healthful article of food. While the *Schollenberger Case* related to interstate commerce, nevertheless the decision plainly implies that were oleomargarine an unhealthful, deleterious and unwholesome article of food its importation might be prohibited. The court said:

"Conceding the fact (that oleomargarine may be adulterated), we yet deny the right of a state to absolutely prohibit the introduction within its borders of an article of commerce, which is not adulterated and which in its pure state is healthful, simply because such an

article in the course of its manufacture may be adulterated by dishonest manufacturers for purposes of fraud or illegal gains. The bad article may be prohibited, but not the pure and healthful one."

So the basis of fact upon which the *Powell Case* rested, to wit, the presumption that oleomargarine was injurious and unhealthful, was entirely wiped out.

In the year 1898 arose also the case of *Collins v. New Hampshire*, 171 U. S. 30, 18 Sup. Ct. 768. By a statute of the state of New Hampshire all oleomargarine was required to be colored pink, and the court held that a state law which necessitates and provides for an adulteration of an article of commerce and required an importer to add a foreign substance to his article which is thereby rendered unsalable in order that he may be permitted lawfully to import and sell it, is an unlawful restriction of commerce. The court said:

"In a case like this it is entirely plain that if the state has not the power to absolutely prohibit the sale of an article of commerce like oleomargarine in its pure state, it has no power to provide that such article shall be colored, or rather discolored, by adding a foreign substance to it, in the manner described in the statute . . . Although under the wording of this statute the importer is permitted to sell oleomargarine freely and to any extent, provided he colors it pink, yet the permission to sell, when accompanied by the imposition of a condition which, if complied with, will effectually prevent any sale, amounts in law to a prohibition."

The law was held unconstitutional.

Nor is *Powell v. Pennsylvania, supra*, saved by the ruling of *McCray v. U. S.* (1904) 195 U. S. 27, 24 Sup. Ct. 769. The statute under consideration in that case prohibited the sale of oleomargarine colored to resemble butter, and it was held that the statute was valid and that the states might, in the exercise of police power, absolutely prohibit the manufacture and sale of such an article. And so we have a statute in this state, the validity of which has been sustained, which prohibits the sale of oleomargarine colored to resemble butter (sec. 352.37). *Essex v. State*, 170 Wis. 512, 175 N. W. 795. These decisions rest on the ground that the state has power to protect its citizens against fraud.

There is not the slightest intimation in *McCray v. U. S., supra*, that the sale of a lawful, nutritious, uncolored oleomargarine may be prohibited. The *Powell Case* remains authority as to the power of the state to prohibit the manufacture and sale of an adulterated, unhealthful, deleterious article, but now has no application to oleomargarine for the reasons stated. The courts now take judicial notice of the fact that oleomargarine is a healthful, nutritious food. *Braun & Fitts v. Coyne*, 125 Fed. 331; *People v. Arensberg*, 105 N. Y. 123, 11 N. E. 277; *State v. Hanson*, 118 Minn. 85, 136 N. W. 412.

The law enacted by the state of Pennsylvania prohibiting the sale of oleomargarine was subsequently repealed, and, so far as we are advised, there has not been and is not now upon the statute books of any of the other states a statute prohibiting the sale of uncolored

oleomargarine, and its sale and transportation is expressly authorized by the United States.

It would seem that decisions could not make plainer the fact that any law which prohibits the manufacture and sale of uncolored oleomargarine violates the constitution of the United States and of the state of Wisconsin. In this connection we are moved to observe that the mandates of the constitution are just as binding upon the conscience of the legislator as upon the conscience of the judge. The constitution is the mandate of a sovereign people to its servants and representatives and no one of them has a right to ignore or disregard its plain commands. Every officer, legislative and executive as well as judicial, is required by the constitution, as a condition of holding his office, to take a solemn oath to support it. It was not intended that the whole burden of that support should fall upon the judicial department. As a matter of fact it rests equally upon every department, although it is in an especial way the concern of the judicial department because is the duty of the courts to declare and apply the law. In a doubtful case the final responsibility is with the court, but in a case reasonably plain it is the duty of every officer to support it even though his act may have undesirable consequences to himself.

We are next urged to hold the act valid on the ground that the legislature, in order to protect the Wisconsin dairy industry from unfair competition, may prohibit the manufacture and sale of oleomargarine. There is no basis in the evidence upon which a claim of unfair competition can be based. The argument is addressed to the proposition that in order to promote one important industry the legislature may, in the exercise of its power to promote the general welfare, cripple or destroy another competing industry. It has been supposed that the constitution was devised for the express purpose of withdrawing from legislatures the power to do that very thing. The framers of our constitutions, particularly the earlier ones, were quite as zealous in guarding against encroachment upon personal liberty by legislatures as by executives. The proposition urged violates at every point the theory of equality of citizens before the law. It is based upon a statement contained in *Sligh v. Kirkwood*, 237 U. S. 52, 61, 35 Sup. Ct. 501. It is there said:

"It was competent for the legislature to find that it was essential for the success of that industry that its reputation be preserved in other states wherein such fruits (citrous) find their most extensive market. The shipment of fruits so immature as to be unfit for consumption, and consequently injurious to the health of the purchaser, would not be otherwise than a serious injury to the local trade, and would certainly affect the successful conduct of such business within the state. The protection of the state's reputation in foreign markets, with the consequent beneficial effect upon a great home industry, may have been within the legislative intent, and it certainly could not be said that this legislation has no reasonable relation to the accomplishment of that purpose."

While this was said *arguendo*, it having been argued to the court

that because fraud was perpetrated upon the citizens of other states to which Florida fruit was shipped, the legislature of Florida was powerless to act in the matter, it is nevertheless bottomed upon the established fact that the goods, shipment of which was prohibited, were unfit for human consumption, unhealthful, and deleterious as an article of food, thus bringing it clearly within the police-power field. Under the facts proven in this case, whatever the economics of the situation may be, from the standpoint of constitutional right the legislature has no more power to prohibit the manufacture and sale of oleomargarine in aid of the dairy industry than it would have to prohibit the raising of sheep in aid of the beef-cattle industry or to prohibit the manufacture and sale of cement for the behefit of the lumber industry. In some cases a proper exercise of the police power results in advantage to a particular class of citizens and to the disadvantage of others. When that is the principal purpose of the measure, courts will look behind even the declared intent of legislatures and relieve citizens against oppressive acts where the primary purpose is not the protection of the public health, safety, or morals. *Yick Wo v. Hopkins*, 118 U. S. 356, 6 Sup. Ct. 1064, 30 Lawy. Ed. 220, and cases cited in notes, p. 541.

In *Day-Bergwall Co. v. State*, 190 Wis. 8, 207 N. W. 959, the constitutionality of an act forbidding the sale of an article colored in conscious imitation of vanilla was sustained on the ground that it could not be said "that it clearly appears that the enactment has no substantial relation to a proper purpose, or that the act is not germane to the object and purpose of the legislation, which is to prevent fraud." No doubt the act operated in practical effect to protect the sale of vanilla and to diminish the sale of a synthetic product which was admittedly wholesome and healthful. Upon the facts this was undoubtedly a very close case, but because it was within the legislative field the court was bound to sustain the statute.

In this case it is not shown that it is necessary, in order to protect the public health or prevent fraud, to prohibit the sale of oleomargarine. Ch. 279 is therefore a void enactment.

By the Court. Judgment affirmed. No costs to be allowed. Plaintiff to pay balance of clerk's fees.

This disposes of a chapter in the history of oleomargarine legislation in Wisconsin. After the injunction was issued the Commissioner obeyed the mandates of the courts and now, after the Supreme Court has spoken, it is as if this act never had been passed. It imposes no duty and furnishes no protection.

"CREAM OF NUT" OLEOMARGARINE—INJUNCTION

Some time in October 1927, my attention was called to oleomargarine contained in cartons on which appeared the following legends: "One pound net, Cream of Nut Oleomargarine," on two sides, and "Cream of Nut" on both ends. The Commissioner wrote to the vendors of this substance calling their attention to Section 352.41, which, in substance, provides that no combination of words commonly used in the sale of butter shall be used in advertising oleomargarine. He expressed the opinion that the word "cream" is universally used in connection with butter; that "Cream of Nut" in itself is misleading, as there is no such substance as "Cream of Nut;" and that as mere vegetable oils cannot be considered "Cream of Nut" under any conditions, therefore the use of the word "cream" as it appeared on the cartons is an unlawful act.

The vendors of this article, however, did not desist and therefore the department caused to be instituted prosecution against a merchant who sold the product at retail. When that case came to trial notice was served upon the Dairy and Food Commissioner that the constitutionality of the act and his construction that the phrase "Cream of Nut" was unlawful would be attacked. On April 16, 1928, a complaint was served and an injunction order issued by Judge A. C. Hoppmann of the Circuit Court for Dane County, enjoining and restraining the Dairy and Food Commissioner from interfering in any manner with the sale within the State of Wisconsin of "Cream of Nut" oleomargarine and from threatening any dealer or other person with prosecution or from instigating any prosecution because of the sale of the said brand of oleomargarine because of any alleged violation of Section 352.41. The bond to be given by the plaintiffs was ordered to be $500.00.

The complaint set up quite a number of allegations, some of which may be true, some of which are not true, but culminated in the conclusion that the plaintiff has no adequate remedy of law; that unless equitable relief by temporary and permannent injunction is granted by the court the business in Wisconsin of the plaintiff derived from the sale of "Cream of Nut" oleomargarine and its property will be destroyed before the validity of said statute can be determined; and the usual claims were made that the statute is unreasonable, arbitrary, oppressive and discriminatory; that it destroys property and property rights without just cause or reason; and that it acts as a confiscation of property without compensation; and that it is class legislation, enacted for the benefit of and at the instance of a competing business, and has no relation to the public morals or welfare of the State; that it is uncertain provides by its terms for severe penalties, but fails to designate with any degree of certainty of what the offense consists, but leaves to a jury the determination as to what constitutes the offense.

The Attorney General in behalf of the Dairy and Food Commission-

er prepared an answer, admitted some of the allegations in the complaint, denied others, and pleaded insufficient information to form a belief as to others; alleged that the product commonly known as cream is inseparably connected with the manufacture of the product commonly known as butter; that the word cream is a word commonly used in the sale of butter; and that there is no such substance as "Cream of Nut" in existence. It was further admitted that the Dairy and Food Commissioner intends and threatens to prevent the sale of oleomargarine contained in cartons in which the word "Cream" appears in large and prominent letters on various parts of such cartons and to cause the arrest of wholesalers and retailers selling the same in Wisconsin.

Up to this time there has been no hearing, but of course the injunction is still in full force and effect and the hands of the Dairy and Food Commissioner in relation to this matter are most effectually tied.

CONSTRUCTION OF CHEESE STANDARDS BEFORE SUPREME COURT

Cheese and cheese legislation has had the attention of the Dairy and Food Department ever since it was organized. In fact the first report of Commissioner H. C. Thom on page 18 contains the following statement:

Cheese

"60,000,000 pounds of cheese annually is made in this State. There is not an article of commerce that requires greater skill in handling in order secure favorable markets. No industry has been so perverted. No business exists that has been so basely manipulated and no article of food has been so degraded by counterfeiters. At no time has the honest manufacturer met with such dishonest competition. Matters have come to such a pass that the genuine article is under the ban of suspicion at home and abroad."

The Legislature of 1891 provided that all Cheddar cheese made in Wisconsin was to be stamped and three grades of cheese were established:

1. Wisconsin Full Cream, made from unskimmed milk;
2. Standard cheese, partly skimmed but containing not less than 30 per cent fat; and
3. Skimmed milk cheese containing less than 30 per cent fat.

The laws of 1889 had provided for stamping of cheese boxes and all cheese made from milk containing 3 per cent or more of butter fat to be branded as full cream.

Chapter 424, Laws of 1889, prohibited "Filled Cheese." That is, cheese mixed with, or made by adding to natural milk, any animal or vegetable fats, when the article was to be sold as cheese.

Chapter 228, Laws of 1893, provided for two stencils:

1. Wisconsin Full Cream to be placed upon the cheese; and
2. Wisconsin Skimmed Cheese.

The use of these stamps was obligatory.

Chapter 30, Laws of 1895, prohibited the manufacture or buying etc., of any cheese manufactured from or by use of skimmed milk to which there has been added any foreign fat. The same Chapter provided that skimmed milk cheese, that is cheese from which any of the fat originally contained therein had been removed, could not lawfully be manufactured, bought, sold, etc., except such cheese was 10 inches in diameter and 9 inches in height.

Chapter 398, Laws of 1909, provided that cheese is not to contain less than 50 per cent of milk fat. It is to be noted that in this enactment two specifications were involved:

First, that the cheese must be made out of milk from which no portion of the fat originally contained therein has been removed; and

Second, Cheese must not contain less than 50 per cent of milk fat in the dry substance.

Since then it has been the opinion of the Dairy and Food Department that it was not sufficient for cheese to comply with either one of these specifications, but cheese to be lawful must conform to both. If cheese was made from whole milk, but contained less than 50 per cent of milk fat in the dry substance, it was not a lawful article, and, on the other hand, if any portion of the fat originally contained in milk was removed therefrom and the milk made into cheese, the resulting product was unlawful no matter if it did contain an excess of milk fat; that is, more than 50 per cent, in the dry substance.

Chapter 474, laws of 1915, contained the following phrase, "Except that Emmenthaler cheese, commonly known as domestic Swiss cheese, shall contain in the water free substance not less than 43 per cent of milk fat."

We find the first regulation as to moisture in Chapter 87, Laws of 1917, to the effect that "Cheese known as American or Cheddar cheese contains not more than 40 per cent of moisture."

In 1919 the Legislature found it necessary to provide that, "Cheese known as Brick cheese contains not more than 42 per cent of moisture, and in Chapter 301 a penalty was provided for manufacturing for sale, selling, etc., any cheese which contains more than the permitted amount of moisture."

CONSTRUCTION OF LAW CHALLENGED

The theory that cheese must be made out of milk from which no portion of the fat had been removed was first openly challenged in a case brought by the Dairy and Food Department against the Langlade County Creamery Company. This company maintained the factory at Antigo in which so-called Emmenthaler or Swiss cheese was being made and did skim the milk which was made into cheese by

them without having the cheese contain less than 43 per cent of milk fat in the dry substance.

The case was tried very thoroughly and the trial court found that the provision of law that cheese must be made from unskimmed milk was unconstitutional as applied to Emmenthaler cheese. The case was then carried to the Supreme Court of the State and the following opinion was handed down:

STATE OF WISCONSIN
IN SUPREME COURT
JANUARY TERM, 1927

STATE OF WISCONSIN,
Plaintiff in Error,

vs.

LANGLADE COUNTY CREAMERY COMPANY,
Defendant in Error.

Error to review an order of the Municipal Court of Langlade County. A. N. Whiting, Judge. *Affirmed.*

This is a criminal proceeding against the Langlade County Creamery Company charging that it had manufactured Emmenthaler or American Swiss cheese from milk from which a portion of the butter fat had been removed contrary to statute. From an order abating the action and dismissing the complaint on the ground that the statute was unconstitutional, as applied to Emmenthaler cheese, the state appealed.

The information charged that the Langlade County Creamery Company "did unlawfully manufacture within this state skimmed-milk cheese and cheese manufactured from milk from which a part of the fat originally contained therein had been removed, and that the said skimmed-milk cheese so manufactured was more than ten inches in diameter and less than nine inches in height." Section 352.36 (formerly section 4607c) of the statutes prohibits any person from manufacturing or selling "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 * * * 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." The proof supports the finding of the trial court "that, in order to manufacture a 'Fancy' or 'No. 1' domestic Swiss cheese, it is essential to have a milk where the fat and casein content is formed to a definite ratio, or to reduce the fat content of the milk to the ratio required. That the ratio recommended by the U. S. Department of Agriculture is one pound of fat to .75 to .80 pound of casein. That * * * a Fancy or Number 1 domestic Swiss cheese cannot be manufactured from milk containing a too high percentage of fat in proportion to the percentage of casein

without reducing the fat content. That experience shows that a larger percentage of Fancy and Number 1 domestic Swiss cheese can be made during all seasons of the year by taking out some fat and keeping the proper ratio of fat and casein. * * * That a fancy domestic Swiss cheese cannot be manufactured in loaves 9 inches in height and 10 inches in diameter, as provided by Section 4607c, Statutes, for the reason that the same would, after curing, be rind to a much greater extent than ordinary Swiss cheese and because of lack of body and bulk very few eyes would develop with a consequent lack of flavor. * * * That the fat content of imported Emmenthaler cheese from Switzerland, which under the federal law must contain 45% of fat in the dry substance, and the domestic Swiss made from standardized milk exceeds 43% in the dry matter as required by Section 4601—4a—9."

STEVENS, J. (1) Defendant's first ground for the abatement of the action is that section 352.36 of the statutes does not apply to the manufacture of Emmenthaler cheese because the word "cheese" as used in this statute applies only to American or Cheddar cheese and does not apply to special brands like American Swiss or Emmenthaler cheese. We cannot believe that it was the legislative intent to give the word "cheese" as used in this statute so narrow or limited a meaning.

(2) Defendant's second ground for an abatement of the action is based upon the contention that the filled-cheese statute (section 352.36 of the statutes) was modified by the exception, printed in italics below, which was added to subdivision 9, of section 352.03 (formerly section 4601—4a) of the statutes by chapter 474, Laws of 1915. This section, so far as material, reads: "cheese contains, in the water-free substance, not less than fifty per cent of milk fat; * * * *except that Emmenthaler cheese, commonly known as domestic Swiss cheese, shall contain in the water-free substance not less than forty-three per cent of milk fat.*" The case turns upon the question of whether this amendment modifies the filled-cheese statute (section 352.36) so as to permit some skimming of the milk in the manufacture of Emmenthaler cheese if the butter fat content was not reduced below the prescribed forty-three per cent or whether this exception adds another requirement to the filled-cheese statute so that Emmenthaler cheese must not only be made from whole milk, but from whole milk which will produce cheese with not less than forty-three per cent of butter fat.

If it is held that this exception does not modify the filled-cheese statute and that whole milk must always be used in the manufacture of Emmenthaler cheese without regard to the per cent of butter fat contained in such cheese, then the constitutionality of the filled-cheese act is called into question so far as it affects Emmenthaler cheese. The trial court in a very able and well reasoned opinion arrived at the conclusion that the filled-cheese act (section 352.36 of the statutes) was unconstitutional so far as it applied to Emmenthaler

cheese. This ruling was based upon the fact that the proof shows that the best quality of Emmenthaler cheese cannot be made from milk that contains a large percentage of butter fat without the removal of a small per cent of that butter fat. We do not determine whether the trial court arrived at the right conclusion when it held Section 352.36 of the statutes unconstitutional so far as it applied to Emmenthaler cheese. We merely call attention to his conclusion for the purpose of showing that the constitutionality of the act will be called in question if it be held that the statutes prohibited the manufacture of Emmenthaler cheese from anything but whole milk.

The rule is familiar that this court must presume that the legislature did not intend to pass any act that would be in conflict with any constitutional limitation upon the power of that body, and that it is the duty of the court to give the acts of the legislature a construction that will bring them into harmony with the provisions of the constitution and not into conflict with the fundamental law.

If the act of 1915 (subdivision 9, section 352.03 of the statutes) was passed in recognition of the well nigh universal practice of slightly skimming milk which is used to make Emmenthaler cheese in order to produce the best quality of such cheese, it will remove all questions as to the constitutionality of the filled-cheese act so far as it is applied to the manufacture of Emmenthaler cheese and at the same time permit the making of Emmenthaler cheese to go on in accord with the practice that has prevailed for a period of years without subjecting any maker thereof to the charge that he is violating the law. Such a construction protects the public from anything more than the slight skimming of milk used for the manufacture of Emmenthaler cheese which is shown to be essential to produce the best quality of American Swiss cheese. The act of 1915 recognizes the fact that Emmenthaler cheese may be made with a smaller percentage of butter fat than that required for the manufacture of other kinds of cheese.

We therefore hold that subdivision 9 of section 352.03 and section 352.36 of the statutes should be construed together and that when so construed they permit the making of Emmenthaler cheese from milk which has been standardized by the removal of a slight amount of butter fat, provided that the amount removed shall be so slight that the Emmenthaler cheese made from such milk shall never contain less than forty-three per cent of butter fat in the dry matter. The proof also establishes the fact that milk that is standardized,—that is slightly skimmed to give the proper ratio of casein to butter fat,—will not produce Emmenthaler cheese which contains less than forty-three per cent of butter fat in the dry matter. It is not alleged and it is not proven that the defendant made any Emmenthaler cheese which contained less than forty-three per cent of butter fat.

By the Court. Order affirmed.

The promulgation of this decision caused considerable uneasiness in the cheese industry and perplexities in the department. The question

immediately arose if the provision fixing 43 per cent of milk fat in the dry substance for Emmenthaler cheese modifies the provision originally contained in the law, against removing any fat from the milk, did the fixing of a standard of 50 per cent of milk fat in the dry substance for American and Brick cheese correspondingly modify the skimming provision?

On May 10, 1927, the Commissioner submitted this question to the Attorney General in the following language:

"Due to the decision recently handed down by the Supreme Court of Wisconsin in the case State of Wisconsin, plaintiff in error, vs. Langlade County Creamery Company, defendant in error, which opinion has practically reversed the construction of the laws heretofore held by the Dairy and Food Department relating to the manufacture of at least one type of cheese, I am at a loss as to what relation Sections 352.36 and 352.03 hold to each other.

"If I correctly understand the decision referred to, it is in substance that Section 352.36 must be considered as having been modified as far, at least, as Emmenthaler cheese is concerned, by Section 352.03. Inasmuch as Section 352.03 deals not only with Emmenthaler cheese, but also with cheese known as American or Cheddar cheese and cheese known as Brick cheese, the question presents itself, do the standards as to butter fat content enacted by this section also modify, but in a different degree, Section 352.36? In other words, must cheese known as American cheese and cheese known as Brick cheese not only be made from milk which will produce cheese with not less than 50 per cent milk fat, but also from milk from which no portion of its original butter fat has been removed, or, to put the question another way, must American type cheese or Brick type cheese which contains 50 per cent milk fat in the water-free substance, but is manufactured from milk from which any of the fat originally contained therein has been removed, not be made in any form except 10 inches in diameter and 9 inches in height as provided for in Section 352.36?"

Under date of June 22, 1927, the following reply was received:

"In your recent letter you state that due to the decision recently handed down by the supreme court of Wisconsin in the case of *State of Wisconsin v. Langlade County Creamery Company*, which opinion has practically reversed the construction of the laws heretofore held by your department relating to the manufacture of at least one type of cheese, you are at a loss as to what relation sec. 352.36 and sec. 352.03 hold to each other. You say:

'If I correctly understand the decision referred to, it is in substance that Section 352.36 must be considered as having been modified as far, at least, as Emmenthaler cheese is concerned, by Section 352.03. Inasmuch as Section 352.03 deals not only with Emmenthaler cheese, but also with cheese known as American or Cheddar cheese and cheese known as Brick cheese, the question presents itself, do the standards as to butter fat content enacted by this section also modify, but in a different degree, Section 352.36? In other words, must cheese known as American cheese and cheese known as Brick cheese not only be made from milk which will produce cheese with not less than 50 per cent milk fat, but also from milk from which no portion of its original butter fat has been removed, or, to put the question another way, must American type cheese or Brick type cheese which contains 50 per cent milk fat in the water-free substance, but is manufactured from milk from which any of the fat originally contained therein

has been removed, not be made in any form except 10 inches in diameter and 9 inches in height as provided for in Section 352.36?'

"Sec. 352.36 prohibits the manufacture and sale of cheese from skimmed milk or milk from which any part of the milk fat has been extracted, unless such cheese is made in forms of ten inches in diameter and nine inches in height. This statute was enacted by Ch. 30 of the laws of Wisconsin for 1895. Sec. 352.03, subsec. (9) (a) provides in part as follows:

'Cheese is the sound, solid and ripened product made from milk or cream by coagulating the casein thereof with rennet, pepsin or lactic acid, with or without the addition of ripening ferments and seasoning or added coloring matter; and contains, in the water-free substance, not less than fifty per cent of milk fat; * * * except that Emmenthaler cheese, commonly known as domestic Swiss cheese, shall contain in the water-free substance not less than forty-three per cent of milk fat.'

"The first part of the above quoted section to the second semicolon was enacted by Ch. 344 of the laws of 1909. The latter part was enacted by Ch. 474 of the laws of 1915. Our supreme court held that the provision in said section that 'Emmenthaler cheese shall contain in the water-free substance not less than forty-three per cent of milk fat' must be construed as modifying sec. 352.36 to the extent that Emmenthaler cheese may be made from milk from which some milk fat has been extracted to the extent that the cheese contains not less than 43% of milk fat. The court used the following language:

'We therefore hold that subdivision 9 of section 352.03 and section 352.36 of the statutes should be construed together and that when so construed they permit the making of Emmenthaler cheese from milk which has been standardized by the removal of a slight amount of butter fat provided that the amount removed shall be so slight that the Emmenthaler cheese made from such milk shall never contain less than 43% of butter fat in the dry matter.' *State v. Langlade Co. Creamery Co.*, 213 N. W. 664.

"The court did not in any way refer to American or Cheddar cheese as that question was not before it. If the provision of the statute that Emmenthaler cheese must contain not less than 43% of milk fat modifies sec. 352.36, then it seems to me it must necessarily follow that the provision that other cheese shall contain 50% of milk fat must also modify the provision of sec. 352.36, so far as it relates to other cheese. I see no escape from this conclusion.

"You state that there will be no special difficulty in enforcing the law so far as other than Emmenthaler cheese is concerned if it is held that said construction which was applied to Emmenthaler cheese by the supreme court is extended to other cheese as well.

"You are therefore advised that it is my opinion that American cheese and cheese known as Brick cheese may be made from milk from which milk fat has been slightly removed without making it in the form of ten inches in diameter and nine inches in height, so long as the cheese contains not less than 50% milk fat."

Very truly yours,
(Signed) J. E. MESSERSCHMIDT,
Assistant Attorney General.

JEM:EWL
Approved:
(Signed) H. A. MINAHAN,
Deputy Attorney General.

"Caption:

American cheese and cheese known as Brick cheese may be manufactured from milk from which milk fat has been slightly removed without making said cheese in the form of ten inches in diameter and nine inches in height, so long as the cheese contains not less than 50% milk fat."

CHEESE INDUSTRY ALARMED

When the opinion of the Attorney General became known to the cheese industry, leading men therein were filled with misgivings. They saw, or thought they saw, an end of the splendid reputation Wisconsin cheese had attained throughout the country and feared that with the legal bar against partial skimming removed, the trade would generally resort to skimming or standardizing, which is a new word for skimming.

There was some talk in the industry of challenging the correctness of the opinion of the Attorney General and bringing mandamus proceedings against the Dairy and Food Commissioner requiring him to construe the law as absolutely prohibiting removal of any milk fat from milk to be made into American or Brick cheese and act accordingly by prosecuting cheese makers who indulged in the practice. The Commissioner, to allay fears, issued a circular letter to all cheese factories and dealers in cheese as follows:

"There appears to be some misunderstanding as to the effect of the recent decision of the Supreme Court of Wisconsin in the so-called 'Swiss Cheese Case,' and therefore I want to clearly state to you the position of the Dairy and Food Department in relation to cheese.

"1. The minimum milk fat content which cheese must have was *not lowered* by the decision; it was, and is now, 50 per cent of the water-free substance in the case of Cheddar and Brick cheese, and 43 per cent in the case of Emmenthaler cheese.

"2. It was, and is now, unlawful to offer for sale, sell, ship or consign or have in possession for sale, any cheese manufactured from milk from which any of the fat originally contained therein has been removed, if, in the case of Cheddar or Brick cheese, it contains less than 50 per cent milk fat in the dry substanee, or in the case of Emmenthaler cheese, it contains less than 43 per cent of milk fat in the dry substance, except such cheese is 10 inches in diameter and 9 inches in height.

"3. It was, and is now, unlawful to manufacture for sale, sell, offer for sale, or have in possession with intent to sell, any Cheddar cheese containing more than 39 per cent of moisture, or any Brick cheese containing more than 43 per cent of moisture.

"I firmly believe that the welfare of the cheese industry, and that of producers of milk for the industry, must be built upon cheese of high quality; that deficiency in milk fat and excess of water are ear marks of poor quality cheese, and that a first essential for high quality cheese is clean milk. In efforts for high quality cheese, I bespeak and hope to have the sincere cooperation of the best thoughts of the cheese industry.

"I also believe it to be my duty, prescribed by law, to prosecute whenever I can obtain the required evidence necessary to convict, all persons who violate the laws relating to cheese, not only those who manufacture unlawful cheese, but also those who aid and abet the unlawful manufacture by selling and passing the proscribed product into the channels of trade with profit to themselves. I shall not shirk that duty, but comply with it to the best of my ability."

"Dated at Madison the 25th day of July, 1927."

EMERGENCY LEGISLATION CONSIDERED

When it became apparent that an extra session of the Legislature would be called, the thought was near that if an emergency existed in the cheese industry, the Governor should include in his call to the Legislature for a special session a request to deal with the cheese situation.

Acting upon a suggestion of this department, Mr. Paul C. Burchard, Secretary of the Wisconsin Dairymen's Association issued a call for a conference to be held November 1, 1927.

The following were represented:

Wisconsin Dairymen's Association by:
W. J. Dougan, Beloit, Wisconsin, President;
Paul C. Burchard, Fort Atkinson, Secretary;
A. J. Glover, Fort Atkinson, Board of Directors;
C. H. Everett, Racine, Executive Board.

Wisconsin Cheese Makers' Association by:
J. L. Sammis, Secretary.

University of Wisconsin Dairy Department by:
Professor K. L. Hatch, Madison, Wisconsin;
Professor H. C. Jackson, Madison, Wisconsin.

Wisconsin Cheese Producer's Federation by:
Mr. F. A. Corniea, Plymouth, Wisconsin.

National Cheese Institute by:
J. D. Jones, Jr., Milwaukee, Wisconsin, Secretary.

Cheese Dealers by:
O. H. Limpus, Pabst Cheese Corp., Milwaukee, Wis.;
W. F. Hubert, Lakeshire Cheese Co., Plymouth, Wis.

Dairy and Food Department by:
C. J. Kremer, Commissioner;
Harry Klueter, Chief Chemist;
J. Q. Emery, Consulting Assistant;
A. T. Bruhn, Inspector and Adviser as to Cheese.

The Commissioner opened the conference with a statement as follows:

"During the latter part of July I attended a conference called by the National Cheese Institute at Milwaukee wherein the Supreme Court decision in the Langlade County case and the opinion of the Attorney General, based upon the principles laid down in that case, and their effect upon the American cheese industry, were discussed. At that time my understanding was that the institute and the cheese industry looked upon the decision and the opinion with grave concern fearing that it would injure the good name of Wisconsin cheese throughout the country and cause cheese makers to skim milk to a point where the resulting cheese would be, if not directly unlawful, injured in its quality. I also understood that the Cheese Institute would endeavor to find ways and means to neutralize the evil effect feared from the decision and the opinion. I offered to be helpful along these lines in any way I could, personally and as a State official.

"Since then I have heard nothing directly but the Cheese Institute published a resolution by its Board of Directors, which, in substance, dealt with the situation. The resolution appears to me to be so sound and states such fundamental truths in a concise manner that I want to repeat it here:

'Now, therefore, be it resolved by the directors of the National Cheese Institute, that this organization is flatly and unalterably opposed to any move or practice that may result in the lowering of cheese quality standards; that it is our judgment that cheese quality that will find favor with the consuming public is dependent on clean, wholesome milk delivered to a sanitary plant where it is carefully and conscientiously made up into an inviting product containing fat in excess of minimum legal requirements and moisture substantially below the lawful maximum, and

'Be it further resolved, that the National Cheese Institute stresses the need of higher rather than lower cheese quality standards and that it pledges itself to take any steps that may be feasible in support of this position. The Institute recognizes the fundamental position that cheese making occupies in Wisconsin's dairy industry and it emphasizes the fact that the position of the cheese industry can be sound only if the consuming public places the stamp of its approval on a well-made, wholesome, inviting, high quality product.'

"To give effect to the principles stated in this resolution and afford the cheese industry timely opportunity to frankly discuss the situation, and to publicly go on record for all that is best in its own interest, and act upon its convictions, this department took the liberty to suggest that this conference be held. In this conference here, 'Steps that may be feasible in support of the position' taken in this resolution may be suggested and discussed. In making suggestions and in the discussion of them, the ultimate good of the entire industry must be not only the motive but the guiding and governing factor. Individual interests must yield to the common good. If this conference is to be of service to the people of Wisconsin, individual men and institutions represented must hope to find their reward and their profit as a part of the industry in the general prosperity which we may reasonably hope will follow. If each one here is bent and actuated solely by his individual interest or that of the institution he represents, then we cannot hope to accomplish much. Let us think in terms of the industry.

"As some sort of a guide of the character of the milk made into cheese in Wisconsin and the product resulting from this milk, I have had the work of our laboratory as to cheese tabulated for the last few years and these tabulations are before you.

"Since I came to this office I have given the cheese industry considerable attention and thought. In my opinion improvements are sorely needed in:

(a) The character and qualifications of cheese makers and cheese factories;
(b) In the practices of assemblers of cheese;
(c) In legislation; and
(d) In enforcement.

"To bring these about is a far reaching program, but this conference was suggested primarily to get an expression as to the necessity and character of new legislation and, what is unavoidably connected therewith, law enforcement.

"Question I. The first question that is before you is do we want to ask the Governor to include emergency cheese legislation in the call for a special session of the Legislature?

"Question II. If we do, is it advisable to include:

(a) All cheese;
(b) Certain types only;
(c) Cheddar cheese only?

"Question III. Shall we attempt to go back to the double standard so that cheese must be made exclusively of whole milk, or do we recognize standardization as promotive of uniformity and in harmony with modern manufacturing practices?

"Question IV. If we decide upon the former, are we ready to provide better machinery for law enforcement which will be needed?

"Question V. If we adopt a flat standard is the milk fat to be increased and to what figure?

"Question VI. If the milk fat content for cheese is to be increased, is it to be inclusive or exclusive of process cheese?

"Question VII. Can and should provision be made how unlawful cheese, inadvertently made, may be lawfully disposed of?

"It appears to me that nothing can be gained by quibbling or evading issues. A candid expression of opinion will in the end help very much. There should be no mental reservation and each group of men should be willing to assume their share of the burden and their share of disturbances, which are unavoidable if readjustments to new conditions, the maintenance of higher standards of products, and the making and merchandising thereof are to prevail.

"Now those are my thoughts, but I suggest to you now that you consider this a conference of the cheese and the dairy industry. Select your own chairman and your own secretary. We will help wherever we can, but see whether you can clarify your own opinions so that the cheese industry may present a united front and that unitedly they are all going to work for improvements. I thank you. Who is to be your chairman? Motions are now in order."

Mr. Paul Burchard, Secretary of the Wisconsin Dairymen's Association was elected as chairman of the conference.

At the conference everyone appeared to express his opinion candidly and while there were differences of opinion along certain lines, the general feeling was perhaps best expressed by Mr. Glover in the following language:

"It has been most unfortunate for the dairy industry that alarm has been spread regarding our cheese industry. It occurs to me that it has been forgotten that the standard for American cheese requires a fat content of 50 per cent on the dry basis. So long as that standard is maintained I am unable to entertain any fear that the quality of American cheese will be impaired through standardization of milk from which it is manufactured. The enforcement of this law is in the hands of our dairy and food commissioner. I know that when American cheese contains 50 per cent fat that that is sufficient to produce a quality product, other things being equal. It may be wise to raise the standard to 51 per cent. However, I am not at this time prepared to advocate this, but I am unalterably opposed to the production of American cheese containing less than 50 per cent fat on the dry basis.

"It seems to me we have arrived at a time when we need not have deep concern about the standardization of American cheese. It is my opinion that the majority of manufacturers do not believe in the standardization of milk for American cheese, but how can it be stopped? When our present cheese law was enacted, which makes it a misdemeanor to remove any fat from milk to be made into Ameri-

can cheese, we did not have the appliances for standardizing milk accurately. Since then science has developed them. Most dairy products are being standardized, and their standard requirements are sufficiently high that quality is not impaired or the rights of the consumers violated.

"Take, for example, butter. Our laws now require it to contain at least 80 per cent fat and not more than 16 per cent moisture. Before the art and science of buttermaking was developed to its present status, butter contained from 79 to over 90 per cent fat or an average of about 85 per cent. The water content varied from 8 to over 16 per cent. Through experimentation it was discovered that butter containing from 14 to 15 per cent moisture spread well on bread, was of good body, and kept well.

"Since we are standardizing butter, milk, ice cream, evaporated milk, condensed milk, etc., is there any reason why milk for the manufacture of American cheese should not be standardized? Haven't we been for years indirectly standardizing milk for the manufacture of cheese? The breeds of dairy cattle producing high testing milk are not generally found in the cheese sections but rather the breeds producing milk moderately rich in fat. If we insist that the milk shall not be standardized for the manufacture of American cheese, it is tantamount to paying the man less for high testing than for moderate testing milk. Are we asking any manufacturer of other food products to follow any such rule? If not, then why should we ask producers of milk to abide by a regulation not required of others?

"We might ask ourselves this question: 'How are we going to prevent standardization?' It is well known that at the firming stage of cheese making fat can be whipped out of the curd into the whey. It is not uncommon to find the whey of Swiss cheese containing as high as 1 per cent fat and the whey from Cheddar cheese varies in fat from .2 to .8 of one per cent. More fat could be whipped into the whey if there were not a commercial demand and the necessity of keeping a certain quantity of fat in the cheese to produce a quality product. The full protection of our cheese industry lies in fixing standards sufficiently high to produce quality and to extend to the consumer his every right. It would be suicidal to the cheese industry if standards were fixed upon any other basis.

"How much fat should American cheese contain to produce a quality product? That is what should concern us. We are not justified in asking the dairy farmer to produce a cheese containing more fat than is necessary for a quality product and especially since he is inadequately compensated for it. The central purpose of this conference should be directed to extending the farmer and the consumer a square deal. I am not deeply concerned about the manufacturers—they can take care of themselves. I have always been much in sympathy with Theodore Roosevelt's statement which is in substance this —'Look after the common people and the rest will take care of themselves.'

"The analysis of cheese picked up in our various markets indicates clearly that a very small percentage is falling below standard. Our dairy and food commission has brought action against the violators of law and those who would profit by cheating are held in subjugation by law enforcement. As long as we have fearless enforcement of our dairy laws we need have no concern over the quality of our dairy products as affected by their fat content.

"It seems to me that it would be unwise at this time to urge the Governor to include in a call for a special session of the Legislature an item calling for an amendment of the cheese standards law. Our cheese industry is not in danger if we keep Wisconsin cheese up to the fat standard required by law."

It is not to be assumed that the conference held and the conclusion arrived at quieted the agitation about standardizing milk for cheese making. Many requests came to the department for information as to how to standardize and as to the probable gains to be had thereby. Many cheese makers feared that a competitor, by standardizing, would be able to pay more for his milk and they would lose patrons. Others again would conclude because a competitor paid slightly more for milk fat he was standardizing and with that conclusion always went the further conclusion that the competitor was producing an unlawful article.

STANDARDIZATION EXPERIMENTS

The offer of a large cheese concern of the State of one of its factories with average equipment for the purpose of conducting investigations into standardization was cheerfully accepted. Arrangements were also made with a good sized cheese factory with a milk supply of fairly high butter fat content to make experimental cheese. This was done with the thought to make available to the cheese industry of the State actual results obtained by standardizing and a comparison of these results with results obtained from approximately the same milk without standardizing in commercial cheese making.

The department undertook to outline and direct methods for the making of experimental cheese and preparing correct records as to the milk used and the results obtained both from standardized milk and milk of approximately the same quality that was not standardized. All the actual work was done under the guidance and direction of Mr. Harry Klueter, Chief Chemist. Before a cheese maker can standardize milk for the purpose of cheese making, it is necessary that he know the pounds of milk in the vat, the percentage of fat in the milk and the percentage of casein in the milk. Without such knowledge, standardization is a mere guess or makeshift and may result in the production of adulterated cheese.

The experiment was carried on for twelve successive days in each of the two cheese factories, using milk from all but one of the patrons delivering milk daily. The experiments are described and summed up by Mr. Klueter in the following:

A STUDY OF STANDARDIZATION OF MILK FOR CHEESE MAKING

Standardization of milk, as the word implies, means adjusting milk to a definite fixed standard. Standardization of milk for cheese making means adjusting the fat of milk so that there is a definite ratio of fat to casein.

To carry through the process of standardization, the percentage of fat in the milk must first be determined accurately. For work in fac-

tories, this can be accomplished by the Babcock test, care being taken to make the determination as accurately as possible by giving attention to such details as reading the fat column at the proper temperature, using acid of proper strength, mixing the milk with the sulphuric acid in such a manner as to prevent charring of the fat, and it is advisable that the percentage of fat be determined in duplicate. The next step is to determine the per cent of casein in the milk by the Walker Titration Method, which is the only simple method adapted to factory use. This is done by means of a standard tenth normal alkali solution and the use of a forty per cent solution of formaldehyde using phenolphthalein as an indicator. Ten cubic centimeters of milk are transferred by means of a pipette to a casserole or small white cup and one cubic centimeter of one per cent phenolphthalein indicator is added. From an accurate burette, reading to tenths of a cubic centimeter or better still to one-twentieth of a cubic centimeter, tenth normal alkali is now added with constant stirring until a fairly pink color is produced. The reading on the burette is now taken and recorded. Next two cubic centimeters of a neutral forty per cent formaldehyde solution is added with a pipette; this discharges the pink color in the sample so that it goes back to its normal color. The tenth normal alkali solution is again added cautiously with constant stirring until the same shade of pink color is obtained which was present before it was destroyed with the formaldehyde solution. The burette is carefully read at this point and the difference between the two readings on the burette is the number of cubic centimeters of alkali solution used up in titrating the casein. The percentage of casein is found by multiplying the number of cubic centimeters of alkali used by 1.47.

Having determined the per cent of fat and the per cent of casein in the milk, it is possible to standardize the milk by skimming to any desired ratio of fat to casein in which the percentage of casein in the milk will approach the percentage of fat by means of the following formula:

$$\frac{\text{Percentage of Casein in Milk}}{\text{Casein in the ratio desired in the standardized milk}} = \text{Per cent of fat standardized milk should contain}$$

$$\frac{\text{Weight of milk x per cent of fat standardized milk should contain}}{\text{Per cent of fat in factory milk}} = \text{Weight of milk to leave in vat or kettle}$$

Weight of milk received—Weight of milk to leave in vat or kettle= Pounds of milk to be skimmed.

After making the necessary calculations the cheese maker is ready to remove the required number of pounds of fat from the milk by running it through the separator, keeping the cream and returning the skim milk to the cheese vat. This procedure was carried out with the milk on each of the six days on which the milk was standardized.

No. 1.

DAILY REPORT OF CHEESE FACTORY

Date 1928	Milk Rec'd Pounds	Per cent of Fat in Milk Received Babcock	Per cent of Casein in Milk Rec'd Walker Method	Ratio of Fat to Casein in Milk Received	Milk Skimmed Pounds	Per cent Fat in Standardized Milk	Cream Obtained Pounds	Wt. of Cheese Made	Yield per 100 lbs. of Milk
Feb. 1	4622	3.4	2.366	1 to 0.69	340	3.15	15	416	9.0+
Feb. 2	4610	3.4	2.38	1 to 0.70				429	9.3+
Feb. 3	4639	3.4	2.293	1 to 0.68	346	3.1	17	411	8.85
Feb. 4	4599	3.4	2.337	1 to 0.69				427	9.28
Feb. 5	4648	3.4	2.352	1 to 0.69	339	3.1+	19	416	8.97
Feb. 6	4598	3.4	2.326	1 to 0.68				426	9.26
Feb. 7	4640	3.4	2.352	1 to 0.69	349	3.1+	20	410	8.83
Feb. 8	4593	3.3+						422	9.18
Feb. 9	4659	3.4	2.352	1 to 0.69	351	3.1	40	412	8.8+
Feb. 10	4670	3.3+						422	9.03
Feb. 11	4594	3.4	2.352	1 to 0.69	351	3.1+	20	406	8.83
Feb. 12	4568	3.4						420	9.19

No 1 A.

DAILY REPORT OF CHEESE FACTORY—Continued

Date 1928	Milk Rec'd Pounds	Percent Fat in Milk received Babcock	Percent Casein in Milk received	Ratio of Fat to Casein in Milk received	Milk skimmed Pounds	Percent Fat in Standardized Milk	Sweet Cream obtained Pounds	Whey Cream obtained Pounds	Weight of Cheese made	Yield per 100 lbs. of Milk
May 21	8648	3.8	2.4255	1 to 0.64	1600	3.3	95	55	785¼	9.0
22	8733	4.0	2.499	1 to 0.62				95	896½	10.25
23	8851	4.0	2.499	1 to 0.62	1800	3.3	118	83	853	9.63
24	8987	4.0	2.4255	1 to 0.61				73	958	10.77
25	8915	4.1	2.4255	1 to 0.59	2000	3.2+	140	82	866¾	9.72
26	9029	4.0+	2.499	1 to 0.62				66	981½	10.87
27	9361	4.0+	2.499	1 to 0.62	2100	3.2	130	82	924¾	9.87
28	9385	4.0+	2.499	1 to 0.62				63	1039	11.07
29	9589	4.1—	2.5725	1 to 0.63	1700	3.4	123	50	971	10.12
30	9808	4.1	2.499	1 to 0.61				84	1074	10.95
31	9964	4.1	2.499	1 to 0.61	2200	3.1	147	51	979¾	9.83
June 1	9894	4.1	2.499	1 to 0.61				83	1070¾	10.82

The experiment was carried on for twelve days at each factory. To get the necessary data with which to carry through our experiments, arrangements were made for submitting accurate daily samples of milk used with weight of the same, of the standardized milk used and weight, of the whey, whey cream, skim milk, the weight of cheese manufactured and the weight of cream removed. We planned to get samples for each step in the process of cheese making.

Forms, such as Table No. 1, for reporting the daily operations at the cheese factory were furnished and the manager of the factory submitted, for each day's operation, the information called for by this daily cheese factory report.

Tables No. 1 and 1A show these facts for the entire period of the experiment. They show essential facts necessary for a cheese maker before standardization is attempted, and in addition show the pounds of cream removed on days when the milk is standardized, together with the yield of cheese and the weight of cheese. The decrease in yield for low testing milk is not nearly as striking as is the case with four per cent milk, and this is in keeping with what one would expect. Naturally the larger the percentage of fat removed, the greater the decrease in yield.

In addition to determinating the fat and casein of the milk for standardization, the cheese maker ought to determine the fat and casein in the standardized milk from time to time, not necessarily each day, but sufficiently often to check his work. Further, the cheese maker should be able to take the percentage of cheese making solids in the milk and standardized milk and calculate the approximate composition of the cheese that can be made.

Tables No. 2 and 2A show the composition of the composite factory milk for the twelve day periods of the experiment at each factory, as well as the composition of the milk after standardization. The percentages of fat and casein here reported were obtained by refined methods of chemical analysis which are more accurate than factory methods, and serve as a basis of comparison between what might reasonably be expected in factory testing as compared to carefully performed analytical work under much more favorable conditions. It will be noted that there is a slight variation in the fat of the milk from day to day at each factory, but the variation is not great and should not be.

A study of the percentages of fat and casein on the particular days when the ratio of casein to fat was the highest indicates that this particular ratio existed not because the percentage of fat in the milk had decreased but that the percentage of casein in the milk may be higher than on other days. This illustrates the necessity of knowing the relation of these two constituents of milk before attempting to standardize. To illustrate this point, the factory milk for February 9 had a ratio of fat to casein of 1 to 0.74, and such milk will not permit of the same percentage of fat being removed to obtain the ratio aimed at, namely, 1 to 0.78, as will milk with a ratio like that of the milk on the first day of the experiment at the Loyal factory.

LABORATORY ANALYSIS

No 2

Of Composite Factory Milk — Of Standardized Milk

Date 1928	Specific Gravity	% Total Solids	% Solids not Fat	% Fat	% Casein	Ratio Fat to Casein	Specific Gravity	% Total Solids	% Solids not Fat	% Fat	% Casein	Ratio Fat to Casein
Feb. 1	1.0315	11.88	8.61	3.27	2.26	1 to 0.69	1.0313	11.70	8.58	3.12	2.29	1 to 0.73
Feb. 2	1.0311	11.91	8.58	3.33	2.29	1 to 0.69						
Feb. 3	1.0314	11.96	8.62	3.34	2.30	1 to 0.69			SAMPLE SOURED			
Feb. 4	1.0316	11.93	8.66	3.27	2.28	1 to 0.70						
Feb. 5	1.0314	11.88	8.64	3.24	2.28	1 to 0.70	1.0319	11.69	8.68	3.01	2.26	1 to 0.75
Feb. 6	1.0315	11.89	8.57	3.32	2.29	1 to 0.69						
Feb. 7	1.0315	11.90	8.57	3.33	2.44	1 to 0.73	1.0319	11.70	8.60	3.10	2.42	1 to 0.78
Feb. 8	1.0315	11.84	8.55	3.29	2.36	1 to 0.72						
Feb. 9	1.0315	11.80	8.54	3.26	2.43	1 to 0.74	1.0318	11.54	8.52	3.02	2.38	1 to 0.79
Feb. 10	1.0315	11.76	8.51	3.25	2.35	1 to 0.72						
Feb. 11	1.0317	11.90	8.54	3.36	2.37	1 to 0.71	1.0320	11.62	8.54	3.08	2.32	1 to 0.75
Feb. 12	1.0316	11.84	8.50	3.34	2.35	1 to 0.70						

LABORATORY ANALYSIS

No 2A

Of Composite Milk — Of Standardized Milk

Date	Specific Gravity	% Total Solids	% Solids Not Fat	% Fat	% Casein	Ratio Fat to Casein	Specific Gravity	% Total Solids	% Solids Not Fat	% Fat	% Casein	Ratio Fat to Casein
May 21	1.0324	12.81	8.94	3.87	2.52	1 to 0.65	1.0331	12.15	8.93	3.22	2.47	1 to 0.77
May 22	1.0328	12.73	8.82	3.91	2.46	1 to 0.63						
May 23	1.0320	12.82	8.86	3.96	2.50	1 to 0.63	1.0323	12.09	8.87	3.22	2.48	1 to 0.77
May 24	1.0318	12.72	8.78	3.94	2.50	1 to 0.63						
May 25	1.0320	12.94	8.95	3.99	2.54	1 to 0.65	1.0323	12.06	8.94	3.12	2.54	1 to 0.81
May 26	1.0326	12.86	8.92	3.94	2.57	1 to 0.65						
May 27	1.0325	12.98	9.03	3.95	2.61	1 to 0.66			SAMPLE SOURED			
May 28	1.0324	13.07	9.10	3.97	2.61	1 to 0.66						
May 29	1.0327	12.96	8.97	3.99	2.61	1 to 0.65	1.0329	12.25	8.96	3.29	2.60	1 to 0.79
May 30	1.0323	12.94	8.98	3.96	2.59	1 to 0.65						
May 31	1.0327	12.92	8.98	3.94	2.67	1 to 0.68	1.0335	12.03	9.06	2.97	2.67	1 to 0.90
June 1	1.0325	12.97	9.11	3.86	2.62	1 to 0.68						

No 3

WEIGHT AND COMPOSITION OF SKIM MILK AND BY-PRODUCTS IN THE MANUFACTURE OF CHEESE

Date	Skimmed Milk			Cream			Whey			Whey Cream		
	Pounds	Per cent Fat	Pounds Fat	Pounds	Per cent Fat	Pounds Fat	Pounds	Per cent Fat	Pounds Fat	Pounds	Per cent Fat	Pounds Fat
Feb. 1	325	0.36	1.170	15	48.0	7.20	4191	0.58	24.30	35	49.32	17.26
2							4181	0.35	14.63	27	38.65	10.44
3	329	0.08	0.263	17	58.52	9.95	4211	0.30	12.63	20	44.83	8.97
4							4172	0.35	14.60	19	54.70	10.39
5	320	0.35	1.120	19	56.56	10.75	4213	0.36	15.16	24	46.42	11.14
6							4172	0.32	13.35	18	54.80	9.86
7	329	0.32	1.052	20	52.70	10.54	4210	0.31	13.05	20	48.23	9.65
8							4171	0.32	13.25	17	56.23	9.56
9	311	0.24	.746	40	27.21	10.88	4207	0.29	12.20	16	56.75	9.08
10							4248	0.30	12.74	15	59.85	8.98
11	331	0.25	.827	20	51.98	10.40	4168	0.32	13.34	18	53.62	9.65
12							4148	0.31	12.86	21	45.06	9.46

No 3A

WEIGHT AND COMPOSITION OF SKIM MILK AND BY-PRODUCTS IN THE MANUFACTURE OF CHEESE

Date 1928	Skimmed Milk			Cream			Whey				Whey Cream		
	Pounds	Per cent Fat	Pounds Fat	Pounds	Per cent Fat	Pounds Fat	Pounds	Per cent Fat	Pounds Fat	Per cent Total Solids	Pounds	Per cent Fat	Pounds Fat
May 21	1505	0.17	2.55	95	59.52	56.54	7768	0.20	15.53	6.80	55	27.57	15.16
May 22							7837	0.26	20.37	6.93	95	21.41	20.34
May 23	1682	0.20	3.36	118	53.23	62.81	7880	0.21	16.55	6.77	83	19.78	16.41
May 24							8029	0.22	17.66	6.83	73	26.34	19.22
May 25	1860	0.21	3.90	140	54.82	76.74	7908	0.25	19.77	6.75	82	18.86	15.46
May 26							8047	0.25	20.12	6.95	66	29.83	19.68
May 27	1970	0.17	3.34	130	57.28	74.46	8306	0.23	19.10	6.69	82	17.72	14.53
May 28							8346	0.26	21.70	6.76	63	32.41	20.41
May 29	1577	0.20	3.15	123	53.45	65.74	8495	0.20	16.99	6.72	50	32.12	16.06
May 30							8734	0.23	20.08	6.89	84	24.78	20.81
May 31	2053	0.16	3.28	147	58.30	85.70	8837	0.19	16.79	6.55	51	26.35	13.43
June 1							8823	0.23	20.29	6.92	83	27.00	22.41

A study of both tables shows that the percentage of casein varies and that while in most instances it follows the fat there are exceptions. The number of exceptions are sufficient to warrant the statement that it would not be safe to determine and use the fat only as a means of standardization.

Tables No. 3 and 3A are of value in showing what becomes of certain constituents of milk that do not go into the cheese. It shows fat losses in the whey and the source of income from both cream and whey cream. It shows the variation in the fat content of the skim milk from day to day, although the separator was not changed. It will be noted that on February 3, the percentage of fat was very low, and this is accounted for by reason of the fact that the sample of skim milk had been run through the separator at least three times in the process of flushing the machine. The percentage of fat in the whey on the first day was 0.58 which is very much higher than the fat in the whey on any of the succeeding days. This is accounted for by the fact that the process of cheese making was sufficiently delayed on the first day of standardization permitting the milk to become overripe, making it necessary to hurry the process of making, thus working under conditions favorable to excessive fat loss in the whey. It will be noted that the fat removed in the whey on the first day exceeded the fat for other days by about seven pounds.

Another interesting fact established by the experiments at these factories is that while the fat in the whey at the Loyal factory agrees very well with the theory that about ten per cent of the fat of milk is lost in the whey the results at the Matznick factory do not. Here we were working with a much richer milk, yet had a lower fat loss in the whey. This may be due to several things: season of the year, differences in size of fat globules for different breeds of cattle, or differences in methods of manufacture. There may be some significance in the use of milk from herds of different breeds.

Tables number 4 and 4A show the composition of cheese made on each of the two twelve day periods covering the experiment. They show clearly how the removal of fat from milk for cheese making is reflected in the percentage of fat in the water-free substance of the cheese. They further show that the ratio of protein to fat is changed, the protein in the ratio being increased by standardization.

We have under consideration two entirely different milks, one representing the type of milk found in certain cheese making sections where the Holstein breed of cattle predominate, the other representing milk in a region where a rather large percentage of Guernsey and some Jersey cattle have been added to the Holstein herds; or where the milk of herds of Guernsey cattle or Jersey cattle has been used for cheese making. In the Loyal factory, which is largely Holstein milk, the average ratio for the cheese is 1 to 0.806, while in the other section where higher testing milk is found the ratio is 1 to 0.82. It will be noted from the table that the ratios obtained in cheese made from milk which was not standardized show a decidedly lower proportion of casein to fat. It appears that if a sufficient amount of

No 4

PERCENTAGE COMPOSITION OF CHEESE FROM MILK

Date 1928	Per cent Moisture	Per cent Water-free Substance	Per cent Fat	Per cent Fat in Water-free Substance	Per cent Protein (N x 6.38)	Ratio Fat to Protein	Percent Salt	Per cent Ash
Feb. 2	37.34	62.66	32.68	52.15	24.79	1 to 0.76	0.76	3.21
Feb. 4	37.88	62.12	32.76	52.74	24.58	1 to 0.75	0.67	3.11
Feb. 6	37.17	62.83	33.26	52.94	24.97	1 to 0.75	0.88	3.33
Feb. 8	37.05	62.95	32.94	52.33	24.92	1 to 0.76	1.02	3.52
Feb. 10	37.02	62.98	33.09	52.54	24.88	1 to 0.75	0.87	3.33
Feb. 12	37.19	62.81	33.25	52.94	24.95	1 to 0.75	1.03	3.44
Average	37.27	62.73	32.99	52.61	24.85	1 to 0.75+	0.87	3.32

PERCENTAGE COMPOSITION OF CHEESE FROM STANDARDIZED MILK

Feb. 1	37.03	62.97	31.77	50.45	25.60	1 to 0.81	0.91	3.42
Feb. 3	36.70	63.30	32.00	50.55	25.38	1 to 0.79	0.95	3.51
Feb. 5	37.52	62.48	31.75	50.82	25.63	1 to 0.81	0.94	3.55
Feb. 7	38.18	61.82	31.38	50.76	25.50	1 to 0.81	0.75	3.29
Feb. 9	36.75	63.25	31.86	50.37	25.78	1 to 0.81	1.08	3.70
Feb. 11	36.52	63.48	32.38	51.01	26.22	1 to 0.81	1.07	3.63
Average	37.12	62.88	31.85	50.67	25.68	1 to 0.81	0.95	3.52

No 4A

PERCENTAGE COMPOSITION OF CHEESE FROM MILK

Date 1928	Per cent Moisture	Per cent Water-free Substance	Per cent Fat	Per cent Fat in Water-free Substance	Per cent Protein (N x 6.38)	Ratio Fat to Protein	Per cent Salt	Per cent Ash
May 22	34.19	65.81	36.84	55.98	23.89	1 to 0.65	1.09	3.54
May 24	36.34	63.66	35.46	55.70	23.24	1 to 0.65	0.68	3.14
May 26	36.60	63.40	35.10	55.36	23.42	1 to 0.67	0.76	3.20
May 28	37.48	62.52	34.88	55.79	23.51	1 to 0.67	0.72	3.08
May 30	36.57	63.43	35.00	55.18	23.60	1 to 0.67	0.79	3.21
June 1	36.67	63.33	34.64	54.70	23.86	1 to 0.69	0.64	3.06
Average	36.31	63.69+	35.32	55.45	23.75	1 to 0.67	0.78	3.20

PERCENTAGE COMPOSITION OF CHEESE FROM STANDARDIZED MILK

May 21	35.22	64.78	32.98	50.91	26.52	1 to 0.80	0.75	3.46
May 23	38.22	61.78	31.65	51.23	25.13	1 to 0.79	0.59	3.10
May 25	40.09	59.91	30.26	50.51	25.51	1 to 0.84	0.35	2.97
May 27	39.82	60.18	30.29	50.33	25.28	1 to 0.83	0.66	3.30
May 29	38.35	61.65	31.75	51.50	25.02	1 to 0.79	0.57	3.18
May 31	38.85	61.15	30.13	49.27	26.13	1 to 0.87	0.53	3.26
Average	38.43	61.57	31.18	50.62	25.59	1 to 0.82	0.57	3.21

work is carried on along these lines that it may be possible to establish a fat to protein ratio as a part of a standard for cheese.

It will be noted that the cheese made from standardized milk at the Loyal factory during the month of February in no case fell below the legal requirement of 50% of fat in the water-free substance, but that on one day the cheese manufactured at the Matznick factory fell below 50% of fat in the water-free substance.

The time of the year and the feed are important factors in determining what the ratio of fat to protein in milk is going to be. It is true that we had a very severe storm during the period of the experiment at the Loyal factory, but the cows were in the stables getting the same feed regardless of weather conditions; while at the Matznick factory the cows had been turned into the pastures a short time before the experiment started and subject to weather and feed changes.

A striking difference between the percentage composition of cheese made from standardized milk at the two factories is noticeable in the average moisture content of the cheese made. At the Loyal factory there is only a slight difference between the moisture content of the cheese made from standardized milk as compared to cheese made from milk; while at the Matznick factory the cheese made from standardized milk contains 2.11 pounds of water more per 100 pounds cheese than does the cheese made from the unskimmed milk. The differences in the average percentage of the total solids and the average percentage of fat is very noticeable, and in this experiment the facts clearly show the removal of fat and the addition of water. The difference in yield for cheese made from standardized milk as compared to the yield of cheese made from unstandardized milk is much smaller than the difference would be if water had not been substituted for fat.

Tables 5 and 5A give the minimum amount of information in simple form necessary for each cheese factory if standardization is to be intelligently carried on. Without this information a statement by the cheese maker that standardization is profitable or unprofitable would be a mere guess. The gross income for each day's operation is based on actual factory results and not on cheese figured to a uniform moisture content or at a uniform price. It is well to remember in considering these two tables that there was a decided difference in the price of cheese for the periods in which the experiments were made and for that reason the gross income of the lower testing milk at the Loyal Factory, where the cheese brought a higher price, is much closer to the gross income for the milk of the Matznick Factory which tested approximately 4 per cent, but where the cheese sold for approximately three cents a pound less.

Tables 6 and 6A show the results obtained by calculating the yield of cheese to a uniform moisture basis, namely 39 per cent. The experiments show very clearly that the yield of cheese on days when the milk was not standardized has been increased very materially because the moisture content of the cheese was increased. There was

No. 5.

WEIGHT AND VALUE OF PRODUCTS MANUFACTURED AND OBTAINED BY DAYS

Date 1928	Wt. of Milk	Wt. of Standardized Milk	Yield of Uncured Cheese per 100 lbs. of Milk	Wt. of Cheese	Price of Cheese Cents	Value of Cheese	Pounds Fat Removed	Price of Fat in Cream Cents	Value of Cream	Pounds Fat in Whey Cream	Price of Fat Cents	Value of Whey Cream	Gross Income	Gross Income 100 lbs. Milk
Feb. 1	4622	4607	9.03	416	25¼	$105.04	7.20	49	$3.53	17.26	49	$8.45	$117.02	$2.53
2	4610		9.30	429	25¼	108.32				10.44	49	5.11	113.43	2.46
3	4639	4622	8.89	411	25¼	103.78	9.95	49	4.87	8.97	49	4.39	113.04	2.43
4	4599		9.28	427	25¼	107.82				10.39	49	5.09	112.91	2.45
5	4648	4629	8.99	416	25¼	105.04	10.75	50	5.37	11.14	50	5.57	115.98	2.49
6	4598		9.26	426	25¼	107.57				9.86	50	4.93	112.50	2.44
7	4640	4620	8.87	410	25¼	103.53	10.54	50	5.27	9.65	50	4.82	113.62	2.44
8	4593		9.18	422	25¼	106.56				9.56	50	4.78	111.34	2.42
9	4659	4619	8.92	412	25¼	104.03	10.88	50	5.44	9.08	50	4.54	114.01	2.44
10	4670		9.03	422	25¼	106.56				8.98	49	4.40	110.96	2.38
11	4594	4574	8.87	406	25¼	102.52	10.40	49	5.10	9.65	49	4.73	112.35	2.44
12	4568		9.19	420	24¼	101.85				9.46	49	4.63	106.48	2.33

Average gross income for 6 day period per 100 pounds of milk when milk is standardized, $2.46.
Average gross income for 6 day period per 100 pounds of milk when milk is not standardized, $2.41.

No 5-A

WEIGHT AND VALUE OF PRODUCTS MANUFACTURED AND OBTAINED BY DAYS

Date 1928	Wt. of Milk	Wt. of Standardized Milk	Yield of Uncured Cheese per 100 lbs of Milk	Wt. of Cheese	Price of Cheese Cents	Value of Cheese	Pounds Fat Removed	Price of Fat in Cream Cents	Value of Cream	Pounds Fat in Whey Cream	Price of Fat Cents	Value of Whey Cream	Gross Income	Gross Income from 100 lbs Milk
May 21	8648	8553	9.19	785¼	22	$172.75	56.54	48	$27.13	15.16	46	$6.97	$206.85	$2.39
May 22	8733		10.26	896¼	22	197.17				20.34	45½	9.25	206.42	2.36
May 23	8851	8733	9.77	853	22	187.66	62.81	48½	30.46	16.41	45½	7.46	225.58	2.55
May 24	8987		10.66	958	22	210.76				19.22	45½	8.74	219.50	2.44
May 25	8915	8775	9.88	866¾	22	190.68	76.74	47	36.06	15.46	45	6.95	233.69	2.62
May 26	9029		10.87	981½	22	215.93				19.68	45	8.85	224.78	2.49
May 27	9361	9231	10.02	924¾	22	203.44	74.46	47	34.99	14.53	45	6.53	244.96	2.62
May 28	9385		11.07	1039	22	228.58				20.41	45	9.18	237.76	2.53
May 29	9589	9466	10.26	971	22	213.62	65.74	47	30.89	16.06	45	7.22	251.73	2.63
May 30	9808		10.95	1074	22	236.28				20.81	45	9.36	245.64	2.50
May 31	9964	9817	9.98	979¾	22	215.54	85.70	47	40.27	13.43	45	6.04	261.85	2.63
June 1	9894		10.82	1070¾	22	235.56				22.41	45	10.08	245.65	2.49

Average gross income for 6 day period per 100 pounds of milk when milk is standardized, $2.57
Average gross income for 6 day period per 100 pounds of milk when milk is not standardized, $2.47

No. 6.

YIELD OF CHEESE AND GROSS INCOME ON CHEESE CONTAINING 39% MOISTURE

Date 1928	Yield of Cheese per 100 lbs. Milk	Weight of Cheese	Value of Cheese	Value of Sweet Cream	Value of Whey Cream	Gross Income	Gross Income from 100 lbs. Milk
Feb. 1	9.32	429.37	$108.41	$3.53	$8.45	$120.39	$2.60
2	9.55	440.25	111.16	----------	5.11	116.27	2.52
3	9.22	426.05	107.57	4.87	4.39	116.83	2.52
4	9.45	434.60	109.73	----------	5.09	114.82	2.50
5	9.21	426.33	107.54	5.37	5.57	118.48	2.55
6	9.54	438.65	110.75	----------	4.93	115.68	2.52
7	8.99	415.33	104.86	5.27	4.82	114.95	2.48
8	9.47	434.96	109.83	----------	4.78	114.61	2.50
9	9.25	427.26	107.87	5.44	4.54	117.85	2.53
10	9.32	435.24	109.90	----------	4.40	114.30	2.45
11	9.23	422.18	106.60	5.10	4.73	116.43	2.53
12	9.46	432.13	109.11x	----------	4.63	113.74	2.49

x Based on 25¼ cents
Average gross income for six days from 100 lbs. milk when milk was standardized, $2.53
Average gross income for six days from 100 lbs. milk when milk was not standardized, $2.50

some increase in the moisture content for much of the cheese made from standardized milk, but the increased yield is very much less in this case. It is apparent therefore that where fat is removed and replaced with moisture, a profit results through standardization, but if the fat is left in the milk and the moisture content of the cheese made is increased to the moisture content of cheese from standardized milk, standardization becomes unprofitable. This raises a question as to whether or not there is a definite relation between the moisture and casein content of cheese affecting quality both so far as flavor and body or texture is concerned. In comparing gross income one day with another in either of these tables, it is necessary to use the gross income for cheese per 100 pounds of milk because the gross income at the Matznick Factory increased steadily day by day due to the increase in the weight of milk manufactured into cheese.

Tables 7 and 7A are summaries showing whether there was a loss or gain by standardization and the basis for it. We have taken the yield of cheese for standardization days, compared it with the average yield of cheese from milk at each of the factories, using the loss thus shown as the basis for calculating the monetary loss due to decreased cheese yield. We have listed the money received for fat removed and sold. Where the money received for fat removed exceeds the loss due to reduced yield, there is a gain through standardization. Some explanation is necessary to show why there was a loss on May 21 at the Matznick Factory. This was the first day of standardization at the factory and, due to the appearance of gas in the curd, it was necessary to pile and repile the curd for at least thirty minutes. This resulted in the loss of a great deal of moisture so that the cheese manufactured on that day contained a very low percentage of moisture. The moisture content was 34.19.

Tables 8 and 8A give the results obtained by submitting the cheese of both experiments to recognized cheese judges. In the Loyal Factory experiment three judges were used. They were Professor J. L. Sammis, Professor of Dairy Husbandry, College of Agriculture; Mr. J. W. Moore, Supervising Cheese Grader for the Department of Markets; and Mr. A. T. Bruhn, Cheese Expert of the Dairy and Food Department. For the Matznick Factory experiment all of the State cheese grading supervisors for the Department of Markets were used with Professor J. L. Sammis and Mr. A. T. Bruhn. We were interested especially in learning whether the cheese judges would be able to detect the difference in the quality of cheese made from standardized milk as compared with cheese made from unstandardized milk, especially if they could detect a difference in body or texture. One would naturally expect cheese made from standardized milk to be much firmer and appear to be drier. This was not the case in the Loyal Factory and may be due to the fact that the moisture content of the cheese is quite uniform for cheese made from standardized milk and milk. At the Matznick Factory where a larger percentage of fat was removed, a uniform quality as to body and texture seems to have

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YIELD OF CHEESE AND GROSS INCOME BASED ON CHEESE CONTAINING 39% MOISTURE

Date	Yield of Cheese per 100 lbs.	Weight of Cheese	Value of Cheese at 22c	Value of Sweet Cream	Value of Whey Cream	Gross Income	Gross Income from 100 lbs. of Milk
May 21	9.75	833.92	$183.46	$27.13	$6.97	$217.56	$2.52
22	11.07	966.74	212.68		9.25	221.93	2.54
23	9.89	863.69	190.01	30.46	7.46	227.93	2.58
24	11.12	999.35	219.85		8.74	228.59	2.54
25	9.70	851.17	187.25	36.06	6.95	230.26	2.58
26	11.30	1020.28	224.46		8.85	233.31	2.58
27	9.88	912.02	200.64	34.99	6.53	242.16	2.59
28	11.34	1064.26	234.13		9.18	243.31	2.59
29	10.36	980.67	215.75	30.89	7.22	253.86	2.65
30	11.39	1117.13	245.76		9.36	255.12	2.60
31	10.00	981.7	215.97	40.27	6.04	262.28	2.63
June 1	11.23	1111.09	244.44		10.08	254.52	2.57

Average gross income for six days from 100 lbs. milk when milk is standardized, $2.59
Average gross income for six days from 100 lbs. milk when milk is not standardized, $2.57

No. 7.

CHEESE LOST BY STANDARDIZATION WITH VALUE OF, AND VALUE OF FAT REMOVED

Date 1928	Yield of Uncured Cheese per 100 lbs. Milk	Loss of Cheese per 100 lbs. of milk using average yield with milk as basis	Percentage Decrease in Yield	Loss in Money at 25¼c per pound for cheese	Money received for fat removed	Gain	Loss
Feb. 1	9.03	0.18	1.99	$2.09	$3.53	$1.43	
3	8.89	0.32	3.60	3.73	4.87	1.14	
5	8.99	0.22	2.45	2.57	5.37	2.80	
7	8.87	0.34	3.83	3.96	5.27	1.31	
9	8.92	0.29	3.25	3.38	5.44	2.06	
11	8.87	0.34	3.83	3.94	5.10	1.16	

No. 7A

CHEESE LOST BY STANDARDIZATION WITH VALUE OF, AND VALUE OF FAT REMOVED

Date 1928	Yield of lbs. Uncured cheese per 100 lbs. milk	Loss of cheese per 100 lbs. of milk taking average yield as basis	Percentage Decrease in Yield	Monetary loss due to decrease yield	Income Rec'd from sale of fat removed	Gain	Loss
May 21	9.19	1.58	14.67	$29.73	$27.13		$2.60
May 23	9.77	1.00	9.29	19.21	30.46	$11.25	
May 25	9.88	0.89	8.26	17.17	36.46	19.29	
May 27	10.02	0.75	6.96	15.23	34.99	19.76	
May 29	10.26	0.51	4.73	10.62	30.89	20.27	
May 31	9.98	0.79	7.33	17.06	40.27	23.21	

No. 8.

SCORE OF CHEESE WITH COMMENTS ON TEXTURE

	February 1		February 2		February 3		February 4		February 5		February 6	
	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments
Prof. J. L. Sammis	91	Trifle weak	91½	Trifle weak	91	Trifle weak	90½	Trifle weak	92½	Trifle weak	90½	Not so weak
J. W. Moore	92½	Trifle short, close, quite good body	90½	Close, trifle short, inclined to be weak	92	Close, quite good body, trifle short	92	Trifle weak & short	89	Trifle weak & short	89½	Trifle weak short open
A. T. Bruhn	92	Trifle short, flaky	93	Smooth trifle short	91½	Trifle grainy good body	91	Trifle weak and short	92	Trifle coarse & woody	92½	Smooth trifle short

	February 7		February 8		February 9		February 10		February 11		February 12	
	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments
Prof. J. L. Sammis	91	Not so weak	89	Weak, Wet	93	Firm	92	Weak	92	Weak	91	Weak
J. W. Moore	90	Trifle short, weak & open	90½	Trifle short, trifle open, fair body	91	Firmer Trifle short, Trifle open	91	Firmer Trifle short open	91		90½	Trifle short
A. T. Bruhn	92	Trifle woody & coarse	91	Short Trifle weak	92½	Trifle woody	92	Open loose & weak	92	Short trifle woody	92	Trifle short

208A COMPOSITION AND SCORE OF CHEESE MADE FROM STANDARDIZED AND UNSTANDARDIZED MILK

No.	Made	Moisture	Fat	Fat on Moisture free basis	Flavor			Texture			Total Score		
					Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.
1	May 27	39.82	30.29	50.32	28.0	25.0	26.3	36.0	32.0	34.0	93.0	86.5	90.2
2	May 29	38.35	31.75	51.50	27.0	26.0	26.4	36.5	34.0	34.8	93.0	90.0	91.2
3	May 23	38.29	31.65	51.23	27.0	24.0	25.5	36.0	32.0	34.0	93.0	87.0	89.8
4	May 25	40.09	30.26	50.51	27.0	25.0	25.6	35.5	34.0	34.8	92.0	89.0	90.2
5	May 21	35.22	32.98	50.91	26.0	24.0	25.2	37.0	34.0	35.4	93.0	89.0	90.6
6	May 31	38.85	30.13	49.27	28.0	24.0	25.8	36.0	33.0	34.5	93.0	89.0	90.2
7	May 24	36.34	35.46	55.70	27.5	23.0	25.3	36.0	29.0	33.3	93.0	82.0	88.6
8	June 1	36.67	34.64	54.70	27.0	25.0	25.9	37.0	34.0	35.3	93.0	89.0	91.3
9	May 26	36.60	35.10	55.38	28.0	23.0	25.9	36.0	33.0	34.7	93.0	86.5	90.6
10	May 30	36.57	35.00	55.18	28.0	23.0	25.9	36.0	32.0	34.9	93.0	87.0	90.8
11	May 22	34.19	36.84	55.98	27.0	25.5	26.2	37.0	33.0	35.0	93.0	89.0	91.2
12	May 28	37.48	34.88	55.79	27.0	22.0	25.2	36.0	33.0	34.3	92.0	84.0	89.3

Average Score of cheese from Standardized Milk, 90.37
Average Score of cheese from Whole Milk, 90.30

been obtained by the incorporation of moisture. The tables show that cheese made from standardized milk at the Matznick Factory contains uniformly more moisture than does the cheese made from the unstandardized milk except for May 21, the first day of standardization at this factory.

SUMMARY

Standardization of milk for cheese making requires an adjustment of the fat to casein ratio of milk so that for each part of milk fat there will be not more than seventy-nine hundredths of a part of casein where the fat loss in the whey is normal and the milk tests 3.3 or slightly higher. Where milk testing four per cent of fat or better is used, the amount of fat removed may be increased to a ratio of one part of fat to eighty-one hundredths parts of casein if fat loss in the whey is kept at a minimum.

To standardize with safety requires accurate fat and casein testing of the milk and standardized milk almost daily. It requires that the fat loss in the whey be carefully watched and controlled because if excessive fat is lost there, the required percentage of fat will not be obtained in the cheese.

The cheese maker must be well trained in the testing of milk for fat and casein and in the testing of cheese for fat and moisture.

A high percentage of salt in cheese with excessive fat losses in the whey may reduce the percentage of fat in cheese from closely standardized milk enough to bring such cheese below the minimum fat requirement.

If the moisture content of cheese made from standardized milk is kept down to the moisture content of cheese made from the same milk without standardization, the decrease in yield of cheese makes the practice unprofitable.

The cheese maker must become quite expert in controlling the moisture content of his cheese because to obtain a suitable texture and avoid too firm a cheese, he must add water when he removes fat and there is danger of adding too much water as happened at one of the factories.

The cheese factory should be provided with a small laboratory. This should be separated from the factory and so located as to insure more or less privacy.

To obtain good cheese with a high testing milk the cheese maker kept the moisture content down to an average of 36.3 per cent for the six days on which the milk was not standardized. For the same reason he increased the moisture content to an average of 38.43 for the days on which he standardized.

There is evidence of the existence of a more or less definite relationship between the moisture content and casein content of cheese.

It is apparent from the experiments that standardization introduces an additional step in the manufacture of cheese, which step

must be carefully controlled and may be unwise under present cheese factory conditions. In a factory with one cheese maker, and perhaps a helper, if standardization is practiced, it will result in the cheese maker having to give up the opportunity of examining the quality of the milk delivered, because of the lack of time, and in turning that important work over to his helper, unless his helper can be trained to take care of standardization, the extra time required for standardization may be just sufficient to permit the milk to become overripe, which will result in hurrying the process of cheese making to such an extent as to damage the cheese either by incorporating excessive moisture or losing an excessive amount of fat in the whey or both. The cost of extra labor or additional fuel cost may well enter into the cost of production. The loss of time through standardization, together with putting a part of the milk through a separator and thus incorporating some air, may well increase troubles such as floating curd.

In large factories where a cheese maker would reject all milk that was not properly cooled on the farm and delivered to the factory in very good condition, where cheese makers have sufficient time at their command to do the additional work, and where their volume of milk is large and the fat test high enough, standardization might be made to pay.

The results indicate that by removing a portion of the fat from the milk to be made into the cheese, the yield is materially decreased, the quality appears to be adversely affected and the increased hazard and labor may well completely offset the gain obtained by removing a small portion of the fat.

HIGH MOISTURE CHEESE

The problem of cheese containing an unlawful quantity of moisture had not been before the Dairy and Food Department in an acute form during the summer months heretofore. During May and June 1927, however, many complaints were received; competition in the cheese industry was keen. Dealers, it was alleged, induced cheese makers to incorporate more moisture into cheese and thus produce a higher yield.

The department obtained, whenever it could, samples of suspected cheese and made fat and moisture determinations. When cheese with moisture in excess of the legal maximum was found, the matter was taken up with the dealer as well as with the cheese maker and they were advised that, the having in possession with intent to sell, offering for sale or selling of cheese containing moisture in excess of the legally established tolerances were unlawful acts. In reply many excuses were received and many reasons were alleged by makers for making the unlawful product. The boiler in some cases was out of order, others had old milk, or the milk "worked too fast," curd was O.K. but cheese softened on shelves, had a helper or maker make it

because not feeling well, had to get all the yield possible on account of competition, etc. The question, however, was repeated over and over again, what can we do with the product? Under the law I could only reply it cannot be offered for sale or sold. There is no discretion vested in me. I cannot sanction its sale.

The law has been on the statute books since 1919 and the Dairy and Food Department made earnest efforts to enforce it. The last biennial report discloses that during the period covered, 397 samples of cheese were examined which were found to be high moisture and 157 persons were prosecuted for making or selling cheese containing moisture in excess of the limit by law. Evidently prosecutions of cheese makers and the usually resultant fine of $25.00 and costs did not remedy the evil, but it seemed to grow. There is no record to be found that discloses what became of the cheese that was unlawful, yet it must be assumed that it was sold in violation of law.

I therefore served notice that I intended to prosecute to the best of my ability not only makers of illegal cheese, but also those who sold it. The thought was that if factories found no dealers to accept high moisture products they would cease to manufacture it. It seemed that a small quantity, inadvertently made, could be consumed by patrons of a factory where it originated. Some was so absorbed and consumed, but load after load came to cheese warehouses. Some cheese makers tried grinding high moisture cheese and mixing it with other curd so that the mixture would be within the legal limits. However, this was not found to be satisfactory or feasible. Others tried to reduce the moisture by holding the cheese for days or weeks in warehouses so as to give them a chance to dry out. A little moisture could be evaporated that way, but the quantity was negligible. In the meantime high moisture cheese kept on accumulating in warehouses and factories. Makers got in difficulty about getting money for it. The farmer's milk was tied up in it. He needed the money to keep him going, but couldn't get it. This situation seemed intolerable and I wanted to do what I could to relieve it. I came to the conclusion that makers of process cheese could relieve the situation and render a service to makers who inadvertently had made high moisture cheese and to farmers who had their milk, their income, tied up in this product. The grinders I reasoned can convert this illegal product into lawful articles of food and thus release the money for the cheese factory and the income of the farmers, and possibly save them from bankruptcy.

I called a conference of process cheese makers and the Commissioner of Markets, with whom the Dairy and Food Department had worked in close cooperation the preceding months in finding and checking high moisture cheese. At this conference I asked manufacturers of process cheese to take over the high moisture cheese inadvertently made, not for resale but to be made into lawful products, and to furnish the Dairy and Food Commissioner's office with the necessary certificates so as to make sure that unlawful cheese would

not find its way into the channels of trade. I asked that as an emergency and temporary measure until the Legislature would meet and would give relief.

After a lengthy discussion and viewing the matter from all angles, the assembled process cheese makers refused to entertain the proposition, claiming that if they did what I requested of them, the process cheese industry would be accused of being a dumping ground for adulterated and unlawful cheese and that the following out of my suggestion would work a great harm upon the process cheese industry.

A short time after the conference I received a proposition which, after some negotiations, to me seemed to be acceptable and which seemed to offer the necessary relief to farmers and to cheese makers without violating the law and without imposing a hardship upon anyone. The following explains it fully:

"The Dairystate Cold Storage Company will act as agent in the disposal of high moisture cheese, said agency to be for and in behalf of your Department and the owners of the cheese. The cheese will be stored for the account and in the name of the owner, and a cash advance will be made on the cheese to the owner of approximately 2½¢ per pound under the Plymouth, Wisconsin, market for such cheese as may contain not to exceed 2% of excess moisture. It must be understood that this cheese is otherwise a first class product. If the cheese should exceed 2% of excess moisture, or have other defects, we reserve the right to advance such amount of money on it as we deem to be its approximate value.

"We will use every reasonable effort by storing the cheese in dry, aerated rooms to reduce the moisture to its legal content. We will make moisture tests from time to time. When the moisture on any of the lots stored shall have been reduced to the legal standard, such cheese will be sold in the usual channels of trade. Where it is impossible to reduce the moisture to the legal standard, this cheese will only be sold to such persons, firms or corporations as will agree that when the cheese in its final form is sold to the public, it will be in accordance with the Wisconsin legal standard.

"We will keep complete records on all lots of cheese, from whom received and to whom sold. These records will be available to your Department at all times, and upon your demand copies of any or all records will be furnished.

"When each different lot of cheese has been finally disposed of, an account sales will be rendered, copy of which will be furnished to you if you so desire. The account sales will, as far as is practical, give a complete record of the transaction. The total amount of money received for the cheese will be indicated. No commission will be charged for selling but the regular cold storage charges, interest on the money advanced, insurance and any other direct expense incurred in the handling of the cheese, loss of weight, together with the original money advanced, will be deducted from the gross proceeds and a check mailed to the owner for the balance.

"We reserve the right, in case of a declining market, to use our judgment as to whether 2½¢ per pound under the ruling market is sufficient to cover the possible loss incurred when the different lots are finally sold, and in case we feel it necessary from the standpoint of safety to deduct a larger amount, we will do so.

"It also must be understood that in any case where the cheese are finally sold because of market conditions or otherwise for a less amount than the money advanced plus the expenses as indicated, the owner of the cheese will reimburse us for the difference."

The united efforts of cheese dealers, the Department of Markets and the Dairy and Food Department and the outlet provided for high moisture cheese, under proper restrictions, seemed to have a very salutary effect in the industry. At the annual meeting of the cheese institute in Milwaukee, it was openly stated that very little, if any, high moisture cheese was being made, or received by concentrators. Interested parties seemed to realize that high moisture cheese is an undesirable article and the fact that the Federal Government, with whom the Dairy and Food Department kept in touch, seized or embargoed several shipments outside of the State, all helped materially to clear the situation. It is confidently stated by field men, and persons who ought to be acquainted with the situation, that there is less high moisture cheese in the State of Wisconsin the last few months than there has been for years.

LEGAL OUTLET SHOULD BE PROVIDED

I do look upon the solution outlined as only an emergency measure. High moisture cheese, intentionally or unintentionally made will again confront us.

The Dairy and Food Commissioner should be given the power to embargo such cheese when it is found; that is, to prevent its sale unless it is in compliance with the law. He has no such power now, and my thought is to, in a measure, follow the procedure under which the National Food and Drugs act operates, that is to deal with it through the courts.

As pointed out, producers often have their milk, and cheese factories their work, tied up in a wholesome product, which cannot be lawfully sold, and a way by which such products can be lawfully disposed of is essential to the welfare of the dairy industry and necessary if the laws are to be enforced. The disposition should carry with it sufficient penalties to make the production of illegal cheese unprofitable, but the state cannot, in justice, demand its destruction and must leave open a channel through which it may lawfully be utilized without undue hardship upon its owners.

THE LICENSING OF CHEESE MAKERS AND BUTTER MAKERS

The Legislature in 1915 provided that no person is to act as a butter maker or cheese maker unless being first licensed by the Dairy and Food Commissioner. It provided that the license is to be issued by the Dairy and Food Commissioner under such rules and regulations as he shall prescribe relating to the qualifications of applicants for securing licenses and the qualifications, among other things, shall include previous record in operating and keeping in sanitary condi-

tion the butter or cheese factory in which applicant has been employed. It further provided that applications are to be made on an application blank furnished by the Dairy and Food Commissioner and upon receipt of any such application, the Dairy and Food Commissioner shall issue a permit to such applicant to carry on the work of a butter maker or cheese maker. This permit had the full force and effect of a license to carry on the work until a license either was issued or the applicant had been notified of the denial of his application.

This law has now been on the statute books for 13 years and it may be well to take stock and see how it operated. Its evident intent was to secure for the dairy industry and the consuming public cheese makers and butter makers that were more competent and to keep incompetent and unfit persons from acting as butter makers and cheese makers in the interest of the public welfare.

One out of every ten applications for license was incomplete or faulty so as to necessitate the writing of from one to five letters. At times the visit of an inspector was required before the true situation was ascertained.

REGULATIONS AS TO CHEESE MAKERS' LICENSES

As the legislature has fixed standards for butter and cheese, it seems obvious that butter and cheese makers, to be licensed should have such qualifications as may be reasonably necessary to insure production of articles in conformity with the general and special laws enacted.

In line with this thought I prepared tentative regulations as to qualifications of cheese makers and submitted them to cheese makers at their convention for criticism and suggestions. They were as follows:

1. Applicants, to be licensed as cheese makers, must:
   (a) Be of sound health and free from communicable or contagious disease, and be so certified to the Dairy and Food Commissioner by a duly qualified public health officer;
   (b) Have the requisite knowledge, training and skill for making lawful cheese of high quality, of the kind or variety that he is, or is to be, employed to make.

2. The aforesaid knowledge, training and skill includes:
   (a) The knowledge, training and skill to determine the lawful qualities of milk;
   (b) The knowledge, training and skill to operate correctly the Babcock test;
   (c) The knowledge, training and skill to operate correctly the lactometer;

(d) The knowledge, training and skill to operate correctly, the Wisconsin curd test;
(e) The knowledge, training and skill to operate correctly the Hart casein test;
(f) The knowledge, training and skill to operate correctly the Methylene blue test;
(g) Knowledge of the essential principles in cheese making and the needful training and skill for their proper application;
(h) A creditable record of at least 18 months experience as helper to a licensed cheese maker in a licensed cheese factory and include the complete process of cheese making;
(i) Pass an examination to demonstrate that he has the requisite knowledge and skill to entitle him to a cheese maker's license;
(j) Knowledge of the essentials of laws relating to cheese, and to milk and cream and milk and cream products;
(k) Knowledge and skill in making the hot iron test;
(l) Knowledge and skill to operate the sediment test.

3. Any person holding a cheese maker's license when these rules become effective may, if he has not violated any law of the state or regulation of the Dairy and Food Commissioner relating to milk or cream, or milk or cream products during the life of the license, and if he is not afflicted with a communicable disease, have the same renewed without submitting to an examination as hereinafter provided.

4. There is constituted an examining board to determine the skill and knowledge of applicants for cheese makers' licenses. Such board shall act as agent for the Dairy and Food Commissioner. It shall consist of five members appointed by the Dairy and Food Commissioner, as follows:

Three competent persons who shall be practical cheese makers shall be nominated by the Wisconsin Cheese Makers' Association;
Three competent persons shall be nominated by the Cheese Producer's Federation, two of whom shall be qualified cheese makers;
Three competent persons who have knowledge of all phases of the cheese industry shall be nominated by the Cheese Institute; and
Three competent persons well versed in making cheese of foreign types shall be nominated by the Southern Wisconsin Cheese Makers' and Dairymen's Association.

Out of the list of three submitted, the Dairy and Food Commissioner shall select one as a member of such examining board. The Dairy and Food Commissioner, or his personal representative, shall also be a member of this examining board.

5. Said board shall, with the advice and consent of the Dairy and Food Commissioner, suggest a proper procedure for holding examinations and form rules under which examinations shall be conducted, the examining board holding examinations from time to time, but not oftener than once in two months, in places convenient to applicants. During such examinations applicants shall demonstrate, by executing such tasks as may be required of them, that they have the necessary skill and knowledge to entitle them to cheese makers' licenses.

6. Such examining board shall, after each examination, report to the Dairy and Food Commissioner, all the facts ascertained as to applicants during the examination and its recommendation as to granting or refusing of cheese maker's license.

7. Every applicant shall be notified when and where the next examination nearest to his post-office address will be held. If he fails to appear for examination at that time and place, he shall be notified of the time and place when the next examination shall be held and if without good reason he fails to appear there, his permit shall be revoked and his license denied.

8. Any licensee who shall use any adulterated milk for cheese making or who shall prepare, handle or care for cheese in an unclean manner, or who shall manufacture adulterated or otherwise unlawful cheese, or who violates any of the laws of the state relating to milk or cream or milk or cream products, shall be served by the Dairy and Food Commissioner with a written notice, sent by registered mail, that he has violated the law or rules and regulations prescribed by the Dairy and Food Commissioner in relation to milk or cream or milk or cream products and to show cause why his license should not be revoked. If such licensee fails to show cause why this license should not be revoked, within a reasonable time, the Dairy and Food Commissioner shall revoke the license and notify the licensee of such revocation by registered mail.

9. The license issued under these regulations may be renewed by the Dairy and Food Commissioner upon filing of the proper application with the lawful fee, without examination, unless there appear good and valid reasons why such license should not be renewed.

No material criticism was forthcoming, the cheese industry as a whole indorsed them and representative men repeatedly pointed to the necessity of obtaining more competent cheese makers.

For various reasons, and in no small measure due to the decision of the Supreme Court in the S. Miller Cold Storage Company case, which is discussed in another part of this report, and which, in effect, seems to say that no one is bound by any rules and regulations of the Dairy and Food Commissioner unless the words and phrases he uses in regulations are found in the law, I deferred the matter with the thought of bringing it before the legislature.

I recommend that detailed regulations as to qualifications of cheese

makers with due regard to the rights of those now engaged in the business, be enacted.

The necessity of strengthening the butter makers' license law also exists, but it has not manifested itself to the same degree as in the case of cheese makers.

Even a casual reading of the law will disclose one provision therein which is apt to defeat the purposes of the act. This provision is that upon the receipt of an application the Dairy and Food Commissioner is obliged to issue a permit, which has the full force and effect of a license, to the applicant to carry on the work as a butter maker or cheese maker. There appears to be no authority given to the Commissioner to refuse a permit to any person who files an application. Under this provision alone thousands of men received permits from the Dairy and Food Commissioner by, in fact, depositing $1.00 with him, and obtained permits to act as cheese makers or butter makers anywhere within the State without regard to their qualifications. They were not obliged to advise the Dairy and Food Commissioner where they might be examined or their work inspected or where it might be determined whether or not they were qualified. The permit they held was good either until license was issued or license was refused them, when their deposited dollar had to be returned. The Commissioner could not refuse a license without having good and substantial reasons for doing so and he could not have the reasons unless he had an opportunity to examine applicants and observe their work. His force could not follow these applicants from pillar to post in the State, from one factory to another, and therefore permits were active and in force for many years which, in the end, only tended to give a false sense of security to the public and in no way guaranteed the holder of the permit to be competent for the work he undertook.

Another weakness of the law is that the Legislature did not indicate what they considered proper qualifications, and left that to the determination of the Dairy and Food Commissioner, but did not authorize the Dairy and Food Commissioner to set up these qualifications as a standard in granting or withholding permits.

While statistics show progress in the dairy industry as a whole, the situation as to cheese may well give us concern. New competitors are arising in many parts of the country. Canada is producing large quantities and shipping into Wisconsin.

If our pride, the cheese industry, is not to lose its outstanding position in the Dairy World, if it is not to dwindle, we must make new efforts for better and better milk, better cheese makers, better factories, better and better cheese and the best business ethics in the marketing and merchandising of one of Wisconsin's greatest products.

NUMBER OF CHEESE MAKERS' AND BUTTER MAKERS' APPLICATIONS FOR LICENSES FILED

	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
January	----	748	63	79	78	66	64	56	68	38	65	57	54	31
February	----	582	40	42	61	55	65	50	52	33	42	39	46	26
March	----	306	136	77	89	54	62	66	35	47	47	39	31	40
April	----	207	112	83	79	69	49	52	38	39	47	35	30	24
May	----	156	100	69	68	52	40	33	23	35	32	25	15	25
June	----	100	66	53	55	43	33	34	29	22	33	31	33	21
July	----	75	54	49	42	48	31	33	24	25	27	24	24	----
August	----	65	54	50	49	46	26	48	32	33	29	35	25	----
September	----	65	51	40	53	26	33	26	23	25	26	36	20	----
October	----	48	69	36	54	33	41	33	37	25	28	48	19	----
November	----	36	45	32	45	22	28	34	19	17	20	28	24	----
December	1648	87	64	52	84	35	40	43	32	37	25	23	38	----
Total	1648	2475	854	662	757	549	512	508	412	376	421	420	359	167

NUMBER OF PERMITS ISSUED ON CHEESE MAKERS' AND BUTTER MAKERS' APPLICATIONS FILED

	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
January	----	1112	----	88	89	71	58	42	83	48	54	33	29	56
February	----	662	160	41	53	49	39	43	21	23	31	41	32	22
March	----	282	157	74	65	50	70	55	38	44	50	50	45	48
April	----	245	117	46	79	75	50	33	35	44	48	25	32	29
May	----	128	115	61	62	32	47	52	35	45	39	25	24	27
June	----	93	65	83	56	60	31	31	24	20	26	21	31	20
July	----	68	63	55	37	50	30	38	15	28	29	25	22	----
August	----	45	44	41	36	30	25	42	37	34	27	26	25	----
September	----	36	54	44	61	39	28	36	15	25	27	41	26	----
October	----	28	74	33	56	24	32	39	21	26	25	35	17	----
November	----	30	52	31	41	21	36	28	25	16	15	37	16	----
December	656	19	44	24	58	9	24	24	5	25	17	20	21	----
Total	656	2748	945	621	693	510	470	463	354	378	388	379	320	202

NUMBER OF ORIGINAL LICENSES ISSUED ON CHEESE MAKERS' AND BUTTER MAKERS' APPLICATIONS FILED

	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
January		1				1	6	9	16	10	7		
February		4	15	5	1	1	9	3	4	6	9		1
March		5	9	3			5	23	12	9	6	17	42
April		13	8	4		23	15	4	4	7	15	21	29
May	427	17	7	25	8	17	52	15	13	50	29	28	25
June	846	34	61	39	45	24		63	40	14	25	75	62
July	687	51	89	51	75	46	120	20	44	28	48	87	
August	577	81	141	68		32	37	36	18	39	1	53	
September	244	69	50	77	142	91	44	27	59	47	31	33	
October	322	114	76	57	31	40	36	28	32	31	27	27	
November	73	24	132	67	90	37	59	36	61	22	25	32	
December	350	76	64	89	18	26	12	19	15	17	17	21	
Total	3526	489	652	485	410	338	395	283	318	280	240	394	159

CHEESE MAKERS' AND BUTTER MAKERS' PERMITS IN FORCE ANNUALLY JULY 1

Year	Number
1916	2,100
1917	664
1918	724
1919	778
1920	975
1921	1,029
1922	1,052
1923	1,018
1924	1,915
1925	2,001
1926	1,252
1927	1,306
1928	425

CHEESE MAKERS' AND BUTTER MAKERS' LICENSES IN FORCE ANNUALLY JULY 1

Year	Number
1916	1,219
1917	3,055
1918	3,008
1919	3,149
1920	3,217
1921	3,138
1922	3,106
1923	3,266
1924	2,365
1925	2,413
1926	3,225
1927	3,179
1928	3,206

LICENSES ISSUED

Length of time either after application was received or permit issued	Number
Less than three months	1,538
Three to six months	2,538
Six months to one year	2,485
One year to two years	631
Two years to three years	175
Three years to four years	94
Four years to five years	39
Five years to six years	27
Six years to seven years	15
Seven years to eight years	8
Eight years to nine years	5
Nine years to ten years	2
Ten years to eleven years	2

PERMITS STILL IN FORCE

Length of time since application was filed	Number
Less than one year	78
One year to two years	69
Two years to three years	75
Three years to four years	76
Four years to five years	44
Five years to six years	44
Six years to seven years	4
Seven years to eight years	6
Eight years to nine years	4
Nine years to ten years	3
Ten years to eleven years	10
Eleven years to twelve years	40
Twelve years to thirteen years	71

LICENSES REFUSED

Length of time after application was received or permit issued	Number
Less than one year	368
One year to two years	3

PERMITS CANCELLED

Length of time after application was filed	Number
Less than one year	160
One year to two years	58
Two years to three years	32
Three years to four years	35
Four years to five years	16
Five years to six years	61
Six years to seven years	89
Seven years to eight years	87
Eight years to nine years	84
Nine years to ten years	71
Ten years to eleven years	62
Over eleven years	1

PROCESS CHEESE

(Some of the intimate details given in this article were kindly furnished this department by Mr. J. L. Kraft.)

The last ten or fifteen years have witnessed a development in the cheese industry which, at the present time, seems more important than anything that has taken place the preceding 100 years. The development consists in taking cheese as it is produced and in the sizes it is produced in cheese factories and making it into other forms

more stable and more convenient for marketing. The product so made has been defined and standardized by Chapter 412, Laws of 1925, as follows:

"(b) Process cheese is the food product produced by mixing, blending and uniting with the aid of heat, cheese of one or more lots of different quality, make, flavor, age, size, weight, shape, of like or different milk fat or moisture content, so as to produce a uniform mass readily makable into desired forms, shapes, sizes, and weights; and may contain added seasoning, added harmless coloring matter, harmless emulsifying agents as disodium phosphate, sodium citrate, sodium and potassium tartrate or mixtures of the same or other harmless emulsifying chemicals in quantities not exceeding three per cent; and contains in the water-free substance not less than fifty per cent of milk fat; and process American cheese not more than thirty-nine per cent of moisture with an allowance or tolerance of one per cent in excess, so that in no case shall the moisture content of said process American cheese exceed forty per cent; and process Brick cheese not more than forty-two per cent of moisture with an allowance or tolerance of one per cent in excess, so that in no case shall the moisture content of said process Brick cheese exceed forty-three per cent; and process Emmenthaler cheese or process domestic Swiss cheese shall contain not more than forty per cent of moisture with an allowance or tolerance of one per cent in excess so that in no case shall the moisture content of said process Emmenthaler cheese or process domestic Swiss cheese exceed forty-one per cent; except that process Emmenthaler cheese or process domestic Swiss cheese shall contain in the water-free substance not less than forty-three per cent of milk fat."

Early History

Efforts at stabilizing the keeping qualities of cheese and arrest the continued bacterial action therein no doubt have been made for many years. As applied to Cheddar cheese, J. L. Kraft attempted to solve the problem and made experiments as early as the years 1909, '10 and '11. The principle of killing bacteria by heat in cheese was relied upon, but it was found that it is difficult to heat Cheddar cheese much above the melting point without disintegrating and permanently losing its true cheese character. The melted cheese became stringy, casein and fat separated and could not be returned to the original combined true cheese form and homogenous condition. The process followed was substantially as follows:

Cheddar cheese were taken, cut into small pieces to enable quick and uniform penetration of heat, placed into steam or hot water jacketed kettles, or other suitable heating devices in which scorching could be avoided, and which were equipped with mechanical agitators, the heat was gradually applied until what was deemed a critical point was reached when complete sterilization might be effected. The mass was held at that point, or sterilizing temperature, approximately 15

minutes, all the time being actively stirred. It was then semi liquid and was run into suitable containers, jars or cans, and sealed. At that time no attempt was made to produce a process cheese in packages such as we know them today.

After the declaration of war in Europe in 1914, very energetic and persistent efforts were made to produce a process Cheddar cheese which might be packed in tins, for it seemed apparent that a permanently keeping Cheddar cheese, packed in various sized tins would be a desirable article of commerce and would have a tendency to broaden

LABORATORY FOR CHEESE RESEARCH

the market for Cheddar cheese produced in the United States. The efforts of 1914 and 1915 yielded only mediocre results and did not result in a homogenous cheese which kept without the separation of butter fats.

In the early stages of development by Kraft, when no emulsifier was used, batches of process cheese were sometimes spoiled by the appearance of cleavage in the cheese, showing it had not properly fused, or by a separation of butter fat out of the cheese in the process of manufacture, in which case it was necessary to "draw off" the spoiled batches and add them back gradually in small amounts to subsequent batches.

Emulsifiers

About this time L. E. Carpenter and E. E. Eldredge, both of whom were connected with the Phenix Cheese Corporation, also did a great

deal of work along the lines of producing a keeping process cheese, applied for and later obtained patents on "Emulsifiers."

Emulsifiers are chemicals added to the cheese mass which prevent the constituents of cheese from disintegrating and the fats and casein from separating.

Casein, which composes approximately fifty per cent of the total solids of cheese is very sensitive to the action of acid or alkalis. If the cheese is acid the casein becomes hard and coarse grained; on the other hand if it is on the alkali side, the casein becomes soft and gluey. In order to retain as near as possible the original body of the cheese after pasteurization and cooling it is quite essential that the cheese be held within certain limits relative to acidity and must never be on the alkali side. It was found in early experiments that a small per cent of sodium citrate (approximately one per cent) would control the condition of the casein in the average cheese so that the entire mass on being heated in a jacketed mixing kettle could be pasteurized and cooled without separation of any kind.

Sodium Citrate is a neutral salt formed by neutralizing citric acid with Sodium—the same as common table salt is formed by neutralizing Hydrochloric acid with Sodium.

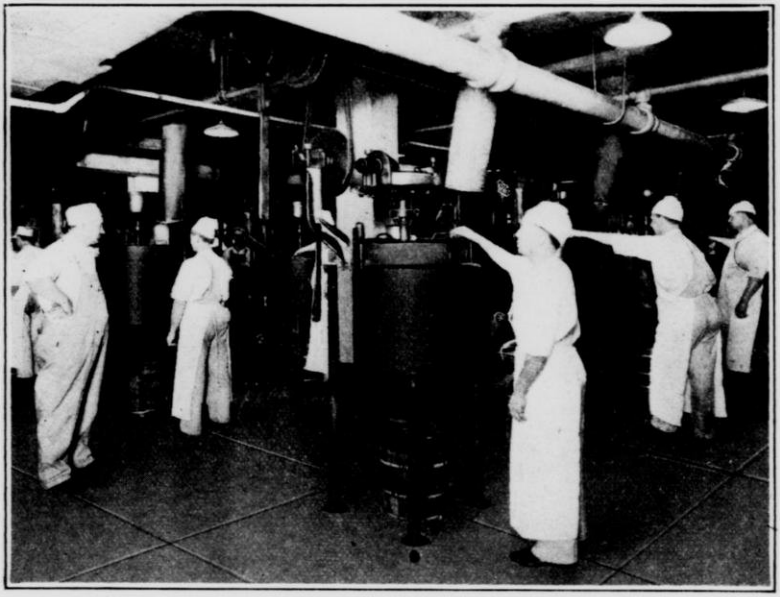
Di Basic Sodium Phosphate and several other salts have later been found to give fair results. The only purpose of the Sodium Citrate or other salts is to control the condition of the casein in keeping it plastic. When this condition is right the cheese is capable of being heated without separation which is essential in controlling a uniform finished product.

One George Herbert Garstin patented the use in process cheese of 5 per cent medicinal sodium phosphate and this he says "Is the Neutral solution of orthophosphoric acid, an ideal substance for the purpose of maintaining the homogeneity of the cheese, is harmless and has the properties of a mild laxative and a liver tonic." It is not disclosed by any available records that this "medicated cheese" ever has been made or marketed in Wisconsin. Emulsifiers seemed to have been used in proportion of 2 to 4 or 5 per cent of the cheese processed.

Kraft had invented, early in 1916, a cone shaped cooker with a steam jacket and an ordinary small 8 or 9 inch boat propeller set horizontally and extending through the side of this cooker, driven from the outside by a belt at a rapid rate of speed. It was found necessary in the early stages to start batches of process cheese with a small amount of water and finely ground skimmed cheese. The combination of these two ingredients produced an emulsion with what was then known as a "pulling consistency"; in other words, as the slowly melting cheese and the water became blended, the product would pull in long attenuated strings. To this was then gradually added full cream cheese and later a sufficient amount of butter to restore the balance of butter fat content.

Process cheese in tins first made its appearance on the market in the latter part of 1916. It was marketed by Krafts, but soon there-

after a similar article was placed upon the market by the Phenix Cheese Corporation. This article was the invention of Carpenter and Eldredge and was the first process cheese to contain emulsifiers. Emulsifier patents were granted to Carpenter and Eldredge, as stated above, but Kraft's patents for rendering cheese of the Cheddar group permanently keeping by heating it, melting it, etc., and enclosing it in protective containers under sterilized conditions were upheld. There were a number of overlapping claims in the Kraft application and the Carpenter and Eldredge applications. Priority was conceded to Kraft in the patent office on the processes and to Carpenter and



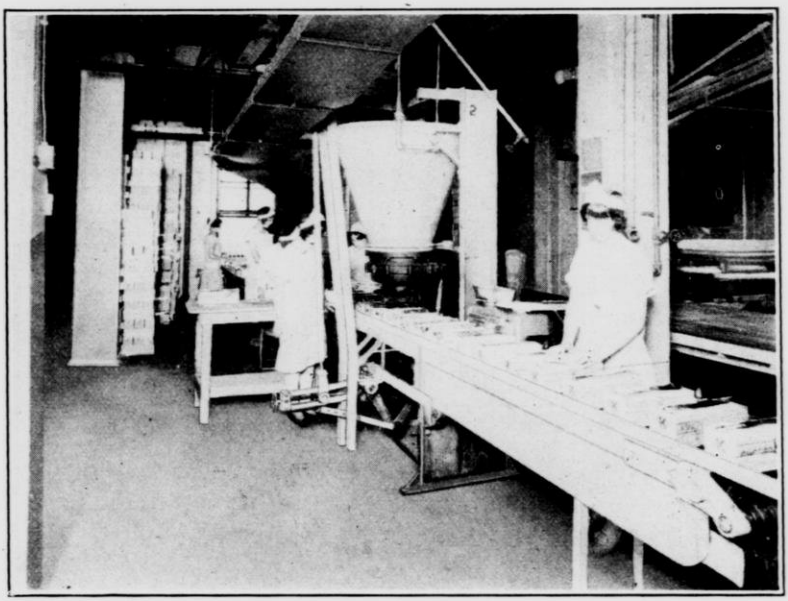
KETTLES WHEREIN CHEESE IS "PROCESSED"

Eldredge on the emulsifiers. Subsequently the Kraft Company and the Phenix Company came to an understanding on their respective patents and issued cross licenses to each other.

A number of millions of pounds of process cheese in time were manufactured between 1917 and 1920. The United States Government alone used for the over seas troops somewhere between seven and eight million pounds. While the cheese during these years in tins were a success from the standpoint of its keeping quality, the method of packing was too expensive to permit of universal use and the texture of the cheese in tins did not appeal to everyone. Experiments to produce a process cheese which might be more economical to the consumer and which also might be kept indefinitely without refrigeration were continued.

Part Skimmed Process Cheese for Cuba and Porto Rico

During 1918 and 1919 a substantial quantity of such cheese was produced in the form of what is known as Holland Gouda type. This cheese was emulsified to a lesser degree and with less heating and when it had attained a stringy consistency in the cooker it was placed in metal hoops in a regular cheese press and there allowed to cool. The next day this cheese was put in a tank of salt water to give it a hard rind. After twenty-four hours it was taken out, allowed to dry out and dipped in red paraffine. This product was all a half skimmed

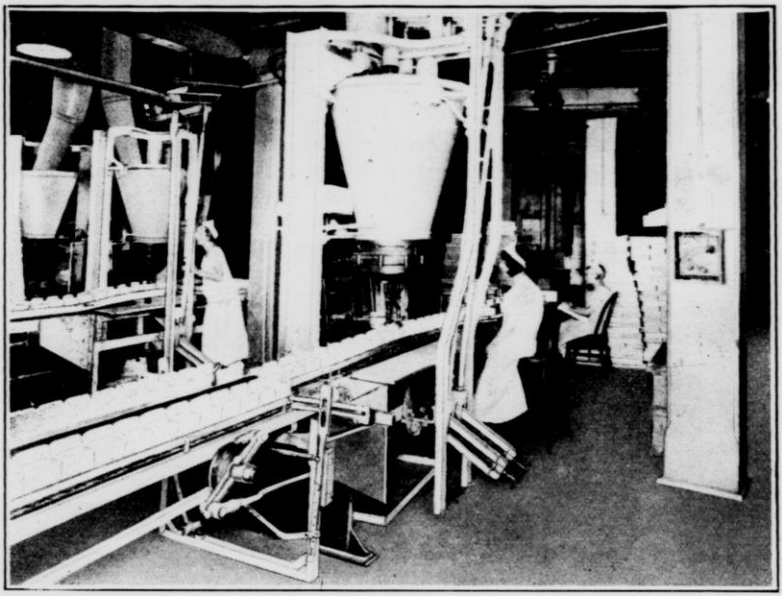


AUTOMATIC FILLER AND CONVEYOR FOR FIVE POUND BOXES OF PROCESS CHEESE

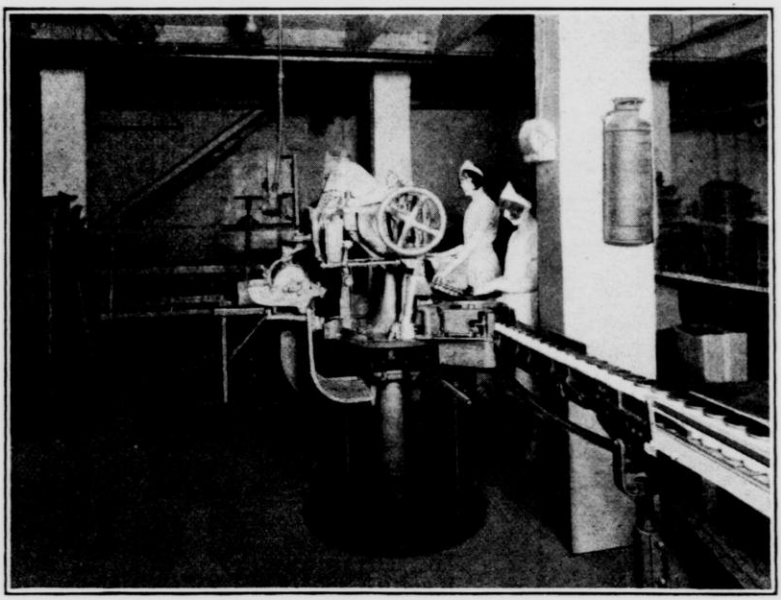
cheese and was used exclusively for shipment to Cuba and Porto Rico. While this cheese was not consumed at home and was expensive to manufacture, it was a step on the road of progress and in 1920 led to the production of what is now known as process loaf cheese.

First Process Loaf Cheese on Market

The process loaf cheese as we know it now, was first placed upon the market in the United States during the year 1921. It was received with a great deal of skepticism and criticism. The color and texture was uneven and many batches were spoiled. Color of different degrees of pink or yellow, as the case might be, were found in loaves and as time went on it became apparently necessary to use an



AUTOMATIC FILLER AND CONVEYOR FOR HALF AND QUARTER POUND CARTONS



PROCESS CHEESE IN 16 OZ. GLASS JARS, GOING THROUGH CAPPING MACHINE

acceptable emulsifier to keep the product uniform. In spite of these handicaps, however, it met with an immediate acceptance on the part of jobbers, retailers and consumers.

During 1922 the Phenix Cheese Corporation began to manufacture and market five pound process cheese. This was followed in 1924 by Swift and Company and in the same year by the Lakeshire Cheese Company, also the Pabst Company and several others. Since 1924 process cheese has been put up in one pound, half pound and quarter pound packages, thus making it possible to have the branded package go right into the home.

Swiss Cheese

All the early work on process cheese was done on American cheese but in 1922 there was a large overproduction of undergrade Swiss cheese in the State of Wisconsin for which a market could not be found in its natural state. Much of this was carried over until 1923, not only in the hands of the dealers but on the shelves of the factories as well, and it was evident that unless something was done to relieve the situation, both farmers and dealers would suffer a very severe loss.

By this time Kraft American loaf cheese had found a place in the market and it became evident that if Swiss cheese could be marketed in the same form, it would also find ready sale. After repeated experiments it became evident that if Swiss cheese could be marketed in the same form, it would also find ready sale. After repeated experiments it became evident that Swiss cheese could not be blended or processed so as to retain its natural color without the addition of emulsifiers. It is true there were some batches that would come out all right but the great majority of batches would turn dark in color and become crumbly.

In the case of Swiss cheese the old adage, "Necessity is the mother of invention," actually was the cause of producing processed Swiss loaf cheese. The tremendous losses which were being faced made it absolutely necessary for such an article to be produced. The first processed Swiss cheese put on the market did not meet with a ready acceptance because of the fact it was without eyes, but gradually retail stores found it so convenient to cut and slice that the sale began to develop, and within a few months the old Swiss cheese had been used up and a ready market established for No. 2 Swiss cheese. This market has continued ever since but, as in the case of American cheese, it has been found that the finer and better flavored Swiss cheese used, the finer and better flavored process Swiss is the result.

Brick Cheese

The difficulties encountered in making processed Brick cheese were that Brick cheese contained so much moisture its texture entirely disappeared in the process and it became nothing but a soupy mass.

This feature was eventually overcome by using about 25% of American cheese as a base or binder to which was gradually added the Brick cheese and the somewhat larger amount of emulsifier to retain the proper consistency.

Processed cheese manufacturers today are demanding a better quality of Brick cheese with less moisture so as to avoid using American cheese as a base if possible. It has been found unnecessary to blend different varieties of cheese together to produce any designated product if the original article such as Brick or Swiss cheese is properly made.

Limburger Cheese

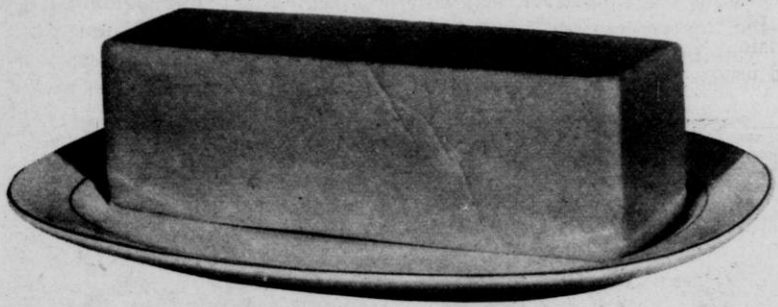
The Limburger cheese industry was on a fair way to complete passing out. With the closing of the saloons the sale of Limburger gradually declined until it almost reached the finishing point. As in the case of Swiss cheese, due to this declining demand there appeared a surplus of Limburger cheese in the latter part of 1924 and 1925 which became too hard and too strong for sale in its original form.

Knowledge gained in the processing of other varieties of cheese was applied to Limburger and after many experiments the five ounce jar of processed Limburger cheese emerged. This is now one of the largest sellers of package cheese, and because of its sanitary package, the clean method of handling and the fact that the odor is largely eliminated, people of all races are again eating Limburger cheese in this form. The manufacture of Limburger cheese in the past three years has been perhaps one of the most profitable to the farmers because of this fact.

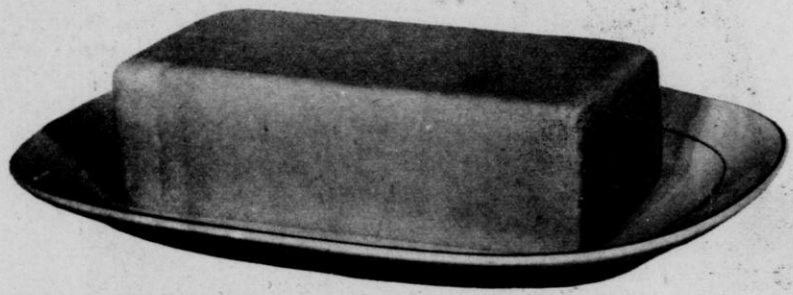
In the early stages of manufacturing process cheese there undoubtedly was considerable number two and inferior cheese used in the product, but during the progress of the industry, manufacturers have learned that high moisture, or acid, or off flavored cheese is always number two cheese and its quality is reflected in a lower quality of finished process cheese. Manufacturers, with high ethical and business standards always realized that the future prosperity of their process cheese is altogether dependent upon the quality of that article and that to get high quality process cheese, a good quality of cheese, a high quality raw material is a first essential. Now the industry nationally advertise their products and process cheese finds its way into many retail stores where it can be kept under ordinary conditions for a reasonable period. Thus it gets into many homes wherein it gives satisfaction where a pound or a half pound of cheese cut from the original factory-produced article would not find its way, and often would not give satisfaction.

It is to be expected that, as in all other food lines, we are likely to find men in the process cheese industry who are only honest in so far as they are compelled to be by law, and who will camouflage poor quality if it can be done, substitute or add inferior substances if the substitutions or additions are not likely to be detected and who will

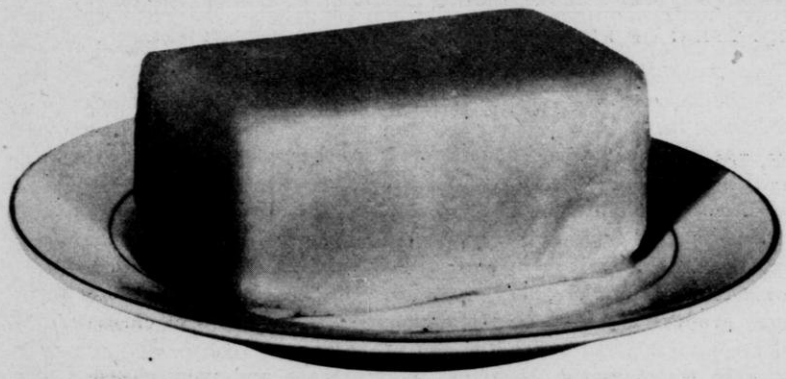
practice petty frauds if they can profit thereby. To what degree holders of basic patents can control or keep this undesirable element out of the process cheese industry I do not know. It is to be sincerely hoped that this element, in so far as it now is in the industry, can be



A FIVE POUND LOAF OF PROCESS CHEESE



A SPECIAL LOAF OF PROCESS CHEESE

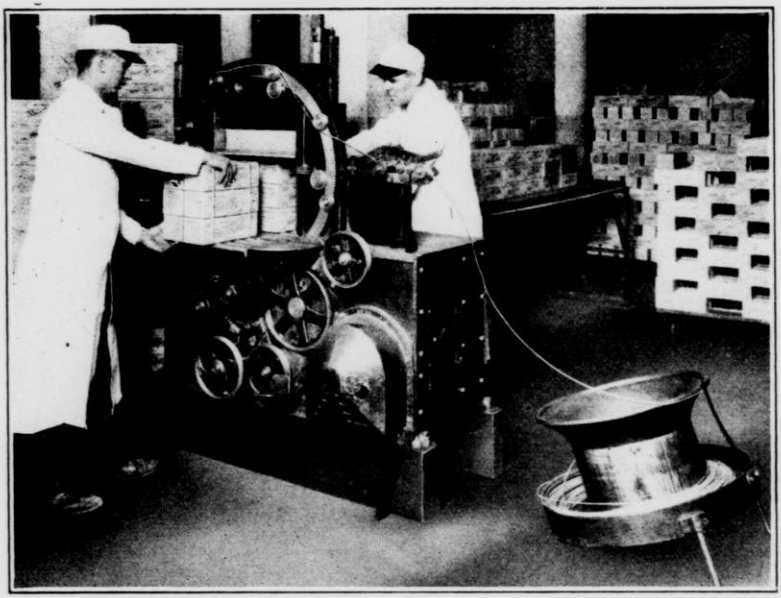


A HALF POUND LOAF OF PROCESS CHEESE

eliminated; to it is chiefly due the not always friendly criticism to which the industry has been subjected in the past; it is the greatest menace and the largest stumbling block for the future welfare of the process cheese industry.

There were produced by the several concerns during the two years ending June 30, 1928, 119,305,161 pounds of Process Cheese in the State of Wisconsin, some of which was sent to the far corners of the earth.

The present stage, however, may only be a beginning. Far sighted men vision for process and treated cheese great possibilities and unlimited usefulness to the dairy industry for the future.



WIRE TYING OF FIVE POUND BOXES OF PROCESS CHEESE

CHEESE MINERAL

There was considerable agitation among cheese makers on account of activities to promote the sale of so-called cheese mineral. Sweeping claims were made by smooth salesmen who solicited orders and in advertisements in the public press. I quote from an advertisement: "Cheese mineral will make your cheese clear, smooth and fine-grained. Stinking curd, white whey, leek, gas, pin-holes, off flavor, all these annoying profit-eating troubles disappear when you use cheese mineral.

"The yield will increase, the curd will improve and your cheese will have a finer texture and a finer flavor.

"Use cheese mineral regularly and you will produce a clear-colored even flavored cheese which has the same high quality day after day and year after year.

"It is easy to use and makes cheese making profitable.

"Endorsed by leading authorities and successful cheese makers everywhere."

Many cheese makers wanted to know whether or not it was permissible to use this product in cheese and whether it produced the facts claimed for it.

After some negotiations sample of the product was submitted by the manufacturer. Part of the sample was used in the Dairy School of the University to make experimental cheese and part was analyzed in the laboratory. The analysis disclosed the product to be of the following composition:

Moisture	0.11 %
Matter insoluble in water	.008%
$CASO_4$ (calcium sulphate)	.67 %
KNO_3 (saltpeter)	6.13 %
KCI (potassium chloride)	.23 %
NaCI (sodium chloride)	92.272%
Sucrose (sugar)	.18 %
	99.60 %

Experiments made at the University did not disclose that the mineral when added to milk improved the cheese.

A statement of the composition was made by the manufacturer as follows:

93½% salt
6 % saltpeter
½% sugar

However through my special process of mixing or blending there also results in a small loss of each ingredient.

I wrote to the manufacturer that the law as to fraudulent advertising had been violated in that assertions, representations and statements had been made which were untrue, deceptive and misleading.

The firm through its attorneys submitted a goodly number of testimonials but refused to give the names and addresses of the writers. It is not clear whether or not users were ashamed of their acts or thought they were incriminating themselves when confessing to the use of the mineral. After a conference the firm proposed to furnish further evidence to substantiate their claims.

On December 6 we received a letter stating that on November 30 an experiment had been made at the Blenker Cheese Factory at Blenker and at the Pleasant Corners Cheese Factory at Mosinee which proved increased yield. In the Blenker factory results were reported:

Yield without mineral 9.9 pounds of cheese per 100 pounds of milk; yield with cheese mineral 10.55 pounds of cheese per 100 pounds of milk. Net gain 0.6 pounds per 100 pounds of milk.

At the Pleasant Corners Factory these results were plain:

11.1 pounds of cheese per 100 pounds of milk without cheese mineral. 11.5 pounds of cheese to 100 pounds of milk with mineral. A net gain of 0.4 pounds of cheese to 100 pounds of milk.

I asked at once to purchase one experimental cheese from each batch to ascertain of what the increased yield consisted, but was informed that all this cheese had been sold and none was available for analysis.

I then requested dairy inspectors to ask cheese makers whether or not they had ever used the mineral, and, if they had, what effects they had observed. I made it clear that my sole aim was to ascertain the truth. If the mineral had a wholesome effect on cheese making I wanted to know it. On the other hand, if it did not, I wanted to know that also.

Out of 40 cheese makers who admitted using the product one thought it might help the yield, three it held down gas and five it might have some merit, while 31 stated that it positively had no merit.

Efforts to have the manufacturer make other experiments wherein the department had an opportunity to check conditions, materials and results were unsuccessful; therefore when a cheese factory operator called on us and informed us that "mineral" was to be demonstrated in his factory, we welcomed the opportunity and Mr. A. T. Bruhn was delegated to act as observer, collect samples of milk used, whey, whey cream, whey drippings and finished cheese for analysis.

EXPERIMENTED FOR TEN DAYS

Mr. Bruhn made observations for ten days April 3rd, 4th, 5th, 6th, 9th, 10th, 11th, 12th, 13th, and 14th. The mineral was added on alternate days beginning April 3rd, then on April 5th, April 9th, April 11th and 13th. No mineral was added on April 4th, 6th, 10th, 12th and 14th. Following are the records and comments he made:

Average yield per 100 lbs. of milk for five days when mineral was used, based on 38% moisture	8.847#	cheese
Average yield per 100 lbs. of milk for five days when no mineral was used, based on 38% moisture	9.038#	"
Average yield of cheese per lb. of fat in milk for four days when cheese mineral was used	2.6567#	"
Average yield of cheese per lb. of fat in milk for five days when mineral was not used	2.6268#	"
Average yield of cheese per lb. of fat and casein for four days when mineral was used	1.593#	"
Average yield of cheese per lb. of fat and casein for five days when mineral was not used	1.580#	"

Observations made during the ten days on which cheese were made may help to explain some of the differences in the results obtained from day to day.

The weather prior to and during the first couple of days had been mild for the season of the year and as some of the patrons were delivering their milk only every other day, the result was that the milk received on April 3rd, and the 4th, was over ripe to the extent that only about one-half the usual amount of starter was used. Even then,

NORTH LEEDS CHEESE FACTORY

1928	April 3	April 4	April 5	April 6	April 9	April 10	April 11	April 12	April 13	April 14
Milk Received	4455	5175	5001	4250	4870	4763	5023	4509	5156	3862
Per Cent of Starter Used	.5	.5	.8	.75	.75	.75	.75	.75	.75	.75
Amount of Cheese Mineral Added	18 oz.	None	20 oz.	None	24 oz.	None	25 oz.	None	25 oz.	None
Rate per 1000 lbs. of Milk	4 oz.	None	4 oz.	None	5 oz.	None	5 oz.	None	5 oz.	None
Amount of rennet used per 1000 lbs. of milk	3.5 oz.	3.5 oz.	3.5 oz.	3.5 oz.	3.5 oz.	3.5 oz.	3.5 oz.	3.5 oz.	3.5 oz.	3.5 oz.
Time set	9:00	9:12	9:22	9:25	9:34	9:30	9:40	9:05	9:00	9:30
Acidity of milk when set	.205%	.205%	.20%	.20%	.205%	.205%	.20%	.205%	.20%	.20%
Time coagulum was cut	9:27	9:30	9:45	9:50	10:05	9:57	10:06	9:35	9:30	10:00
Acidity of first whey	.135%	.14%	.13%	.135%	.135%	.135%	.13%	.13%	.13%	.13%
Started to heat	9:45	9:50	10:05	10:05	10:25	10:17	10:25	9:48	9:45	10:15
Heated to	100 F	102 F	100 F	100 F	102F	100 F	100 F	100 F	101 F	100 F
Finished Heating	10:15	10:20	10:35	10:30	10:47	10:45	10:50	10:15	10:15	10:50
Acidity of Whey							.14	.14		
Started to draw whey	10:50	10:38	11:15	11:30	11:35	11:15			10:45	
Acidity of whey	.17%	.17%	.165%	.165%	.165%	.17%	.16%	.16%	.17%	.16%
Finished drawing whey	11:08	10:55	11:25	11:45	11:45	11:30	11:50	11:10	11:10	11:30
Cut and turned	11:12	11:03		11:52				11:15		
Acidity of whey	.26%	.28%		.23%				.205%	.235%	
Milled	12:30	12:30	12:30	1:00	1:25	12:45	1:10	12:30	12:30	12:55
Acidity of whey	.80%	.80%	.53%	.50%	.50%	.50%	.60%	.45%	.50%	.48%
Salted	12:45	1:00	1:00	1:30	1:45	1:00	1:30	12:50	12:40	
Rate of salt used per 1000 lbs. of milk	3 lbs.	3 lbs.	3 lbs.	3 lbs.	3 lbs.	3 lbs.	3 lbs.	3 lbs.	3 lbs.	3 lbs.
Hooped	1:30	1:30	1:30	2:00	2:05	1:15	2:00	1:10	1:10	
Pressed	2:20	2:15	2:15	2:30	2:45	1:50	3:00	1:40	2:00	1:45
No. of Cheese Made	33	38	37	33	36	36	37	33	36	29
Style of Cheese Made	L. H.	L. H.	L. H.	L. H.	L. H.	L. H.	L. H.	L. H.	L. H.	L. H.
Weight of cheese out of press	404.5#	465#	454#	412.25#	451#	461#	458#	423#	460.5#	370#
Yield of green cheese	9.07	8.98	9.078	9.7	9.26	9.67	9.11	9.38	8.93	9.58
Weight of cheese two days old	399#	456.75#	445#	405.25#	443.5#	451.75#	451.75#	412.25#	453.25#	367#
Yield of cheese before paraffining	8.956	8.826	8.898	9.535	9.106	9.484	8.993	9.142	8.790	9.502
Per cent of fat in milk		3.35	3.3	3.55	3.45	3.45	3.3	3.35	3.3	3.5
Per cent of moisture in cheese	38.82	37.63	38.33	38.47	38.43	40.31	37.93	39.55	38.68	39.50
Yield of cheese per pound of fat		2.634	2.696	2.685	2.639	2.749	2.725	2.728	2.663	2.715
Yield of cheese per 100 lbs. of milk based on 38% moisture in cheese	8.766	8.912	8.821	9.418	9.004	8.938	9.009	8.783	8.635	9.141
Yield of cheese per pound of fat based on 38% of moisture		2.659	2.672	2.652	2.609	2.591	2.730	2.621	2.616	2.611
Yield of cheese containing 38% moisture per pound of fat plus casein in milk		1.594	1.595	1.609	1.585	1.565	1.623	1.554	1.572	1.578

on April 4th, acid developed faster than was desirable for obtaining the best results.

On April 7th, we had a bad snow and wind storm which continued until late April 8th. Cold, blustery weather continued practically all week, winding up with another snow storm during the night of April 13th to 14th.

This would seem to provide about as unfavorable condition for getting uniform quality of milk, and uniform quality and yield of cheese as one would be likely to experience.

The rate at which the acid developed on April 3rd is indicated by the fact that at the time the curd was cut and turned the first time, the whey tested .26 of 1% acid and at time of milling, about 1½ hours later, it tested .8% acid. On April 4th the test at similar times was .28 and .8 respectively.

On April 11th the milk appeared to be of very good quality, in fact it was necessary to wait for some time after milk was received to permit the proper amount of acid to develop before adding the rennet. Whether the high yield of cheese per pound of fat as well as per pound of fat and casein, on this date was due to the quality of the milk or to some unknown cause it is impossible to say.

On April 12th, a leaky steam valve caused one side of the vat to heat while milk was coagulating, causing an uneven set. The coagulum became very firm along the outside of the vat while the center was barely sufficiently firm to permit cutting. The unusually high loss of fat in whey on this date was probably due to the leaky valve.

The cheese was weighed when removed from press, weighed again when two days old, at which time samples were taken for chemical analysis. The reason for weighing and sampling cheese on second day was that on that date the cheese maker sampled cheese and tested it for moisture. If the moisture content was found to be below 39% the cheese was paraffined and boxed when three days old. If it contained more than 39% moisture it was held on the shelves until such time as it could be lawfully sold.

Due to the variation in moisture content of the cheese made it was found advisable to base all calculation of yield on a fixed moisture content and 38% was selected as the most logical figure.

The following tables show some of the results of the laboratory analyses made:

COMPOSITE MILK FROM NORTH LEEDS CHEESE FACTORY, ARLINGTON

Date 1928	Inspection Number	Specific Gravity	Per cent Total Solids	Per cent Butter Fat	Per cent Solids Not Fat	Per cent Total Protein	Per cent Albumin	Per cent Casein	Ratio Fat to Casein
April 4	356	1.0317	11.86	3.35	8.51	2.86	0.27	2.24	1 to 0.67
April 5	362	1.0315	11.83	3.3	8.53	2.91	0.27	2.23	1 to 0.68
April 6	367	1.0318	12.26	3.55	8.71	2.93	0.26	2.30	1 to 0.65
April 9	373	1.0316	11.97	3.45	8.52	2.85	0.32	2.23	1 to 0.65
April 10	378	1.0314	11.98	3.45	8.53	2.90	0.31	2.26	1 to 0.66
April 11	382	1.0314	11.88	3.3	8.58	2.84	0.25	2.25	1 to 0.68
April 12	387	1.0316	12.01	3.35	8.66	2.88	0.24	2.30	1 to 0.69
April 13	392	1.0320	11.80	3.3	8.50	2.80	0.28	2.19	1 to 0.66
April 14	397	1.0314	12.12	3.5	8.62	2.90	0.29	2.29	1 to 0.65
Average Per cent Nine Day Period		1.0316	11.97	3.39	8.57	2.87	0.28	2.25	1 to 0.66

EXPERIMENTAL CHEESE, NORTH LEEDS CHEESE FACTORY, ARLINGTON

Date 1928	Inspection Number	Per cent Moisture	Per cent Water-free Substance	Per cent Fat	Per cent Fat in Water-free Substance	Per cent Protein (N x 6.38)	Ratio Fat to Protein	Per cent Salt	Per cent Ash
April 6	366	38.82	61.18	32.72	53.48	23.70	1 to 0.72	0.83	3.25
April 7	371	37.63	62.37	33.24	53.29	24.22	1 to 0.73	0.82	3.29
April 9	372	38.33	61.67	33.02	53.54	23.75	1 to 0.72	1.04	3.51
April 10	377	38.47	61.58	33.25	54.04	23.14	1 to 0.70	1.24	3.73
April 12	386	38.43	61.57	32.85	53.35	23.86	1 to 0.73	1.12	3.63
April 13	391	40.31	59.69	32.05	53.69	22.66	1 to 0.71	0.85	3.31
April 14	396	37.93	62.07	33.28	53.62	24.04	1 to 0.72	1.09	3.51
April 16	398	39.55	60.45	31.35	51.86	23.68	1 to 0.75	1.05	3.71
April 16	399	38.68	61.32	32.50	53.00	23.90	1 to 0.74	0.96	3.46
April 16	400	39.50	60.50	32.24	53.29	23.57	1 to 0.73	0.80	3.34
Average Per cent for Ten Day Period		38.76	61.23	32.65	53.32	23.65	1 to 0.72	0.98	3.47

WHEY—WITHOUT USE OF CHEESE MINERAL, NORTH LEEDS CHEESE FACTORY, ARLINGTON

Date 1928	Inspection Number	Per cent Total Solids	Per cent Fat	Per cent Total Protein	Per cent Albumin	Per cent Sodium Chloride	Per cent Ash
April 4	357	6.85	0.25	0.75	0.25	0.16	0.54
April 6	368	6.94	0.26	0.79	0.23	0.17	0.53
April 10	379	6.80	0.30	0.75	0.18	0.16	0.53
April 12	388	6.93	0.43	0.76	0.16	0.15	0.52
April 16	401	6.82	0.31	0.76	0.20	0.13	0.50
Average Per cent for Five Day Period		6.87	0.31	0.76	0.20	0.15	0.52

WHEY—WITH CHEESE MINERAL USED, NORTH LEEDS CHEESE FACTORY, ARLINGTON

Date 1928	Inspection Number	Per cent Total Solids	Per cent Fat	Per cent Total Protein	Per cent Albumin	Per cent Sodium Chloride	Per cent Ash
April 3	352	6.77	0.29	0.77	0.17	0.20	0.59
April 5	363	6.81	0.26	0.75	0.17	0.19	0.56
April 9	374	6.74	0.30	0.75	0.14	0.21	0.56
April 11	383	6.74	0.26	0.75	0.21	0.19	0.57
April 13	393	6.81	0.33	0.74	0.25	0.19	0.56
Average Per Cent for Five Day Period		6.77	0.29	0.75	0.19	0.20	0.57

WHEY DRIPPINGS WITHOUT USE OF CHEESE MINERAL, NORTH LEEDS CHEESE FACTORY, ARLINGTON

Date 1928	Inspection Number	Per cent Total Solids	Per cent Fat	Per cent Total Protein	Per cent Albumin	Per cent Sodium Chloride	Per cent Ash
April 4	360	20.74	4.86	1.14	0.24	10.03	11.12
April 6	370	23.17	1.60	0.74	0.21	16.29	17.10
April 10	381	21.34	2.62	0.82	0.23	13.35	14.19
April 12	390	20.85	3.42	0.89	0.24	12.07	12.94
April 16	403	15.77	1.32	0.71	0.23	9.58	10.23
Average Per Cent for Five Day Period	----------	20.37	2.76	0.86	0.23	12.26	13.12

WHEY DRIPPINGS, WITH CHEESE MINERAL USED, NORTH LEEDS CHEESE FACTORY, ARLINGTON

Date 1928	Inspection Number	Per cent Total Solids	Per cent Fat	Per cent Total Protein	Per cent Albumin	Per cent Sodium Chloride	Per cent Ash
April 3	355	24.04	4.42	0.92	0.26	14.28	15.30
April 5	365	21.74	3.30	0.87	0.24	12.98	13.86
April 9	376	23.10	2.33	0.77	0.21	15.58	16.44
April 11	385	24.26	1.78	0.76	0.18	17.40	18.34
April 13	395	21.91	2.71	0.86	0.26	13.62	14.58
Average Per cent for Five Day Period	----------	23.01	2.91	0.84	0.23	14.77	15.70

WHEY CREAM FROM NORTH LEEDS CHEESE FACTORY—ARLINGTON

Date 1928	Inspection Number	Per cent Milk Fat
April 3	353	19.25
April 4	359	28.5
April 5	364	20.5
April 6	369	24.5
April 9	375	23.5
April 10	380	24.0
April 11	384	15.0
April 12	389	33.5
April 13	394	23.0
April 16	402	23.5
Average Per cent Ten Day Period		23.52

It will be noticed in the tables that the fat content of the milk varied greatly from day to day and that the yield of cheese per 100 pounds of milk varied greatly from day to day. To base any conclusion on the yield of cheese you may get by varying the process of manufacturing is practically worthless, unless you have a full knowledge of the fat content and other cheese yielding constituents the milk contains, the losses of cheese substances in the whey, or during the process of manufacture and a complete analysis of the cheese when it was weighed.

It will be noticed that though the highest yield of cheese per 100 pounds of milk on any day was 9.7 pounds and the lowest 8.98 pounds, a difference of .72 pounds, on the other hand the highest yield of cheese per pound of fat plus casein, based on 38% of moisture in cheese, was 1.623 and the lowest was 1.554, a difference of only .069 pounds, almost a negligible quantity.

On the basis of this experiment made and considering the analysis shown by the milk to be made into cheese, the cheese and the by-products, the conclusion appears to be inevitable that the use of cheese mineral did not increase the yield, but that the difference in the yield may be accounted for by the differences in the cheese producing constituents in the milk, the bacterial content thereof and the mechanical methods followed.

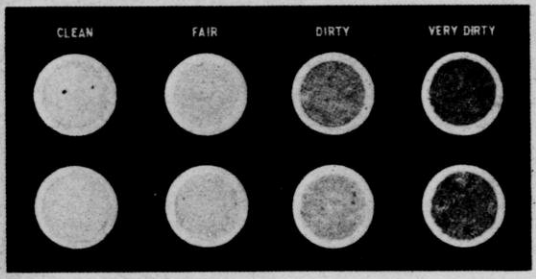
A CAMPAIGN FOR CLEAN MILK

It seems self-evident to a careful observer that the welfare of the whole of the dairy industry is intimately bound up with the quality of milk produced on the farms, but it is not sufficiently realized that the quality of cheese, butter, condensed and powdered milk and ice cream, as well as market milk, is dependent in no small measure upon the efforts put forth on the individual farms to produce clean milk.

In the last analysis, the degree of excellence which these various foods are able to attain will be limited by the degree to which the pro-

STATE OF WISCONSIN

WE MUST HAVE CLEAN MILK



Picture shows sediment discs obtained from:

Clean Milk Fair Milk Dirty Milk Very Dirty Milk

IN WHICH CLASS DOES YOUR MILK BELONG?

It is unlawful to sell or offer for sale dirty milk or cream from dirty milk. The law says that milk is the fresh, CLEAN product obtained by the complete milking of healthy cows.

It is unlawful to manufacture any cheese or butter or in fact any food product from dirty milk. Cheese makers or butter makers or others doing so may be summoned into court and fined, and may have their licenses revoked.

Cheese makers and butter makers and others who receive milk should frequently examine it for dirt.

Fundamentals in the production of clean milk are:

1. Clean utensils, sterilized when possible.
2. Clean udders and flanks when milking.
3. Clean dry hand milking.
4. Protection of milk from dust, flies, and other contamination.

Clean dairy products cannot be manufactured from dirty milk.

Prompt cooling of milk is necessary to keep it at its best.

WE MUST HAVE CLEAN MILK

Madison, Wis.
August. 1928

C. J. KREMER,
Dairy and Food Commissioner

(POST IN A CONSPICUOUS PLACE)

POSTER SHOWING CLEAN, FAIR, DIRTY AND VERY DIRTY MILK

ducer delivers clean and pure milk. No cheese maker, nor butter maker, nor city dairy can raise the quality of its products higher than the quality of milk delivered at the receiving vat. What then is clean milk? It is the foundation stone of the welfare of the dairy industry, the very first essential if that industry is to prosper.

Under the law of the State clean milk is milk from healthy cows free from dirt and foreign matter and containing no disease producing bacteria. Visible dirt at all times indicates gross carelessness in the handling of milk. While it is plain that milk may be seriously contaminated with bacteria and yet show no visible dirt, it still re-

SEDIMENT TESTER

mains a fact that visible dirt indicates gross carelessness in the handling of the product. Milk as produced by healthy cows is clean, but it may be contaminated by particles of manure, hairs, dandruff, or other dirt dropping directly into the milk pail during milking.

The efforts of this department were directed towards preventing such contamination of milk and as an object lesson, a demonstration, some of the visible dirt found in the last portion of milk in cans was collected in a sediment tester. I believe that such a sediment test is the most valuable method of determining the presence of dirt in milk. While a clean disc is not proof of absolutely clean milk, a dirty disc is incontrovertible evidence that the milk from which it came was not clean.

At the outset of this campaign a number of representative discs showing clean milk, fair milk, dirty milk and very dirty milk were

collected and photographed. These were pictured on a poster card a facsimile of which is shown, and the card was sent to every cheese factory, butter factory, condensery and receiving station in the State.

Inspectors in the field were equipped with sediment testers and they were instructed to and did obtain sediment discs from the last portions of milk in cans offered by patrons.

The discs so collected on white cotton were placed on white cards where the accumulated dirt could be seen and examined. Discs that showed dirt were exhibited to patrons at receiving stations, and where that couldn't be done, they were treated with chemicals to prevent odors, pasted on a card, a facsimile of which is also shown, and sent to the producer on that card in a glassine envelope.

In carrying on this campaign over 50,000 sediment tests were made and discs collected in 1,500 factories or receiving stations. Of these 4,426 were sent to producers whose milk yielded them on cards shown on page 128.

In addition letters were written to licensees of establishments where dirty milk was found. In these letters the necessity of clean milk for the welfare of the dairy industry was stressed, the unlawfulness of dirty milk was pointed out, and it was suggested that granting or renewing of licenses might be conditioned upon a clean supply of milk.

Believing that a few words of appreciation for efforts made would encourage producers of clean milk and act as an incentive to others to also be deserving of compliments on the part of State authorities, nearly 2,000 commendatory letters were written to patrons whose milk showed up exceptionally clean.

The industry, as a whole, welcomed our efforts very much. One concern from the northern part of the State wrote as follows: "We wish to thank you for the sediment test poster. If not asking too much, we could use five additional ones to advantage. We would like to frame one for each of the banks and two for our plant receiving room and office. We believe * * * quality is what counts in order to obtain the price for any finished product whether it is condensed milk, cheese, butter or fluid milk."

It is pleasing to report that some of the leading dairy establishments gave earnest cooperation and adopted the system followed. Their inspectors took sediment discs of all the patrons' milk from time to time and forwarded these discs on specially designed cards in glassine envelopes to the office. Here the same course was followed as with the discs collected by our inspectors. Dirty discs were sent on our cards to the producers whose milk yielded them, and patrons sending in especially clean milk were encouraged in friendly letters.

In this cooperative effort over 1,300 warning cards and discs were sent to farms and over 400 complimentary letters were written.

As the department urged purchasers of milk to accept none but clean products, patrons whose milk was being rejected or criticized often would attempt to sell it to neighboring institutions and succeed in doing so. When this was brought to the attention of the department, the institution accepting milk that had been rejected was

STATE OF WISCONSIN

WE MUST HAVE CLEAN MILK

Fundamentals in the production of clean milk are:

1. Clean utensils, sterilized when possible.

2. Clean udders and flanks when milking.

3. Clean dry hand milking.

4. Protection of milk from dust, flies, and other contamination.

Compare your disc with these standards.

Disc at right was obtained from milk offered by you on _____

at _____

Milk containing dirt such as is shown here is unclean milk and its sale is punishable under the law.

Milk from which your disc was obtained is unlawful milk.

Do not offer such milk for sale again.

C. J. KREMER,
Dairy and Food Commissioner.

CARD ON WHICH DISC IS SENT TO PATRON

warned and requested to pay special attention to that product. When it could be done, then the inspector went to the farm, ascertained what the conditions were and what the trouble was, and attempted to have the farmer correct his practices so that his milk would come in clean.

This report covers about ten months of the clean milk campaign which has produced very good results. The milk now comes in much cleaner than it did and greater efforts are made all along the line to produce and maintain a cleaner flow. The results are all the more to be welcomed because they have been obtained without casting reflections on the dairy industry and without causing suspicion of dairy products.

Wherever in the past evils have been remedied in food industries, it has been done by discrediting the entire industry to a greater or less extent and by lowering the public estimation of the products involved. I am glad to say that such a situation has been entirely avoided in this campaign, no reflection has been cast upon the industry, but evils are being remedied without disturbance and without clamor.

TESTING SERVICE FOR PRODUCERS AND BUYERS OF MILK

Many complaints were received at the office of the Dairy and Food Commissioner from receivers of milk that competing concerns do not correctly read the tests and, possibly, overread the test for a short time as a means for stealing the patrons of other institutions. Again, there was considerable doubt expressed on the part of producers of milk whether the milk is accurately tested in receiving stations, cheese or butter factories, where it is being delivered. Many went as far as to question the correctness of tests made.

In places where milk is being sold and bought by weight and not by test, the situation is reversed. Here the receiver often suspects that the milk offered may be partly skimmed or watered to a greater or less extent.

To afford means to producers of milk to assure themselves that their product is accurately tested, the service of the dairy and food laboratory was offered. The laboratory was ready to test all jointly prepared samples of milk where both the producer and the buyer certified that it was a fair sample of the milk and the sample was properly forwarded to the laboratory. In this way means are placed at the disposal of farmers to become certain of the character of the milk produced by their herds and purchasers are in a position to verify their test and assure its correctness. Those who buy milk by weight have a means of ascertaining the value of milk offered to them.

Overreading the tests by competitors presents a difficult, not to say hopeless, problem. It creates no little disturbance in certain circles

and may threaten the very existence of small cheese factories who need every pound of milk they have to operate on a paying basis. It is quite plain that, when an inspector is on the premises, tests are not likely to be either overread or underread, but, after the test has been made and the sample destroyed, it is extremely difficult to get evidence that it has not been correctly read.

The testing of composite samples is of no value in this matter as such samples are often not truly representative of the milk and may be tampered with while in possession of purchasers. Moreover, it is my opinion that many persons who manipulate the Babcock test are not fully competent to do so and do not exercise the necessary care to secure an accurate and correct test. There is reason to believe that in many instances the "test" is estimated or guessed at rather than actually and accurately read. It has been proposed by people in the dairy industry that no person may be permitted to manipulate the Babcock test and establish the value of milk on that basis unless he has secured from the dairy and food commissioner a certificate that he is competent and qualified to do so, and, that when it is established that a certificate holder does not properly manipulate the test and accurately read and record it, this certificate be revoked.

SITUATION AS TO PRODUCERS OF MILK

There can be no question that as far as cleanliness, proper care and wholesomeness of milk is concerned, all milk ought to be above suspicion.

However, the State standards are such that they do not satisfy certain cities, especially Milwaukee and Chicago. These cities maintain a force of inspectors within the State much larger than the force of the Dairy and Food Department; this force imposes at times upon producers of milk arbitrary requirements having but a remote bearing upon either the cleanliness, wholesomeness, or character of the milk furnished. The following conclusions seem inevitable:

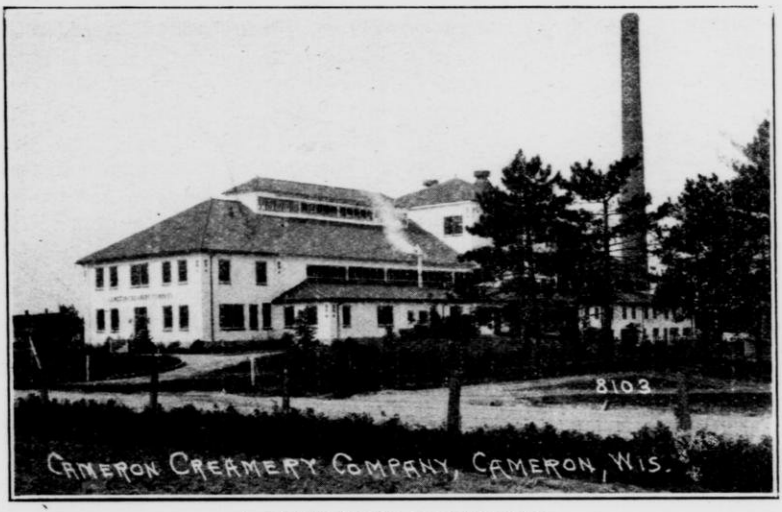
1. That much of the milk produced within the State is looked upon with suspicion as to whether or not it is fit for human consumption;

2. That many producers of milk are subject to requirements of inspectors who are not responsible to any State agency, whose arbitrary fiat is binding upon them and who are not materially interested in the personal welfare of producers.

Efforts should be made to have all milk produced uniformly of high quality so that it can be shipped and sold anywhere in the United States without being challenged.

The Dairy and Food Department should be organized so as to be able to take care of all inspections necessary so that producers and distributors of milk have to deal with only one agency, and the inspectors' activities are to be supervised by the Dairy and Food Commissioner whose door is always open to producers of milk and who is charged by law with promoting their welfare.

Cities such as mentioned above undoubtedly have a right to prescribe the conditions under which milk may be sold within their borders. Officials of Chicago appear to be satisfied to have the Dairy and Food Department take over the work of their field inspectors provided that the standard of milk to be shipped into Chicago is not lowered. It seems altogether advisable that this be done as it relieves many producers of milk of a type of supervision that has proved at times burdensome and in the end it would make for uniform requirements as to milk, and producers and distributors of milk would at all times have but one authority to deal with.



A WISCONSIN CREAMERY

NOTES ON DAIRY INSPECTION WORK

There are a total of 4,204 establishments licensed by the state to be covered by twelve men, or over 350 for each man per year.

Inspections are made for the purpose of ascertaining whether something is wrong, but after the inspection is made the most difficult task remains to be done and that is to remedy the evils found. The inspection itself must be thorough in any establishment. It must include ventilation, light, construction and condition of floors, ceilings and walls, the drainage, the water supply, both hot and cold, the facilities for cooling and storing, the sanitary conditions of the vats, pumps and pipe lines, churns and equipment, as well as pails, dippers, glassware, etc., and the personal cleanliness and habits of the employes must not be neglected. Even for a man with a thorough knowledge of the general underlying principle and full acquaintance with the workings of machines and equipment, he cannot make a good inspection hastily and superficially and therefore the number of inspections a man can make in one day is very limited.

If it is assumed that he has found some condition in the factory itself that needs improvement, then the thought that improvements are to be made must be sold to whoever may have authority to make them. The inspector should know of a remedy that is possible and practical, and recommend it.

In the case of our dairy inspectors they also test weight and measures used.

However, an inspection of a factory is not complete with the above. Each can of cream or milk coming to the factory should undergo scrutiny. Cans are to be inspected to ascertain whether or not they are dirty, rusty or open seamed. Sediment tests should be made for visible dirt and lactometer tests at least for fat, watering or skimming. Notice should be taken of the odor and acidity of milk and its temperature. If there are any unlawful conditions found with the milk itself, then follow up work must be done at the patron's farm. There the inspection also should include the water supply for the cattle and for the utensils, the construction and condition of the stable, its ventilation, drainage and cleanliness, the health and methods of milker, the removal, cooling and care of milk, the washing facilities and operations for the utensils used and the condition and healthfulness of the cows.

If the preliminary tests at the factory or receiving station indicate that the milk has been either skimmed or watered, or possibly both, then a herd sample must be taken at the farm for the purpose of comparison with the milk delivered. To obtain the herd sample it is necessary for the inspector to see that each cow is properly milked, the number of cows in a herd may be from 40 up, that all the milk is thoroughly mixed and not tampered with before he takes a sample. The herd sample is then sealed and sent to the laboratory for analysis for comparison with a similar sample taken at the factory, which of course also has been sealed, properly marked for identification and forwarded to the laboratory. It is evident that one thorough inspection of this kind may occupy the time of an inspector for several days as the milking may be done late in the evening or early in the morning and the inspector cannot consider his task finished until he has the samples properly prepared, sealed, marked for identification and safely on their way to the laboratory.

It must be noted that all this work should be done without seriously interfering with the ordinarily regulated work in a factory or disturbing or upsetting schedules.

After work that may be called strictly inspectional has been completed, then it is essential that this work be followed up for unless it is followed up, the good effect of an inspection is soon lost, people who have been negligent as to cleanliness, etc., are apt to drift back into their old habits and those who have been skimming or watering or both soon are tempted again to follow, perhaps a little more cautiously, the old paths.

In regard to the follow up work, I feel that the Dairy and Food Department has been, if I may use the term, very lame. In stating

this I do not mean to reflect on any of the men at the head of the department or working in the department, but as a condition unavoidable, when tasks of such a nature, and in such number are imposed upon a very limited number of men, so that it is simply impossible for these men to do justice to all concerned. In other words, the means placed at the disposal of the Dairy and Food Commissioner are inadequate to meet the demands imposed upon him by the legislature.

NUMBER OF INSPECTIONS

	1926–27	1927–28	Total
Cheese factories	2,779	3,361	6,140
Butter factories	838	875	1,713
Dairies	1,410	1,026	2,436
Receiving stations	861	935	1,796
Condenseries	106	131	237

PROBLEMS IN THE SOFT DRINK INDUSTRY

There is a large import business and considerable export in the line of soda water beverages, and as the laws of Wisconsin in relation to preservatives differ from the laws of some other states and the practice followed by the food, drug and insecticide bureau under the United States Food and Drug Act, special attention is required for such products.

The Legislature of Wisconsin in 1923 enacted a law dealing with soft drinks imported into Wisconsin from certain other states. This law in substance provided for the inspection, and registration of soda water beverages imported into Wisconsin from states where inspection and licenses on the part of such Wisconsin manufacturers whose product was sold in these states were required. Each flavor is to be inspected and registered annually. Only one manufacturer from an outside State had submitted samples and paid the examination fee in 1924. None were submitted in 1925 and none in 1926. Upon assuming the office of Dairy and Food Commissioner I served notice on retailers who sold products manufactured in Michigan or Minnesota that the sale of these products was illegal unless each flavor of beverages sold was registered. As a result, during May and June three bottlers from outside of the State had seventeen flavors examined and certified. On June 20, 1927, a summons was served upon the Dairy and Food Commissioner in behalf of the Fitger Company, a foreign corporation, to defend an action to set aside and declare unconstitutional the provisions of subdivision 9 of Section 98.12, which is the statute involved. This was supplemented by an injunction ordering the Dairy and Food Commissioner, his attorneys, agents and servants to absolutely desist and refrain from enforcing or attempting to enforce the provisions of Section 98.12 of the Wisconsin statutes, and particularly subdivision 9 thereof, against the plaintiffs, or either of them, until further order of the court. The case has been pending in

the courts since and a hearing was not obtained until the latter part of June, 1928, but so far the court has issued no further orders and the temporary restraining order is still in full force and effect. Among other things the complaint sets forth that the said section and said subdivision 9 is unconstitutional and void in that it discriminates between the citizens of the State of Wisconsin and citizens of sister states; that it discriminates between citizens of Wisconsin and the citizens of other states where no license is required, and that the fee for inspection is exhorbitant and excessive and unreasonable. Further that it deprives the plaintiff as a resident and citizen of the State of Minnesota of the equal rights and privileges guaranteed by the Federal constitution and deprives the plaintiff of his property without due process of law. That the defendant (the Dairy and Food Commissioner) has threatened and does threaten that he will enforce the provisions of said section and subdivision and will file complaints and institute actions against the plaintiff's customers in Wisconsin for the purposes of recovering fines and penalties mentioned therein, for the violation thereof, and will continue from time to time to file such complaints and institute such suits. Further, that the plaintiff feels that unless restrained by the judgment of the court, the Dairy and Food Commissioner will carry out such threats and the business of the plaintiff will be utterly destroyed in the State of Wisconsin and irreparable injury will be done the plaintiff and the plaintiff will be subjected to a multiplicity of suits, as aforesaid. It is to be kept in mind that all of the dire things which might happen to the plaintiff are conditioned upon the fact that he would elect not to comply with the laws of the State of Wisconsin, refuse and neglect to submit samples of beverages sold by him in Wisconsin to the Dairy and Food Commissioner and pay the required inspection and registration fees. It is clear that when the constitutionality of an act is attacked and an injunction is pending, it is not good policy to attempt to enforce that law against others not mentioned in that particular injunction. No lower court would pronounce judgment in a case when it was pointed out to such court that there was a grave question of constitutionality involved which was in the course of being tried by the court of last resort and therefore since June, 1927, the Dairy and Food Commissioner has refrained from attempting to collect the fee or enforce the legislation provided for by the 1923 act and there is grave doubt whether even if the law is held to be constitutional, any fees can be collected from those who were obliged to pay them for the years 1927 and 1928 and until the case is finally determined in the Supreme Court.

HYDROGEN PEROXIDE, A NEW PRESERVATIVE

A new problem arose when new so-called chocolate or cocoa flavored drinks containing milk powder were put on the market. It had been found that the syrups or bases from which these drinks were made were prepared with preservatives and among them was found hydrogen peroxide. As hydrogen peroxide is not specifically mentioned among the prohibited preservatives, a letter was sent to all bottlers of soda water beverages as follows:

"To Bottlers of Soda Water Beverages:

"It has come to the attention of this department that compounds or mixtures which contain hydrogen peroxide are offered for sale to bottlers and by some are being used in the preparation of chocolate or cocoa flavored drinks. The addition of hydrogen peroxide to articles of food which are used as ingredients in the manufacture of soft drinks and enter into the composition thereof, is severely to be questioned, as hydrogen peroxide may harmfully affect the human system.

"Investigations so far conducted indicate that the use of hydrogen peroxide makes of articles to which it is added adulterated articles of food, but the limited investigations so far made may not be conclusive. There cannot be any doubt, however, that hydrogen peroxide possesses a preservative character and if it is added to drinks, its presence must be plainly disclosed to the purchasers.

"Notice is hereby given to the soda water bottling industry that the manufacture, sale, offering and exposing for sale or having in possession with intent to sell of drinks which contain hydrogen peroxide shall be deemed a violation of Section 352.12 of the statutes unless each bottle is plainly and conspicuously labeled so as to disclose to the purchasers the presence and proportionate amount of hydrogen peroxide in the drink."

It is believed that bottlers of soda water beverages readily fell into line and discontinued the use of a product containing an objectionable preservative. A reliable soft drink manufacturer was approached by vendors of "chocolate concentrate" and was told that the Dairy and

CROWN USED ON BOTTLE OF BEVERAGE

Food Department would be unable to find the objectionable peroxide in the finished article, but this bottler took the position that he would not engage in manufacturing the product unless the base, the chocolate, cocoa and powdered milk compound, was approved by the Dairy and Food Department. The department refused to approve of the

article and insisted that if it was being used in soda water its presence must be declared on the label. The manufacturer took the stand, "If I must tell the public that my product contains peroxide, I shall then not manufacture it, for it would not only handicap the sale of the chocolate or cocoa drink, but it would injure every other drink I manufacture and sell and detract from my reputation as a high grade manufacturer of pure soda water beverages."

Not all bottlers, however, took the same position and chocolate beverages preserved with hydrogen peroxide are on the market. The provision of law requiring that the presence of a preservative is to be disclosed to purchasers is evaded to a large degree by a declaration on the crowns of bottles.

Whether or not this meets with the intent and purposes of the law is questionable. True, the dealer is apprized of the presence of the preservative, but in most instances the consumer is not. The crown which bears the legend is removed before the drink is served and the consumer never sees the statement that is intended to be there for his protection. Purchasers desiring chocolate flavored beverages should insist on seeing the unopened bottles to ascertain whether or not preservatives are present.

If, after being informed, they then wish to take the article preserved with hydrogen peroxide, they do so knowingly.

NAMES, PICTURES AND MECHANICAL DEVICES MISLEAD

The production of fruit is growing rapidly and fruit juices make refreshing and very acceptable drinks. They are wholesome and sought after. For this reason they have been pounced upon by beverage manufacturers to advertise fruits and their juices in words, pictures and mechanical devices, to promote the sale of products not made out of fruit juices and often not out of any portion of fruits. I discussed this phase as applied to soda water beverages in my report as Senior Food Inspector for the years 1925 and 1926. Since then the use of so-called "still drinks" at soda fountains, dispensing stands, etc., has increased very much. In many places the drinks are manufactured on the premises, oranges are displayed in abundance, pictorial and mechanical artifices are being used to have people believe orange juice is served at "stands", purchasers are given a concoction made with water, sugar, acid, color, and little or no orange.

I hope to be able to make, in the near future, an intensive campaign for proper labeling of soda water beverages "and get after fruit drinks" which in truth and in fact are not derived from fruits.

THE CANNING INDUSTRY

Quantity of Peas in Each Can

Growing vegetables, especially peas, for canning purposes is often one of the chief sources of income for many Wisconsin farmers and canning has developed into a wonderful industry for the state. During the two years covered by this report 15,836,000 cases of peas were canned, 1,152,650 cases of corn and 671,750 cases of beans. In addition there was considerable fruit canned, besides beets and mixed vegetables.

There has been considerable agitation in the past few years as to the proper quantity of peas that should be placed in cans when canning them. There have also been allegations that some cans of peas, put up in Wisconsin, were slack filled and therefore purchasers were not receiving the quantity of food which they had a right to expect.

The problem of canners seems to be to get as many, but no more, peas into each can as can be preserved therein at their best and as will present an attractive, appealing appearance when can is opened. In other words, crowd into a can as many peas as possible without injuring their quality or appeal to the eye when opened.

To ascertain the actual fill of the cans and help the canners solve their problem, the dairy and food department undertook an investigation with an idea of obtaining accurate data and records of a sufficiently large number of canning factories and canned peas, to tell a true story of the practices followed and results obtained.

The results of this investigation were published by the Dairy and Food Commissioner as bulletin number 16 May, 1927, and bulletin number 17 May, 1928, and distributed to canners and others interested, in the hope of being of service in the industry.

Investigation as to Flat Sour Peas

During the Winter and Spring of 1926–1927 considerable trouble was experienced with canned peas that had been sold by irresponsible parties at bargain prices. As such they had found their way into some of the so-called cheap stores. Some of the cans that found their way into households were returned as unfit for use. They did not show any deterioration on the outside, but when opened were found to be sour to a greater or less degree, some of them could be termed putrid.

In trying to trace the origin of these cans it was found that they came from a Wisconsin factory. Samples of them had been examined by the National Canners' Association, but they had been sold very cheaply to a concern who claimed to be operating restaurants and in a position to examine the cans as they were opened, make use of such as were in good condition and discard all which were unfit for food. The concern, however, sold the peas in lots of one case or more at a

cheap price wherever they found a market for them. The damage had been done. A number of persons, including the factory who first sold the peas, were prosecuted in the courts and fined. The department tried to learn, if it could, the cause of these spoiled peas, as the opinions of persons who were looked upon as experts differed. Indications seemed to point towards a bacteria of spore developing at certain temperatures and between the time cans had left the cooling tank and before they reached room temperatures. It was thought that if the cans, after having been processed, had been cooled sufficiently fast, these bacteria that caused the spoilage would have had no opportunity to develop and do the harm.

The department thought the matter of sufficient importance to make an effort to learn just what takes place in a number of factories in the state and an investigation was carried on. The results of this investigation are also published in bulletin number 17 and offer an interesting study.

COLD STORAGE OF FOOD

The use of cold storage as a means for preserving foods is increasing and the cold storage business is getting to a higher standard. Greater care is being exercised that foods go into storage in prime condition as that is indispensable if foods are to give satisfaction when they come out of storage.

The Legislature of 1917 passed a law regulating the operation of cold storage warehouses as a great many evils had developed therein. This law was amended in 1921 and 1923. To this law no doubt is due to a great degree the beneficial development of the cold storage business mentioned heretofore.

The general purposes of the cold storage act are to protect the public health and welfare against unwholesome food and against fraud and to prevent undue hoarding. To carry out this purpose efficiently, cold storage of food is vested with a public interest and certain regulations are necessary. The basic conditions necessary appear to be about as follows:

1. That the place, the cold storage warehouse, is suitable and equipped to preserve the foods;
2. That foods intended for cold storage are to be placed in low temperatures without delay when offered for storage;
3. That the time when food was offered for storage be known;
4. That the owners of foods in cold storage be known. By that is meant that the identity of each individual lot of food is to be preserved until it is sold to consumers.

These conditions appear to be so self-evident that there should not be any dispute about it. However, there seems to be a determination on the part of some to circumvent the law, not wishing to sell goods that have been held in cold storage for a period of forty days or over as and for cold storage goods.

S. MILLER COLD STORAGE COMPANY

ACCOUNT OF S. Miller Cold Storage Co ADDRESS Stark

RECEIVED	PAID TO	LOT	PACKAGES	KIND	SIZE	WEIGHT	MARK	RECEIPT	NOTE	CAN NO.	REMARKS
1916											
May 7		519	400	Cs Sty Pack Eggs	ea						
" 9		521	200	" "							
" 12		530	100	" "							
" 16		529	400	" "							
" 25		544	460	CR							
" 26		476	400	CR							
" 28		483	400	CR							
June 6		501	400	CR							
" 10		534	400	CR							
" 18		543	400	CRW							
" 24		547	400	CRW							
" 28		542	400	CRE							
" 25		567	400	" "							
July 9		584	100	" "							
" 11		589	200	" "							
" 13		603	200	" "							
" 20		613	200	" "							
Aug 26		649	200	" "							

DELIVERIES

DATE	LOT	OUT	✓	PKGS	BAL	WEIGHT	TICKET	DATE	LOT	OUT	✓	PKGS	BAL	WEIGHT	TICKET

PLATE A—PAGE FROM STORAGE RECORD

S. MILLER COLD STORAGE COMPANY

ADDRESS Marshfield Wis Stock at ACCOUNT OF S Miller Cold Storage Co

RECEIVED 1911	PAID TO	LOT	PACKAGES	KIND	SIZE	WEIGHT	MARK	RECEIPT	NOTE	CASH	REMARKS
Mar 30		500	100 "	Eggs Cly Mark							
Apr 1		501	100 "								
" 3		502	100 "	"							
" 7		503	100 "								
" 9		504	100 "								
" 10		505	100 "								
" 11		506	100 "								
" 12		507	100 "								
" 13		508	100 "								
" 14		509	100 "								
" 15		510	100 "								
" 19		511	100 "								
" 20		512	100 "								
" 21		513	100 "								
May 4		517	100 "								
" 4		518	100 "								
" 7		520	100 "								

DELIVERIES

DATE	LOT	OUT	P	PKGS	BAL	WEIGHT	TICKET	DATE	LOT	OUT	P	PKGS	BAL	WEIGHT	TICKET

Exhibit 20

30

The Dairy and Food Department has always construed the law that the provision requiring licensees of cold storage warehouses to keep accurate records, means that licensees are to keep records which disclose:

1. The name of owner or depositor of each lot of food received;
2. Date of entry into cold storage;
3. If not an original entry a record of all previous entries, withdrawals and transfers;
4. Kinds, including number of individual units and total quantities of foods stored;
5. Dates of withdrawals of whole or portions of entry; and
6. Name of parties withdrawing same, specifying kinds, including number of individual units and the total quantity withdrawn.

It may be said here that this construction was placed upon the law at conferences between the Dairy and Food Commissioner and cold storage interests, when the law first was passed.

Construction of Law Tested

On the theory that our construction of the law was correct, information was filed that a certain warehouse refused and failed to keep accurate records according to the statutes and the rules and regulations promulgated by the Dairy and Food Commissioner thereunder. This was based upon the fact that when inspectors called at the warehouse and asked for the records they were given a loose leaf book marked "Cold Storage Records," which they examined. This purported to show that the storage company had stored to their account a great many eggs in lots of 100 cases and upward; but only showed three or four other concerns. To make the situation clear, a facsimile of the page is shown.

In the regular course of work inspectors found a great number of memoranda issued by the cold storage company in groups of three or more sheets relating to the same transaction. One of the sheets is designated as form 141-50-b-4-22 and purports to be a candling invoice. Another form connected with form 141 is form 139-50-B-4-22 purporting to be a candling report. A third form is designated as a memoranda. These groups of memoranda purported to show that the cold storage company received lots of eggs from certain persons or concerns (W. H. Bean of Vesper in those reproduced) on definite dates and had stored these under individual lot numbers (521 in this case) in their warehouse.

We were confronted with these memoranda, receipts and statements to the effect that on certain days definite quantities of eggs had been received from persons or concerns by the cold storage company, but records submitted to inspectors did not disclose that these persons had stored any eggs at all. Moreover, records submitted to inspectors by cold storage companies did not disclose that any eggs had been received at all on the days when memoranda stated eggs had been received; therefore the department did not consider records offered as accurate. Hence the court action.

Form 141—50 B—4-22.

S. MILLER COLD STORAGE CO., INC.

MARSHFIELD, WISCONSIN

Date May 4, 1925 No. 389

CANDLING INVOICE

In Account With Wm. Bean,

Vesper, Wis.

23 New Cases and Fillers, used, @	60	13.80
690 Dozen Candled @	01	6.90
199½ Dozen No. 1 Eggs for Replacement @	28½	56.86
Freight Charges on ____ Cs Eggs @		
Cartage 23 Cs Eggs @	15	3.45
Insurance 23 Cs @	05	1.15
	Total	82.16

Less 45½ Dz. Checks @ 22½	10.23	
Less 75½ Dz. Dirties @ 23½	17.74	
Less 60½ Dz. Small @ 23½	14.21	
Total	42.18	

EXHIBIT No. 36

DATE

A. W.

Candling Report No.		42.18
	Total	39.98

Form 139—50—B—4-22.

S. MILLER COLD STORAGE CO., INC.

MARSHFIELD, WISCONSIN

Date May 4, 1925 No. 389

CANDLING REPORT

NAME Wm. Bean Address Vesper

No. Cases Candled 23 No. Cases Stored 23

Room No. Storage Lot 521 Car No.

	CS.	DZ.	CS.	DZ.
No. Ones			16	10½
Dirties	2	15½		
Small	2	½		
Checks	1	15½		
Leakers		18		
Short				
Rots				
Totals	5	49½		
Total No. Cases			23	

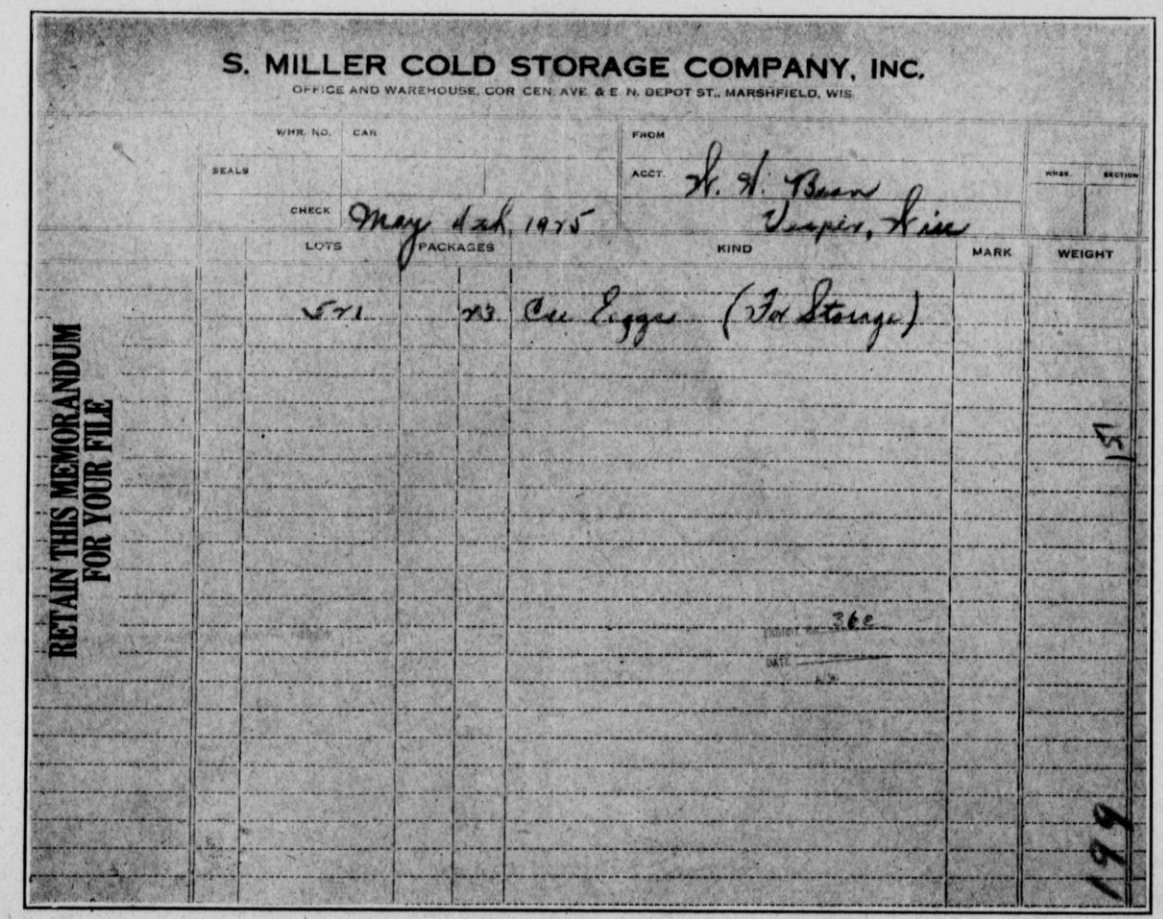
EXHIBIT No. 36a

DATE

Candled by Invoice No.

Receiving Ticket No.

Remarks:



S. MILLER COLD STORAGE COMPANY, INC.

OFFICE AND WAREHOUSE, COR CEN. AVE. & E. N. DEPOT ST., MARSHFIELD, WIS.

WHR. NO. | CAR | FROM

SEALS | ACCT. H. H. Bean | WHSE. | SECTION

CHECK May 4th 1915 | Draper, Wis.

LOTS	PACKAGES	KIND	MARK	WEIGHT
571	13	Cse. Eggs (For Storage)		

RETAIN THIS MEMORANDUM FOR YOUR FILE

36c

DR.

571

961

STORAGE MEMORANDUM

Reproductions shown are a group of memoranda consisting of invoice, candling report and memoranda that were offered as exhibits in the case when it was tried. It will be noted that they purport to show that on May 4, 1925, the company received from W. H. Bean at Vesper twenty-three cases of eggs for storage, that the company on May 4 stored these twenty-three cases as storage lot No. 521.

The information filed against the cold storage concern contained twenty-one counts and was to the effect that the cold storage company had received eggs for cold storage on twenty-one separate and distinct days, but had refused, neglected and failed to keep correct and accurate records of the dates of such receipts, and have these records freely accessible to the Dairy and Food Commissioner. The case was tried before a jury in the County Court of Wood County which returned a verdict of guilty on every count and the Judge assessed a fine of $150.00 with costs for each count. The case was carried to the Supreme Court on substantially the following points:

1. That the statute did not contemplate a cold storage warehouse to have records of the dates when articles of food were actually received, but contemplated the dates when such articles were transferred to the room artificially cooled to a temperature of less than 45 degrees above Fahrenheit. It was contended that the dates shown on exhibit 2 were the actual dates when the eggs were transferred to these cooling rooms and that the dates shown on Form 139 and memoranda could not be considered as if eggs had then been placed in storage.

A second defense was that the law did not require information as to ownership of eggs and that when the Dairy and Food Commissioner made the regulation that accurate records were to show the name of owner or depositor of each lot of food received, he made a requirement which is broader than the statute and therefore not binding upon the cold storage concern. The case was heard by the Supreme Court during the January term 1928. In the argument the history of the statute was presented to the court and it was pointed out that in order to determine what the Legislature meant when it required licensees of cold storage warehouses to keep accurate records and have them accessible to the Dairy and Food Commissioner, the law must be examined in its entirety and every provision construed with due regard to every other provision so that the purposes of the entire act would be met. The department believed every one of its provisions to be a necessary link to accomplish the purposes of the act. It compared the act to a chain which reached from the time food is received in cold storage to the time when it is sold to consumers. It also was pointed out that knowledge of ownership is essential if the law is to meet its purposes and that the rule adopted by the Dairy and Food Commissioner is in harmony and within the scope of the statutes authorized by them and does not exceed in any respect the requirements of the statute, but specifically points out what is required in an accurate report in the enforcement of the law.

With special reference to subsection 2 of Section 111.09, it was

argued that ownership of articles offered for storage is the key to the entire situation. Every person selling cold storage goods at wholesale is to keep records of all sales so that articles can be traced to retailers and identified, and retailers can be compelled to sell them according to law. It can readily be seen that therefore it is of utmost importance that original owners of cold storage goods be known, who, of necessity, must be the source, the first sellers of such articles. Without knowledge of the ownership of cold storage goods, enforcing officials would be groping in the dark all the time. In fact, records of ownership of foods are indispensable if the law is to be enforced as only that enables officials to check up on the correctness of reports and the records of licensees of cold storage warehouses. This knowledge enables officials to follow food into the cold storage warehouse and from there to its final sale to the consumer for whose protection the law was enacted. During the trial it developed that the cold storage company, in fact, did keep a record disclosing the ownership of the goods and designated as "customer's record", but this record was not offered nor available to inspectors for the Dairy and Food Department. This can occasion no surprise when a table attached comparing statements as to dates of deliveries and accounts for which stored between the storage record and the customer's record is examined. In the customer's record it appeared that a lot No. 508 was received for storage on April 15; in the cold storage record it was recorded as having been received on April 11.

In the customer's record lot, No. 517 was recorded as having been received on April 14-18-20-25-May 1-May 2-May 7 and May 11, whereas in the cold storage record that lot appeared as having been received on May 2.

Lot No. 519 was recorded in the customer's record as having been received on April 16 and in the cold storage records on May 7.

Lot No. 521 appears in the customer's record as having been received on April 17-21-24-29-May 4-May 8 and May 12, whereas on the cold storage record it was recorded as having been received on May 9.

Lot No. 528 was recorded in the customer's record as having been received on April 22 and May 28, but in the cold storage record as having been received on May 28.

One entry appearing in the customer's record as April 27, lot No. 535, did not appear at all in the cold storage records.

In substance, the position of the company may be described as follows:

It may receive eggs at its receiving platform from a customer on a certain day, but "record" them in its cold storage records as having been received days, or even weeks, before, and still cold storage records must be considered accurate.

Customer's memoranda and customer's record may show a transaction as having taken place on a certain day, but the cold storage record submitted to the State may show a prior date; still they contended that records must be considered accurate.

On the other hand, eggs may be received for cold storage on a certain day and recorded as having been received and stored in customer's record on that day, but cold storage records may show eggs as having been received and stored many days, and for more than one month after they were actually received; still the records must be considered accurate.

Lot No. 535 may have been received on April 27 and customer's record may show that these eggs were stored under that lot number and held in cold storage until January 18, 1926, and the cold storage record submitted to the official may show that no eggs had been received on that day and did not disclose that said 400 cases were held in the warehouse, or that any lot No. 535 was in existence at all; yet these cold storage records must be considered accurate and in compliance with the terms of the law.

In deciding this case, the Supreme Court handed down the following opinion:

ROSENBERRY, J. (1) Section 111.04, under which defendants were prosecuted, provides:

"Every such licensee shall keep accurate records of the articles of food received in and of the articles of food withdrawn from his cold storage warehouse, and the dairy and food commissioner shall have free access to such records at any time."

Cold storage warehouse is defined by the act as:

"Any place artificially cooled to or below a temperature above zero of 45 degrees Fahrenheit, in which articles of food are placed and held for 40 days or more."

In the argument reference was made to certain rules and regulations made by the Dairy and Food Commissioner. The penalty provision of the statute is as follows:

"Any person, firm, or corporation violating any provision of this chapter shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished," etc.

It is to be noted that the statute provides no penalty for the violation of any rule made by the dairy and food commissioner, who is authorized to make all rules and regulations necessary to carry the chapter into effect. We must consider the case on the basis of the statutory provisions unenlarged by any rule or interpretation of the dairy and food commissioner.

The defendant kept a storage inventory. As the eggs were graded and passed into the cold storage warehouse, the cases were labeled and numbered and the date of entry indicated thereon. They were stored in lots of from 100 to 400 cases. An account was kept in the office of the company of the ownership of the various eggs included in each lot, but the ownership did not appear upon the cold storage inventory. When the eggs were withdrawn from the warehouse, they were charged against the lot from which they were taken and the date of withdrawal indicated.

(2) It is the contention of the state that the defendant violated the statute by failing to keep an accurate account of the date when the cold storage goods were received upon the premises; second, by failing to keep an accurate record in the cold storage warehouse account of the ownership of the goods stored. We are unable to find any provision of the statute which requires the warehouseman to keep an account of the date upon which the goods were received upon the landing platform or parts of his premises other than into the cold storage warehouse, as defined by section 111.04. Each licensee is required to submit a monthly report to the dairy and food commissioner setting forth in itemized particular the quantity of food received in, delivered from and remaining in his cold storage warehouse. Nothing is said about ownership, nothing about the date of receipt upon the premises. Nor do we find anything in the act which requires the warehouseman to keep a separate account of the ownership of eggs stored in a cold storage warehouse. Such a record is required by regulation 11 of the dairy and food commissioner, but, as before indicated, the statute provides no penalty for violation of rules made by the dairy and food commissioner. Furthermore, it appears in this case that there was an ownership record; that if the inspectors had asked one more question at the time of their visit the ownership of each particular lot of eggs would have been disclosed by the record kept. Manifestly it is to the interest of the public as well as all other parties concerned that warehousemen and the department charged with the administration of the law should cooperate so as to procure the desired results. In our determination of the issues presented upon this review, however, we are bound by the letter of the statute. If the statute is not comprehensive enough to require the keeping of records, which it is necessary for the department to have in order to carry the law into effect, it must be enlarged by amendment. The court cannot enlarge it by construction.

The judgment of the county court for Wood county is reversed and the cause remanded, with directions to dismiss the complaint.

It may be frankly admitted that this opinion was a shock to officials charged with the enforcement of the cold storage law. It may also be admitted that the enforcing officials and the industry had looked to the spirit and intent of the law in framing the rules and regulations. They believed the intent of the Legislature to be disclosed by the many requirements in the law and, as far as the records are concerned, by the word prescribing utmost and complete precision, namely "accurate," which means more than correct; means that the thing described must contain every minute particular to be accurate. The department never believed that records could be accurate when any detail of dates, persons and substances is not given.

When the importance of cold storage foods is considered, when it is taken into account that, as in the case of eggs, they are placed in cold storage when plentiful and cheap, but sold again when scarce and dear, and when it is taken into account that the average pur-

chaser has no means to inform himself whether eggs are fresh or cold storage except by breaking and eating them, and when it is considered that thousands upon thousands of cases of eggs which have been held in cold storage have been fraudulently sold as and for fresh eggs and without disclosing their true character and composition, it can readily be seen that a cold storage act should be so drawn that its terms cannot be evaded or misconstrued contrary to the public welfare.

As a general proposition, it cannot be conceded that a cold storage warehouse may receive its perishable foods on its platform and then suit itself, its whims or convenience about getting the foods into the temperatures necessary to prevent decay. In the cold storage law, meats and meat products, butter and eggs, are mentioned. Is it conceivable that the law can meet its purpose if operators of cold storage warehouses are to be permitted to take in fish or fresh meats or butter during hot and sultry days on their receiving platforms and fail to place them into properly cooled rooms with utmost dispatch, but permit them to remain under atmospheric conditions for indefinite periods from five days to four weeks?

Ten years ago forty-eight cold storage establishments were licensed. Now there are thirty-eight warehouses under license, some having been eliminated. Some establishments have greatly enlarged their facilities and capacity, modern refrigerating engineering has stepped in and built new, spacious and wonderful plants.

While cold storage facilities may be and have been abused to the detriment of the public, the people of today have reason to feel very kindly toward cold storage when devoted to its proper functions, namely to keep food produced in a season of plenty in the best possible condition until a season of scarcity. Fraudulent sales of cold storage foods are not to be blamed upon the industry, but upon the sellers. Neither is the industry to be blamed for spoiled foods except in very isolated cases. Those who store articles which are deteriorated are to be chiefly held responsible. Proper cold storage will arrest deterioration, but will not remove or cover any that has taken place.

The proportion which cold storage has reached and the factor it is in our food supply can perhaps best be shown by the quantities of foods that have been reported as delivered in cold storage since the cold storage act took effect in September 1917:

Beef (all kinds)	41,133,825½
Veal	8,909,369
Mutton and Lamb	2,153,817
Pork (all kinds)	70,759,795¾
Miscellaneous Meats	11,042,601
Lard Substitute	3,250
Lard	12,979,971
Fish	47,829,815
Poultry	13,257,486¾
Game	251,908

Eggs, in Shell	30,565,295
Eggs, out of Shell	5,387,046
Butter	25,824,278½
Butter Substitute	885,294
Unlisted Items	11,009,656¾

Of this the following were placed in storage during the two years covered by this report:

Beef (all kinds)	7,092,924½
Veal	1,497,398
Mutton and Lamb	997,718
Pork (all kinds)	24,743,071¾
Misc. Meats	4,870,711
Fish	11,188,077
Poultry	3,192,060
Eggs, in Shell	433,535
Eggs, out of Shell	2,177,399
Butter	5,817,483
Butter Substitute	868
Unlisted Items	7,179,908

EXTENSION OF COLD STORAGE PERIODS

To the following named establishments, the periods of cold storage for the biennium ending June 30, 1928, were extended thirty days, by authority conferred upon the Dairy and Food Commissioner by section 111.08:

Date of Extension	Establishment	Kind of Food
1926		
July 3	Oswald Jaeger Baking Company, Milwaukee	Frozen egg yolks
Nov. 16	Bridges, Neumer and Co., Inc., New York	Dried flake egg
1927		
Jan. 5	L. Boehme and Son, Milwaukee	Meat
June 9	Sweed Commission Company, Milwaukee	Eggs
Dec. 30	S. C. Walker & Son Produce Co., Smith Center, Kan.	Rabbits
Dec. 30	Schmidt & Keihl, Milwaukee	Rabbits
1928		
Feb. 7	Steffey Brothers, Chicago, Illinois	Rabbits
Feb. 14	Schmidt & Keihl, Milwaukee	Rabbits
May 25	Quality Biscuit Company, Milwaukee	Eggs

NUMBER OF INSPECTIONS

	1926–27	1927–28	Total
Sanitary (groceries, meat markets)	2,244	4,256	6,500
Bakery	783	1,588	2,371
Confectionery	382	528	910
Cold storage warehouses	45	92	137
Bottling plants	177	251	428
Canning factories	292	196	488

STATISTICS

WISCONSIN DAIRY STATISTICS FOR THE YEAR 1927

	Pounds	Received for or valued at
Cheese produced in factories, other than cottage, skim milk, cheese curd, cooked and buttermilk cheese	330,877,327	$77,050,583.92
Cottage, skim milk, cheese curd, cooked and buttermilk cheese	5,854,701	378,775.43
Butter produced in factories	158,050,145	71,738,785.57
Farm made butter	720,000	323,280.00
Condensery products:		
Evaporated milk	631,631,282	47,793,856.44
Sweetened condensed milk	69,772,860	4,929,733.67
Powdered milk	12,553,033	1,818,134.49
Powdered skim milk	2,788,251	234,803.88
Condensed skim milk	5,308,990	283,605.80
Condensed butter milk	546,550	18,675.32
Powdered butter milk and whey	--------	219,948.12
Value of milk used in manufacture of malted milk, etc.	--------	1,203,657.78
Ice cream (gallons)	7,313,860	8,018,103.39
Ice cream mix (not reported as ice cream)	19,722,575	1,757,457.19
Milk produced other than furnished cheese factories, butter factories, condenseries, and ice cream plants, (pints)	960,621,235	28,818,637.05
Skim milk	3,007,046,092	13,080,650.05
Whey	2,879,452,032	6,262,208.17
Casein	6,722,198	887,100.16
Milk shipped out of state	416,428,848	10,593,722.70
Cream shipped out of state	96,499,413	15,070,853.61
Total		$290,483,172.74

According to the figures given out by the Wisconsin Monthly Crop and Live Stock Reporter issued by the United States Department of Agriculture, and the Wisconsin State Department of Agriculture, the average price received by producers for milk in 1927 was $2.11 per hundred weight and the average production per cow in 1927 was 5,430 pounds. The number of producing cows in 1927 was 1,950,000. At the average production of 5,430 pounds of milk per cow during the year 1927, there was produced 10,588,500,000 pounds of milk. The data for cheese, butter, condensery products, ice cream, casein, milk and cream shipped out of state were obtained from blanks filled out by the operators of these plants.

The figures for amount and value of butter produced on farms were obtained by estimating that two per cent of 180,000 dairy farmers produced 200 pounds of butter per year, valuing it at the average value for butter for the year.

The value of milk produced other than that furnished cheese and

butter factories and condenseries and ice cream plants was estimated as the amount used for family consumption by the total population of the State, which population is taken as 2,631,839 (census for 1920). In estimating this amount, one pint per capita per day was used and the milk valued at 3 cents per pint. Skim milk was valued at one-half as much per hundred pounds as shelled corn is per bushel; and the value of whey at one-half of skim milk. The value of shelled corn was placed at 87 cents per bushel, being figures given by the Crop and Live Stock Department at Washington, D. C.

According to the provisions of section 98.03, the dairy and food commissioner is required to compile at least once in two years statistics relating to the dairy industry of the state. In an effort to obtain as complete and accurate dairy statistics as possible for the year 1927, blanks which had been prepared for that purpose were sent on or about December 27, 1927, to the operator of every cheese factory, butter factory, condensery, receiving station and ice cream plant which, so far as we were able to determine, was in operation in 1927, or had been in operation some time during the year 1927. This meant the sending of approximately 5,000 blanks. Where operators of factories change during the year, it was necessary to send a blank to each operator of the factory. In some cases there were as many as three blanks necessary to obtain complete figures for one factory.

Before sending out, each blank was marked with the name and address of the operator, location of factory, name of factory, kind of factory, and license or permit number, so that when returned we would be sure to know what factory was to be credited with the figures and that we might know what factories had not reported.

At the time of sending the blanks, a letter was enclosed calling the attention of the operator of the factory or plant to the provisions of law requiring these dairy figures to be gathered every two years and also to the fact that the blank should, within sixty days from receipt thereof, be filled out and returned to the commissioner, and that all questions and information required, so far as it is within the power of such person to answer or furnish the same, should be answered and furnished.

A card giving a record of the factory or plant to which the blank was sent, was kept at the office. As blanks were returned to the office, notation was made showing that the blank had been received.

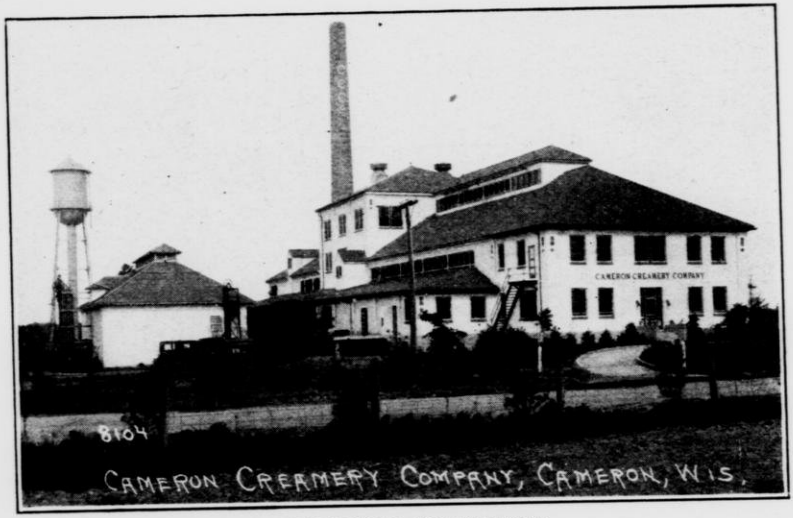
While some factories were very prompt in the returning of the blanks, yet by March 1, the time limit when the blanks were to be in the office, about half had failed to return the blanks or the blanks which were returned either did not give all the information required or failed to give any information, necessitating the writing of many letters in order to get the desired information.

On or about March 9, 1928, a second notice and blank was sent to all operators of plants who had failed to return the blank previously sent in the time specified by law. This brought a fairly good return, but in order to obtain figures from the remaining number, it was

found necessary on April 21, 1928, to send 158 special letters by registered mail.

After the blanks had been received at the office, it was no small task to go over the approximately 5,000 blanks, first to see that the blanks were properly filled out and then to take off for compiling and compile the figures so reported.

On the blanks which were prepared for this purpose, there were thirty-six questions asked, not all of which were expected to be answered by each factory but only such as related to the business conducted by each particular factory. It might take but three answers to fully give the information and in other cases it might mean twenty answers.



A WISCONSIN CREAMERY

In going over the blanks it was found that many errors were made in filling out the blanks, either in failing to give all the information called for or in giving figures which did not appear to be correct. In one instance an operator of a cheese factory reported that he received a little over 1,370,000 pounds of milk but stated that only 12,736 pounds of cheese had been made. He made no further statement of other products having been manufactured or that either milk or cream had been sold.

Quite a few letters were necessary in connection with reports from receiving stations. On many reports the pounds of milk or cream received was stated and possibly the value of same, but they did not furnish information as to the number of pounds of milk or cream shipped to other plants in Wisconsin and the number of pounds of milk or cream shipped to plants outside of Wisconsin. Then in other cases, the value of the milk or cream was omitted.

Before the figures were ready for compilation, it was necessary to write approximately 200 letters. Beginning with the time the blanks were sent out, the time of one person, half days, was necessary up to July 15. Besides this, when the work of others in the office was such that time could be given, they assisted in the completing of these figures.

RECEIPTS

	1926–1927	1927–1928
Annual appropriation	$100,000.00	$100,000.00
Unexpended balance previous year	25,896.64	28,998.91
License fees:		
Cheese factories, butter factories, receiving stations, cheese makers and butter makers	10,629.00	11,077.00
Cold storage warehouses	720.00	690.00
Canning factories and condenseries	5,700.00	6,475.00
Soda water bottling establishments	1,155.00	1,210.00
Total	$144,100.64	$148,450.91

DISBURSEMENTS

For Year Ending June 30, 1927

	Salary	Expense	Total	Total for Division
Commissioner:				
EMERY, J. Q.	$666.66	------	$666.66	
KLUETER, HARRY	2,529.87	$228.65	2,758.52	
KREMER, C. J.	692.30	------	692.30	$4,117.48
Office:				
COMSTOCK, VERA, stenog.	$1,380.00	------	$1,380.00	
CUMMINGS, MAGRARET E., clerk	212.50	------	212.50	
FINDORFF, LOUENA, clerk	1,440.00	------	1,440.00	
FOOTE, A. LORINE, clerk	1,080.00	------	1,080.00	
O'CONNELL, HELEN, stenog.	1,710.00	------	1,710.00	
OSTERHUS, GUNDA, stenog.	1,047.50	------	1,047.50	
RAMIER, MARY E., stenog.	86.54	------	86.54	
RAMSAY, PAULA W., stenog.	6.00	------	6.00	
WALTER, M. L., secretary	2,200.00	$27.83	2,227.83	9,190.37
Laboratory:				
BOSMAN, LEONE M., dishwasher	$14.15	------	$14.15	
FISCHER, DR. RICHARD, consulting director	600.00	------	600.00	
HOWLETT, I. R., chemist	2,580.00	$64.75	2,644.75	
HUEBNER, E. O., chemist	2,267.28	73.96	2,341.24	
KLUETER, HARRY, chief chemist	1,323.08	59.54	1,382.62	
McVICAR, GENEVIEVE, sten.	210.00	------	210.00	
RUPEL, MRS. I. W., stenog.	1,108.46	------	1,108.46	
WIESE, HILDA, chemist	2,525.57	------	2,525.57	
WILLIAMS, INEZ, chemist	2,046.29	------	2,046.29	
Miscellaneous chemical supplies	------	------	940.04	13,813.12

DISBURSEMENTS—Continued

For Year Ending June 30, 1927—Continued

	Salary	Expense	Total	Total for Division
Dairy:				
BOETTCHER, J. E., inspector	$2,591.59	$561.68	$3,153.27	
BRUHN, A. T., inspector	2,591.59	674.37	3,265.96	
CONWAY, W. F., inspector	995.80	507.62	1,503.42	
CROSBY, R. R. inspector	2,045.79	1,146.72	3,192.51	
LEHNHERR, JACOB, inspector	2,000.00	569.40	2,569.40	
MICKLE, P. H., inspector	1,800.00	968.94	2,768.94	
RADKE, R. L., inspector	2,045.79	757.80	2,803.59	
RADKE, W. E., inspector	1,800.00	930.26	2,730.26	
ROYCRAFT, A. J., inspector	1,945.83	985.71	2,931.54	
SOUTHARD, R. B., inspector	2,045.79	690.40	2,736.19	
STEWART, W. A., inspector	2,045.79	845.77	2,891.56	
STUEBER, G. H., inspector	2,045.79	875.82	2,921.61	
VALLESKEY, AD. R., inspect.	2,045.79	664.32	2,710.11	
WETAK, J. J., inspector	2,045.79	790.15	2,835.93	$39,014.30
Food:				
JONES, IRA D., inspector	$1,666.60	$1,171.46	$2,838.06	
KELLIHER, J. M., inspector	2,045.79	944.26	2,990.05	
KREMER, C. J., inspector	2,004.22	713.46	2,717.68	
MACKIN, W. N., inspector	1,995.76	818.02	2,813.78	
TOWN, H. G., inspector	1,944.96	740.78	2,685.74	14,045.31
Weights and Measures:				
GILMAN, GEO. D., inspector	$2,045.79	$822.57	$2,868.36	
HADLEY, R. M., inspector	------	68.26	68.26	
HUEBNER, BERNARD, inspect.	1,845.76	916.46	2,762.22	
JASTER, GEO. E., inspector	1,945.83	1,259.61	3,205.44	
MARTIN, EDWIN G., inspect.	1,800.00	1,061.32	2,861.32	
TAPPINS, F. E., inspector	2,045.79	1,055.80	3,101.59	
THOMPSON, A. T., inspector	2,045.79	1,108.27	3,154.06	
VAN LONE, W. M., inspector	2,045.79	1,291.64	3,337.43	
WARNER, GEO., chief inspect.	2,691.66	212.98	2,904.64	
WINELL, EARL G., inspector	1,945.83	846.15	2,791.98	27,055.30
Printing Board:				
Letterheads	------	------	$86.44	
Envelopes	------	------	68.68	
Inspection reports	------	------	253.41	
Pamphlets	------	------	1,687.33	
Cards and posters (except license)	------	------	12.28	
License cards and renewal letters	------	------	174.01	
Tags	------	------	61.78	
Cuts	------	------	33.72	
Miscellaneous	------	------	161.89	2,539.54
Insurance	------	------	------	125.52
Notary fee	------	------	------	5.00

DISBURSEMENTS—Continued

For Year Ending June 30, 1927—Continued

Superintendent of Public Property:	Salary	Expense	Total	Total for Division
Express, freight & drayage	------	------	$69.90	
Telephone and telegraph	------	------	393.21	
Furniture and fixtures	------	------	144.41	
Services and expense	------	------	7.20	
Stationery and office supplies	------	------	308.66	
Postage	------	------	1,576.44	
Miscellaneous supplies	------	------	2,561.01	$5,060.83
License fee refunds	------	------	------	136.00
Total				$115,102.77

DISBURSEMENTS

For Year Ending June 30, 1928

Commissioner:	Salary	Expense	Total	Total for Division
KREMER, C. J.	$4,000.00	$146.40	$4,146.40	$4,146.40
Office:				
COMSTOCK, VERA, stenog.	73.60	------	73.60	
CUMMINGS, MARGARET E., clerk	297.50	------	297.50	
EMERY, J. Q., consulting assistant to commissioner	600.00	------	600.00	
FINDORFF, LOUENA, clerk	1,535.78	------	1,535.78	
FOOTE, A. LORINE, clerk	1,085.00	------	1,085.00	
GARNER, HAZEL, clerk	300.00	------	300.00	
HOPKINS, CECILIA, stenog.	1,063.00	------	1,063.00	
JENKS, SELMA, stenog.	135.00	------	135.00	
JOHNSON, PETRA, clerk	8.33	------	8.33	
KREMER, MADELINE, stenog.	53.85	------	53.85	
MCCLOSKEY, MRS. PAT, helper	3.50	------	3.50	
O'CONNELL, HELEN, stenog.	1,745.00	------	1,745.00	
ONSTAD, ESTHER, typist and clerk	494.81	------	494.81	
OSTERHUS, GUNDA, stenog.	1,085.00	------	1,085.00	
WALTER, M. L., secretary	2,266.66	------	2,266.66	10,747.23
Laboratory:				
FISCHER, DR. RICHARD, consulting director	$600.00	------	$600.00	
HOWLETT, I. R., chemist	2,680.00	$10.74	2,690.74	
HUEBNER, E. O., chemist	2,520.98	27.71	2,548.69	
KLEUTER, HARRY, chief chemist	3,633.33	248.42	3,881.75	
KNIGHT, OLIVER D., chemist	126.92	------	126.92	

DISBURSEMENTS—Continued

For Year Ending June 30, 1928—Continued

	Salary	Expense	Total	Total for Division
LEE, CORA L., stenog.	$496.80	------	$496.80	
LURAAS, MELVIN S., helper	23.08	------	23.08	
MCVICAR, GENEVIEVE, sten.	19.80	------	19.80	
RUPEL, MRS. I. W., stenog.	686.40	------	686.40	
WARTINBEE, C. H., chemist	1,200.00	------	1,200.00	
WIESE, HILDA, chemist	565.13	$11.06	576.19	
WILLIAMS, INEZ, chemist	2,247.72	23.12	2,270.84	
Miscellaneous chemical supplies	------	------	731.69	$15,852.90
Dairy:				
BOETTCHER, J. E., inspector	$2,600.00	$1,002.96	$3,602.96	
BRUHN, A. T., inspector	2,600.00	1,142.26	3,742.26	
CROSBY, R. R., inspector	2,141.66	1,198.42	3,340.08	
LEHNHERR, JACOB, inspector	2,041.66	628.72	2,670.38	
MICKLE, P. H., inspector	1,900.00	1,032.02	2,932.02	
RADKE, R. L., inspector	2,141.66	843.81	2,985.47	
RADKE, W. E., inspector	1,900.00	899.10	2,799.10	
ROYCRAFT, A. J., inspector	2,075.00	1,034.04	3,109.04	
SOUTHARD, R. B., inspector	2,141.66	896.97	3,038.63	
STEWART, W. A., inspector	2,141.66	907.08	3,048.74	
STEUBER, G. H., inspector	2,141.66	892.20	3,033.86	
TOLLEFSON, J. M., inspector	1,616.66	1,215.90	2,832.56	
VALLESKEY, AD. R., inspect.	2,141.66	884.49	3,026.15	
WETAK, J. J., inspector	2,141.66	1,019.77	3,161.43	43,322.68
Food:				
ESCHRICH, HARRY, inspect.	$1,616.66	$702.25	$2,318.91	
KELLIHER, J. M., inspector	1,636.66	998.99	2,635.65	
KREMER, PHILIP, inspector	414.00	155.07	569.07	
MACKIN, W. N., inspector	2,000.00	976.94	2,976.94	
MILES, STEPHEN J., inspect.	1,616.66	1,211.02	2,827.68	
TOWN, H. G., inspector	1,993.33	1,130.94	3,124.27	14,452.52
Weights and Measures:				
GILMAN, GEO. D., inspector	$2,141.66	$809.95	$2,951.61	
HILLEBRANDT, FRANK, inspector	1,452.00	605.97	2,057.97	
HUEBNER, BERNARD, inspect.	1,958.32	843.16	2,801.48	
JASTER, GEO. E., inspector	2,018.47	1,173.78	3,192.25	
MARTIN, EDWIN G., inspect.	1,900.00	938.38	2,838.38	
TAPPINS, F. E., inspector	2,141.66	1,136.37	3,278.03	
THOMPSON, A. T., inspector	170.83	196.18	367.01	
VAN LONE, W. M., inspect.	2,141.66	1,273.01	3,414.67	
WARNER, GEO., chief inspector	2,800.00	99.50	2,899.50	
WINELL, EARL G., inspector	2,025.00	974.28	2,999.28	26,800.18
Printing Board:				
Letterheads	------	------	$91.53	
Envelopes	------	------	426.40	

DISBURSEMENTS—Continued

For Year Ending June 30, 1928—Continued

	Salary	Expense	Total	Total for Division
Inspection reports	------	------	$107.59	
Pamphlets	------	------	648.59	
Cards and posters (except license)	------	------	537.95	
License cards and renewal letters	------	------	343.87	
Tags	------	------	70.96	
Cuts	------	------	22.68	
Miscellaneous	------	------	275.87	$2,525.44
Insurance	------	------	------	125.09
Superintendent of Public Property:				
Express, freight & drayage	------	------	$44.93	
Telephone and telegraph	------	------	235.98	
Furniture and fixtures	------	------	231.05	
Services and expense	------	------	14.90	
Stationery and office supplies	------	------	647.51	
Postage	------	------	1,776.55	
Miscellaneous supplies	------	------	2,258.52	5,209.44
License fee refunds	------	------	------	33.00
Total				$123,214.88

IN THE MATTER OF PROSECUTIONS FOR VIOLATIONS OF THE LAW

I have regarded securing compliance with the law as my first duty and my best policy rather than enforce and collect the penalties provided for violations thereof. Many prosecutions, in my opinion, tend to discredit an enforcing official as thereby technically many persons are made to appear as criminals when they are far from being criminals and have no criminal intent.

I have held prosecutions to be the last desperate remedy to be applied when all other efforts to secure compliance with the law had failed. As a working theory, I have held it not advisable, ordinarily, to prosecute without a thorough investigation and without giving the person affected a chance to present his side of the story. If I felt that after a conference with persons who seemed to be guilty of violations of law they in the future would use the utmost care not to have a similar occurrence, I have kept prosecution in abeyance unless

the record was such, or other circumstances indicated, that they were wilfully and intentionally violating the law to gain thereby, or were so negligent and careless that the drastic remedy of criminally prosecuting them had to be applied.

I have found to some extent that competitors and others who expected to gain if their fellow producers or dealers were being prosecuted were more or less insistent that I prosecute when in my best judgment prosecution was unwise for some reason. A striking example of that is furnished by some cheese factories of a cooperative character who have a private agreement among themselves to penalize in a large amount any member who may remove any cream from his milk.

Some of these were rather insistent that the State prosecute when examinations we had made seemed to indicate that one of their members had not lived up to his contract with them. Evidently these people wanted to use the Dairy and Food Department by bringing criminal action to enforce private contracts and enable them to impose penalties upon their fellow member which they did not dare to impose by virtue of their contract. Uniformly I have refused to be talked into or coerced into bringing prosecution against any citizen because of some private dispute which he might have with others, or because others wanted to use this department to further their own ends.

Before directing that any prosecution be begun, I want to be convinced:

1. That the party to be prosecuted had violated the law either intentionally or by gross negligence and that the act complained of was not a mere technical violation; and

2. That I had all the necessary evidence in such form that it would be admissible in a trial to show beyond a reasonable doubt that the party had actually violated the law and that he had no valid defense which would appeal to reasonable men.

CONVICTIONS

Date	Defendant	Cause of Action	Trial Judge	Fine or Forfeiture
1926				
April 26	Elmer Doede, Stratford	Manufacturing American or Cheddar cheese containing more than legal amount of moisture	Louis Marchetti, Wausau	$25 and costs
May 13	Joe Markowitz, Hurley	Selling adulterated milk, being below legal standard for butter-fat	J. E. Flandrena, Hurley	Fine susp. on pay't of costs
May 13	John G. Helli, Ironwood, Mich.	Selling adulterated milk, it being skimmed	J. E. Flandrena, Hurley	$25 and costs
May 20	Emil Born, Kewaunee, R. 3	Distribution of by-products from a cheese factory without pasteurization	Henry Grass, Kewaunee	Payment of costs
June 12	J. A. Metzler, Montello	Offering for sale insanitary milk		$50 and costs
June 17	E. A. Kloosterman, Beloit	Exposure of bakery goods to vermin	John B. Clark, Beloit	Fine suspended
June 18	E. A. Kloosterman, Beloit	Preparing, handling, and caring for food in an unclean manner	John B. Clark, Beloit	$25 and costs
July 1	Geo. Souik, Custer	Sale of butter containing less than 80% milk fat	W. F. Owens, Stevens Point	$25 and costs
July 2	Albert Goltz, Princeton	Sale of milk containing less than 3% milk fat	H. O. Geise, Princeton	$25 and costs
July 2	Edward Bendler, Cambria	Sale of milk containing less than 3% milk fat	H. O. Geise, Princeton	$25 and costs
July 2	Eli Alexander, Cambridge	Selling non-standard loaves of bread average weight 21.4 oz.	O. A. Stolen, Madison	$25 and costs
July 7	Mike Feldman, Plymouth	Sale of adulterated milk	Harry Walters, Sheboygan	$50 and costs
July 7	Arthur Feldman, Plymouth	Sale of adulterated milk	Harry Walters, Sheboygan	$50 and costs
July 14	W. A. Amundson, R. 1, Luck	Offering and exposing for sale short weight butter prints	C. S. Roberts, Balsam Lake	$10 and costs
July 16	Clarence Halverson, Reedsville	Manufacturing of American cheese containing more than the permitted amount of moisture	A. H. Schmidt, Manitowoc	$25 and costs
July 21	Edwin Hanson, Wheeler	Manufacturing of American style cheese containing more than permitted amount of moisture	P. B. Clark, Menomonie	$25 and costs
July 22	Wm. Cody, Highland	Delivering dirty and insanitary milk to a cheese factory	R. C. Harris, Mineral Point	$25 and costs
July 27	Carl Sweet, Plymouth	Offering for sale adulterated milk	Harry Walters, Sheboygan	$25 and costs
July 28	Chas. Einbeck, Monroe	Sale of food containing added benzoic acid	Wm. T. Saucerman, Monroe	$25 and costs
Aug. 2	Steve Kaspsiekiewicz, Gilman	Selling tainted meat, in violation of section 352.43	O. G. Blakesly, Medford	$10 and costs
Aug. 7	Arthur Garond, Sparta	Selling pop containing added benzoic acid	D. D. Cheney, Sparta	$25 and costs
Aug. 16	Plover Gold Cry. Co., Plover	Sale of butter containing less than 80% of milk fat	L. J. Murat, Stevens Point	$25 and costs
Aug. 16	Fred A. Gempeler, Monroe	Maintaining milk machine in insanitary condition	W. T. Saucerman, Monroe	$25 and costs

Aug. 16	Oscar Losey, Monroe	Maintaining milk machine in insanitary condition	W. T. Saucerman, Monroe	$25 and costs
Aug. 17	Otto Hein, Juda	Offering for sale adulterated milk	W. T. Saucerman, Monroe	$25 and costs
Aug. 21	O. D. Jackson, Poynette	Selling adulterated eggs	J. S. Williams, Portage	$25 and costs
Aug. 26	C. A. Kratockville, Muscoda	Delivering and offering for sale adulterated milk	C. W. Burrows, Lancaster	$25 and costs
Aug. 27	Meyer Sinitzky and Edward Berkin, Lodi	Selling adulterated eggs	S. B. Schein, Madison	$25 and costs
Aug. 28	Carl Fueg, Morrisonville	Maintaining premises and utensils in an unclean, insanitary condition	J. S. Williams, Portage	$25 and costs
Aug. 30	Frank H. Reinke, R. 2, Wausau	Maintainig premises and utensils in cheese factory in insanitary condition	Louis Marchetti, Wausau	$25 and costs
Sept. 2	Joe Walport, Birchwood	Delivery of adulterated milk to a cheese factory		Fine susp. on pay't of costs
Sept. 2	Emil Possom, R. 3, Pulaski	Selling and offering for sale adulterated milk in that it was skimmed	F. A. Jaeckel, Shawano	$25 and costs
Sept. 9	Walter Noegel, Edmund	Delivering and offering for sale, at a cheese factory, watered milk, 2 counts	R. C. Harris, Mineral Point	$50 and costs
Sept. 10	Mike Guskey, Friendship	Sale of insanitary milk	Chas. Gillman, Friendship	$25 and costs
Sept. 11	E. E. Smith, Friendship	Sale of insanitary milk	Chas. Gillman, Friendship	$25 and costs
Sept. 17	Ernest Frank, Mayville	Offering for sale insanitary milk	Gustav Procknow, Mayville	$25 and costs
Sept. 17	J. Stangler, R. 8, Watertown	Sale of adulterated milk	Chas. Lenz, Mayville	$25 and costs
Sept. 17	F. R. Rego, Cazenovia	Manufacture and sale of adulterated cheese—excess moisture	D. J. Morriss, Richland Ctr.	$40 and costs
Sept. 21	W. L. Snowberry, Tomah	Having on hand for the purpose of sale a lesser quantity of a commodity than he represented—to wit lubricating oil	E. Bartels, Tomah	$10 and costs
Sept. 23	Tony Klinkner, Norwalk	Did retain in his possession a false weighing device	D. Cheney, Sparta	$5 and costs
Sept. 23	Mrs. J. Deresinski, Oconto Falls	Sale of adulterated milk, containing less than 8.5% solids not fat	Joe Fisher, Oconto	$25 and costs
Sept. 23	Mrs. Annie Falush, Oconto Falls	Sale of adulterated milk, containing less than 3% fat and 8.5% solids not fat	Joe Fisher, Oconto	$25 and costs
Sept. 24	Ed. Kuplie, Oconto Falls	Sale of adulterated milk, containing less than 8.5% solids not fat	Joe Fisher, Oconto	$25 and costs
Sept. 27	Theo. E. Husby, Sister Bay	Maintaining insanitary utensils and premises in a cheese factory	H. H. Reynolds, Sturgeon Bay	$25 and costs
Sept. 27	Oscar Mercer, Cazenovia	Adulterated milk, delivered to a cheese factory	D. J. Morriss, Richland Ctr.	$25 and costs
Sept. 29	P. W. Hales, Poynette	Sale of butter containing less than 80% fat	J. S. Williams, Portage	$25 and costs
Sept. 29	R. C. Pennaman, Pardeeville	Sale of insanitary milk	J. S. Williams, Portage	$25 and costs
Sept. 30	Joseph Schnieder, West Bend	Sale of insanitary milk	C. S. Hayden, West Bend	$25 and costs
Oct. 2	G. A. Meisner, Wittenberg	Selling an article of food containing saccharine	W. L. Gates, Rosholt	$25 and costs
Oct. 2	Fred G. Burns, Tomah	Did retain in his possession false measuring device—namely 5 gallon visible pump	D. D. Cheney, Sparta	$5 and costs

CONVICTIONS—Continued

Date	Defendant	Cause of Action	Trial Judge	Fine or Forfeiture
1926				
Oct. 2	Wm. Tess, Tisch Mills	For the distribution of by-products (whey) for feed for domestic animals before treating same as required by law. Sec. 94.09	C. H. Schmidt, Manitowoc	$20 and costs
Oct. 3	J. O. Melsby, R. 2, Durand	Sale and possession with intent to sell adulterated butter	C. A. Van Brunt, Durand	$35 and costs
Oct. 6	Howard D. Tiffany, Mason	Sell and deliver adulterated butter	Geo. A. Calder, Washburn	$25 and costs
Oct. 6	W. M. Breno, Kilbourn	Maintaining premises and utensils in an insanitary condition	J. S. Williams, Portage	$50 and costs
Oct. 7	John Habhegger Co., Watertown	Sale of butter containing less than 80% fat	C. J. Buss, Jefferson	$25 and costs
Oct. 8	Wm. Scharf, Lomira	Offering for sale insanitary milk	M. W. Clifford, Juneau	$25 and costs
Oct. 9	L. C. Zernicke, Pulaski	Sale of adulterated butter, adulterated in that it contained less than 80% fat	N. L. Monohan, Green Bay	$25 and costs
Oct. 12	Geo. Burns, Blue Mounds	Delivering and offering for sale watered milk at a cheese factory	R. C. Harris, Mineral Pt.	$25 and costs
Oct. 14	P. L. Evans, Superior	Selling storage or held eggs as fresh	J. B. French, Superior	$50 and costs
Oct. 19	Jos. F. Drab, Kewaunee	Distribution of by-products, from a cheese factory without pasteurization	Jos. F. Nering, Kewaunee	Sentence susp. on pay't of costs
Oct. 21	Edward Perron, Superior	Selling storage or held eggs as fresh	J. B. French, Superior	$25 and costs
Oct. 21	Wm. Masher, Underhill	Sale of adulterated milk, containing less than 8.5% solids not fat	Jos. Fisher, Oconto	$25 and costs
Oct. 21	Ed. Welke, Underhill	Sale of adulterated milk containing less than 8.5% solids not fat	Jos. Fisher, Oconto	$25 and costs
Oct. 21	Leonard Cramer, Spencer	Manufacturing American or Cheddar cheese containing more than 39% of moisture	Louis Marchetti, Wausau	$25 and costs
Oct. 23	Holser Breisath, Blanchardville	Offering for sale adulterated milk	W. T. Saucerman, Monroe	$25 and costs
Oct. 23	Gust Buss, Norrie	Selling adulterated milk, it being watered and below legal standard for milk-fat	Louis Marchetti, Wausau	$25 and costs
Oct. 25	Fred Weiss, Clayton	Sell, exchange, deliver, have in possession with intent to sell an adulterated article of food—to wit cheese containing less than required per cent of milk fat	M. S. Hines, Rice Lake	$100 and 30 days in jail. (Jail sentence later removed and only fine given)
Oct. 26	J. L. Bjerking and A. Finstadt, Spring Valley	Sale of adulterated article of food—to wit butter containing less than required am't of milk fat	John T. Beddell, Ellsworth	$25 and costs

Oct. 26	Otto Rohde, Clayton	Unlawfully sell and have in possession with intent to sell an adulterated article of food—to wit American cheese which contained less than the lawful per cent of fat	C. A. Stark, Rice Lake	$50 and costs
Oct. 27	Julius Lauzerene, Brussels	Sale of adulterated milk, containing less than 8.5% solids not fat	H. H. Reynolds, Sturgeon B.	$25 and costs
Oct. 27	Victor Lauzerene, Luxemburg	Sale of adulterated milk containing less than 8.5% solids not fat	H. H. Reynolds, Sturgeon B.	$25 and costs
Oct. 28	Charles Hendrickson, Webster	Undereading and giving false weights on potatoes purchased from growers	D. O. Olson, Grantsburg	$15 and costs
Oct. 28	Alvin Burke, Darlington	Offering for sale adulterated milk	Mr. Larson, Darlington	$25 and costs
Nov. 9	Richard Mielke, Poysippi	Manufacture for sale American cheese containing more than the permitted amount of moisture	W. T. Owen, Wautoma	$25 and costs
Nov. 10	Pete Walker, Highland	Delivering, and offering for sale watered milk to a cheese factory	R. C. Harris, Mineral Point	$25 and costs
Nov. 11	Carl Lyse, Superior	Sale of adulterated eggs,(cold storage eggs) for fresh eggs	F. S. Parker, Superior	$25 and costs
Nov. 12	Wm. Jahn, Stevens Point	Sale of adulterated food—to wit: rotten eggs	L. J. N. Murat, Stevens Pt.	$25 and costs
Nov. 17	E. H. Everson, Webster	False manipulation and overreading of Babcock test on cream	D. O. Olson, Grantsburg	$25 and costs
Nov. 17	C. L. Gustafson, Webster	False manipulation and overreading of Babcock test on cream	D. O. Olson, Grantsburg	$25 and costs
Nov. 17	Herman Kolpack, Mattoon	Manufacturing American cheese containing more than the permitted amount of moisture	John Alft, Shawano	$25 and costs
Nov. 19	E. R. Helmer, Platteville	Selling misbranded milk and cream	C. W. Burrows, Lancaster	$25 and costs
Nov. 19	Ray Bushnell, Platteville	Selling misbranded cream	C. W. Burrows, Lancaster	$25 and costs
Nov. 19	Clyde Vincent, Platteville	Selling misbranded milk and cream	C. W. Burrows, Lancaster	$25 and costs
Nov. 23	Jos. J. Kieffer, West De Pere	Manufacturing of cheese known as American or Cheddar cheese, containing more than permitted amount of moisture	N. L. Monahan, Green Bay	Fine susp. on pay't of costs
Nov. 24	Otto T. Radke, Birnamwood	Failure to renew cheese makers and factory operating licenses	Louis Marchetti, Wausau	$30 and costs
Nov. 24	Otto Sachs, Sheboygan	Selling cold storage eggs for fresh eggs	J. C. Meyers, Sheboygan	$50 and costs
Dec. 1	Frank Skibba, Auburndale	Manufacturing American or Cheddar cheese containing more than 39% of moisture	W. H. Getts, Wis. Rapids	$25 and costs
Dec. 3	Wm. Doran, Hollandale	Offering for sale at cheese factory dirty and insanitary milk	R. C. Harris, Mineral Point	$25 and costs
Dec. 3	A. Huxford, Green Bay	Selling cold storage eggs for fresh eggs	M. J. Monahan, Green Bay	$50 and costs
Dec. 4	Fred Wenger, Cambria	Making cheese without having applied for a permit	J. S. Williams, Portage	$25 and costs
Dec. 7	Harry Weinberg, Deerfield	Transfer of cold storage goods from one cold storage warehouse to another without consent of Dairy and Food Commission	O. A. Stolen, Madison	$50 and costs

CONVICTIONS—Continued

Date	Defendant	Cause of Action	Trial Judge	Fine or Forfeiture
1926				
Dec. 7	Harry Weinberg, Deerfield	Keeping food in cold storage warehouse more than 12 months	O. A. Stolen, Madison	$50 and costs
Dec. 9	Carl Hanson, Unity	Manufacturing American or Cheddar cheese containing more than 39% moisture	Louis Marchetti, Wausau	$30 and costs
Dec. 10	Werner Nicklaus, Markesan	Manufacturing cheese without a permit or license	H. O. Giese, Princeton	$25 and costs
Dec. 15	George Keenan, Elkhart Lake	Did sell and deliver an article of food to wit: milk in bottles which was labeled contrary to the statutes	H. Walters, Sheboygan	$25 and costs
Dec. 15	John W. Miller, Elkhart Lake	Did sell and deliver an article of food to wit: milk in bottles which was labeled contrary to the statutes	Harry Walters, Sheboygan	$25 and costs
Dec. 15	E. J. Griffiths, Mineral Point	Manufacture and sale of high moisture cheese	R. C. Harris, Mineral Point	$25 and costs
Dec. 20	The Great Amer. Stores, Kenosha	Selling adulterated eggs	J. Slater, Kenosha	$25 and costs
Dec. 20	Consumers Wh. Grocers, Kenosha	Selling flavoring compound colored with caramel color, as and for vanilla extract	J. Slater, Kenosha	$25 and costs
Dec. 20	Jule Godfirnon, Tomahawk	Offering for sale merchandise of lesser quantity than represented	M. C. Porter, Merrill	$10 and costs
Dec. 23	Dairy Farmers Ch. Fcty., Anton Holly, Mgr., Tisch Mills	For the distribution of by-products (whey) for domestic animals before (pasteurizing) treating the same as prescribed by law	A. H. Schmidt, Manitowoc	Fine susp. on pay't of costs
Dec. 27	G. R. Thompson, Tomahawk	Offering for sale and selling merchandise of a lesser quantity than represented	M. C. Porter, Merrill	$10 and costs
Dec. 31	Geo. A. Campbell, Barneveld	Using false weight in testing cream	R. C. Harris, Mineral Point	$25 and costs
1927				
Jan. 3	Chippewa Model Dairy Co., Chippewa Falls	Possession, sale and delivery of milk in misbranded containers	T. J. Connor, Chippewa Falls	$25 and costs. Fine susp. on pay't of costs and on condition of future observance of this law.
Jan. 3	Hebert McGilvary Dairy Co., Chippewa Falls	Possession, sale, and delivery of milk in misbranded containers	T. J. Connor, Chippewa Falls	$25 and costs. Fine remitted on payment of costs and on condition of future compliance.

Jan. 3	A. H. Rasmus, Chippewa Falls	Possession, sale and delivery of milk in misbranded containers	T. J. Connor, Chippewa Falls	$25 fine remitted on payment of $7.50 costs and on condition of future compliance.
Jan. 3	S. G. Smith, Chippewa Falls	Possession, sale and delivery of milk in misbranded containers	T. J. Connor, Chippewa Falls	$25 and costs. Fine remitted on payment of costs and on condition of future compliance.
Jan. 3	Elmer Schuning, Chippewa Falls	Possession, sale and delivery of milk in misbranded containers	T. J. Connor, Chippewa Falls	$25 and costs. Fine remitted on payment of costs and on condition of future compliance.
Jan. 3	Adam Frank, Chippewa Falls	Possession, sale and delivery of milk in misbranded containers	T. J. Connor, Chippewa Falls	$25 and costs. Fine remitted on payment of costs and on condition of future observance and compliance.
Jan. 5	Albert Krueger, Reedsville	Sale of adulterated cream	A. H. Schmidt, Manitowoc	Fine susp. on pay't of costs
Jan. 5	C. G. Strong, Chippewa Falls	Possession, sale and delivery of milk in misbranded containers	T. J. Connor, Chippewa Falls	$25 and costs. Fine was suspended on condition of compliance with law and on payment of costs.
Jan. 7	Willie Heiman, Reeseville	Manufacturing for sale brick cheese containing more than permitted amount of moisture	Charles Lentz, Mayville	$25 and costs
Jan. 7	G. T. O'Keefe, Watertown	Manufacturing and offering for sale cheese known as American Cheddar cheese containing more than permitted amount of moisture	Charles Lentz, Mayville	$25 and costs
Jan. 10	E. Fisher, Mgr., Piggly Wiggly, Superior	Sale of adulterated eggs	F. S. Parker, Superior	$25 and costs
Jan. 18	Frank Lamont, West De Pere	Offering for sale—to wit: milk in misbranded bottles	N. L. Monahan, Green Bay	Fine susp. on pay't of costs
Jan. 19	Walter Zaddock, Suring	Maintaining factory premises and utensils in an insanitary condition	Jos. F. Fisher, Oconto	$25 and costs
Jan. 26	Isadore Kuhn, Almena	Manufacture for sale and sale of brick cheese containing more than permitted amount of moisture	F. B. Kinsley, Barron	$25.00
Jan. 27	Chas. Pieper, R. 2, Juneau	Manufacturing for sale brick cheese containing more than permitted amount of moisture	Chas. Lentz, Mayville	$25 and costs
Jan. 27	Frede Brog, Juda	Manufacturing brick cheese containing more than permitted amount of moisture	W. T. Saucerman, Monroe	$25 and costs
Jan. 27	Paul Brog, Clarno	Manufacturing for sale brick cheese containing more than permitted amount of moisture	W. T. Saucerman, Monroe	$25 and costs

CONVICTIONS—Continued

Date	Defendant	Cause of Action	Trial Judge	Fine or Forfeiture
1927				
Jan. 27	James Holmes, R. 2, Clayton	Manufacture of American style cheese which contained more than permitted amount of moisture	F. B. Kinsley, Barron	$25.00
Jan. 29	Andrew Klink, R. 2, Osceola	Manufacture of American style cheese which contained more than permitted amount of moisture	Grace P. Bloom, Osceola	$25 and costs
Jan. 31	Chas. Schmidt, Waupun	Manufacturing for sale American cheese containing more than permitted amount of moisture	Chas. Lentz, Mayville	$25 and costs
Feb. 1	Lorenz Krueger, Alma Center	Manufacture for sale of American cheese containing more than the permitted amount of moisture	Geo. Gilbert, Blk. Riv. Falls	$100 and costs
Feb. 2	Theo. Van Den Berg, Kaukauna	Manufacture for sale American cheese containing more than permitted amount of moisture	Theo. Berg, Appleton	$25 and costs
Feb. 3	Walter & Chas. Clark, Brodhead	Offering for sale adulterated milk	H. L. Maxfield, Janesville	$25 and costs
Feb. 4	A. L. Bjornberg, Beaver Dam	Manufacturing for sale American cheese containing 43.04% moisture	Gustav Procknow, Mayville	$25 and costs
Feb. 8	Geo. Meskal, Clayton	Delivery of adulterated milk to Advance Cheese Factory	F. B. Kinsley, Barron	$25 and costs
Feb. 8	Fred Hasler, Rio	Manufacturing for sale brick cheese containing more than permitted amount of moisture	J. S. Williams, Portage	$25 and costs
Feb. 11	Martin Sandsmark, Stoughton	Preparing handling and caring for food in an unclean manner and near a filthy object in a bakery	S. B. Schlen, Madison	$20 and costs
Feb. 11	Fred Schneeberger, R. 2, Rubicon	Manufacturing for sale brick cheese which contained more than permitted amount of moisture	Chas. Lentz, Mayville	$25 and costs
Feb. 15	Harold Fleming, Boaz	Offering for sale and selling adulterated milk	B. Morris, Richland Center	$25 and costs
Feb. 15	Henry Kloth, Dorchester	Manufacturing American or Cheddar cheese containing more than 39% of moisture	Louis Marchetti, Wausau	$30 and costs
Feb. 17	Emil Laabs, Dorchester	Manufacturing American or Cheddar cheese containing more than 39% moisture	Wm. A. Capman, Neillsville	$25 and costs
Feb. 19	Arnold A. Zastrow, Stetsonville	Manufacturing American or Cheddar cheese containing more than 39% moisture	O. J. Blakeslee, Medford	$25 and costs
Feb. 21	Emil Hanson, Cadott	Manufacture for sale American style cheese containing more than permitted amount of moisture	F. W. Jenkins, Chip. Falls	$25 and costs

Feb. 24	Peter H. Rego and F. Ray Rego Cazenovia	Manufacture and sale of cheese containing excess moisture	D. Morriss, Richland Center	$25 and costs
Mar. 8	John Huber, Vesper	Delivering adulterated milk to a cheese factory	W. H. Getts, Wis. Rapids	$25 and costs
Mar. 11	John P. Clark, Ferryville	Manufacture of American cheese containing more moisture than permitted by law	C. H. Speck, Pr. du Chien	$25 and costs
Mar. 19	Abe Nelson, Highland	Manufacture of cheese containing excessive moisture	H. T. Arthur, Dodgeville	$10 and costs
Mar. 25	Geo. Pflanzer, Unity	Manufacturing American or Cheddar cheese containing more than 39% of moisture	W. A. Campman, Neillsville	$25 and costs
Mar. 29	C. Gerland, Rice Lake	Sale of adulterated ice cream	Fred Kinsley, Barron	$25 and costs
Mar. 29	G. O. Gustafson, Rice Lake	Sale of adulterated ice cream	Fred Kinsley, Barron	$25 and costs
April 4	Asa Brei, R. 3, Clintonville	Manufacture of American cheese containing more than permitted amount of moisture	F. A. Jaeckel, Shawano	$25 and costs
April 6	Anton Banz, Withee	Manufacturing American or Cheddar cheese containing more than 39% of moisture	Wm. A. Campman, Neillsville	$25 and costs
April 8	Oscar Tappon, Rice Lake, R.F.D.	Manufacture for sale American cheese containing more than permitted amount of moisture	F. B. Kinsley, Barron	$25
April 8	Frank Rahn, Horicon	Sale of adulterated milk	Gustav Procknow, Mayville	$25 and costs
April 8	Ernest Raddatz, Horicon	Sale of adulterated milk	Gustav Procknow, Mayville	$25 and costs
April 11	Harry Krueger, R. 18, Allenville	Sale of adulterated milk	A. H. Goss, Oshkosh	$25 and costs
April 11	Pete Gerrets, Wrightstown	Sale of adulterated milk, in that it contained less than 3% fat and 8.5% solids not fat	N. L. Monahan, Green Bay	Fine susp. on pay't of costs
April 11	Consumers Wholesale Sup. Co., Chippewa Falls	Sale of an adulterated article of food—to wit: butter which contained less than 80% of milk fat	T. J. Connor, Chip. Falls	$100 and costs
April 11	Bert Kitelinger, Cuba City	Manufacturing and offering for sale of high moisture cheese	C. W. Burrows, Lancaster	$25 and costs
April 12	Oscar Wolf, Sherwood	Offered for sale milk containing less than 3% of milk fat and less than 8.5% of solids not fat	J. P. Hume, Chilton	$25 and costs
April 12	Wm. Reiser, New Holstein	Offered for sale milk containing less than 3% milk fat	J. P. Hume, Chilton	Fine susp. upon pay't of costs
April 13	Wm. Peters, Green Bay	Sale of adulterated milk, adulterated in that it contains less than 8.5% solids not fat	N. L. Monahan, Green Bay	Fine susp. upon pay't of costs
April 14	Anton Nelson, Wrightstown	Sale of adulterated milk, adulterated in that it contains less than 3% milk fat	N. L. Monahan, Green Bay	Fine susp. upon pay't of costs
April 14	Mrs. Ed. Mulemans, Wrightstown	Sale of adulterated milk, adulterated in that it contains less than 3% milk fat	N. L. Monahan, Green Bay	Fine susp. upon pay't of costs
April 15	John Rall, Superior, (Consumer's Store No. 34)	Sale of adulterated butter	F. S. Parker, Superior	$25 and costs
April 16	Ben Hemmrich, Stetsonville	Manufacturing American or Cheddar cheese containing more than 39% moisture	O. G. Blakeslee, Medford	$25 and costs

CONVICTIONS—Continued

Date	Defendant	Cause of Action	Trial Judge	Fine or Forfeiture
1927				
April 16	Henry Krueser, R. R., Green Bay	Sale of adulterated milk, adulterated in that it contains less than 8.5% solids not fat	N. L. Monahan, Green Bay	Fine susp. on pay't of costs
April 20	W. J. Heyer, La Crescent, Minn.	Sale of adulterated butter in La Crosse, Wis.	C. W. Hunt, La Crosse	$25 and costs
April 23	Oscar Bentz, R. 4, Mayville	Sale of adulterated milk	Ferd Schmutzler, Watertown	$25 and costs
April 23	Adolph Zubke, R. 3, Randolph	Manufacturing for sale American cheese containing 42.16% moisture	Chas. Lentz, Mayville	$25 and costs
April 23	Henry Bergamon, Juneau	Sale of adulterated milk	Chas. Lentz, Mayville	$25 and costs
April 26	Joe Ansell, Superior	Sale of adulterated butter	F. S. Parker, Superior	$25 and costs
April 26	Stephen King, Stevens Point	Sale of adulterated milk	L. J. Murat, Stevens Point	$25 and costs
April 27	Leo Hutter, Loyal	Manufacturing American or Cheddar cheese containing more than 39% moisture	Wm. A. Campman, Neillsville	$25 and costs
April 27	Alfred Mandel, Loyal	Manufacturing American or Cheddar cheese containing more than 39% of moisture	Wm. A. Campman, Neillsville	$25 and costs
May 3	Fred Dudy, Junction City	Delivering and having in possession to sell or deliver adulterated milk to wit: milk containing a foreign substance	R. Murat, Stevens Point	$25 and costs
May 3	Henry Kloth, Dorchester	Manufacturing American or Cheddar cheese containing more than 39% of moisture	Louis Marchetti, Wausau	$40 and costs
May 4	Anton Morgan, New Holstein	Offering for sale milk containing less than 3% milk fat and less than 8½% solids not fat	J. P. Hume, Chilton	Fine susp. upon pay't of costs
May 5	Florence Harris, Milwaukee	Selling adulterated food—to wit: canned peas	Geo. Page, Milwaukee	$25 and costs
May 5	Chas. Engel, Milwaukee	Selling adulterated food—to wit: canned peas	Geo. Page, Milwaukee	$25 and costs
May 10	Fred Steinmann, Prairie Farm	Manufacture for sale American style cheese containing more than permitted amount of moisture	P. B. Clark, Menomonie	$25 and costs
May 11	Eugene Stuesser, Grandville	Selling canned peas, without name and address of packer or dealer on label	Geo. Page, Milwaukee	$100 and costs
May 11	Eugene Stuesser, Grandville	Selling adulterated canned peas	Geo. Page, Milwaukee	$100 and costs
May 26	Michael Lorenz, Milwaukee	Preparing, storing and caring for food in an unclean manner	Geo. Page, Milwaukee	$20 and costs
May 26	Bernard Davison, Fremont, R. 2	Sale of adulterated milk	B. Scott, Waupaca	$25 and costs
May 27	Wm. Schroeder, Fox Lake	Sale of adulterated milk	Chas. Lentz, Mayville	$25 and costs
June 9	E. O. Taft, Superior	Possession for sale and sale of a misbranded article of food—to wit: milk	F. S. Parker, Superior	$25 and costs
June 9	Geo. L. Taft, Superior	Possession for sale and sale of a misbranded article of food—to wit: cream	F. S. Parker, Superior	$25 and costs
June 10	E. Naslund, Superior	Possession for sale and sale of misbranded article of food—to wit: cream	F. S. Parker, Superior	$25 and costs

July 2	A. Heimburg, Marinette	Failing to keep accurate records of the sale of cold storage butter	Wm. Tremear, Marinette	$50
Sept. 20	Albert P. Werth, Spencer	Maintaining premises and utensils used in handling milk and dairy products of milk as food for man in an unclean and insanitary condition	W. A. Campman, Neillsville	$25 and costs
Sept. 20	E. B. Nafley, Ladysmith	Using a condemned pump for the sale of gasoline—a commodity	G. H. Williams, Ladysmith	$10 and costs
Sept. 29	E. R. Ewing, Milwaukee	Selling adulterated and misbranded canned vegetables—to wit: peas	Geo. Page, Milwaukee	$100 and costs for adulterated food. $100 and costs for misbranded food
Sept. 29	E. R. Ewing, Milwaukee	Selling adulterated canned vegetables and animal food and misbranded canned vegetables	Geo. Page, Milwaukee	$100 and costs, adulteration. $100 and costs, misbranding
Sept. 29	Jos. W. Michlig, Marathon	Maintaining premises and utensils (cheese factory) use in manufacturing food for man from milk in an unclean and insanitary condition	Louis Marchetti, Wausau	$25 and costs
Oct. 24	J. B. Johnson, Monroe	Issuing of slips with sale of candy; such slips not being redeemable in cash only	Geo. Grimm, Monroe	$50 and costs
Nov. 2	Alfred Nef and Alfred Gozenbach Clayton	Unlawful manufacture of skimmed milk cheese and cheese from milk from which fat originally contained therein had been removed, said cheese then and there being more than ten inches in diameter and less than nine inches in height	C. A. Stark, Rice Lake	$75 and costs
Nov. 2	Otto Rhode, Clayton	Unlawful manufacture of skimmed milk cheese and cheese from milk from which fat originally contained therein had been removed, said cheese being then and there more than 10 inches in diameter and less than 9 inches in height	C. A. Stark, Rice Lake	$75 and costs
Nov. 7	Ernest Hallada, Green Bay	Selling meat containing sodium sulphate	N. J. Monahan, Green Bay	$25 and costs
Nov. 8	Wm. Brasda, Coon Valley	Furnishing cream to a creamery from unclean premises and unclean utensils	John F. Doherty, La Crosse	$50 and costs (2 counts)
Nov. 23	W. J. Lowe, Milwaukee	Accepting the return of bakery goods and giving cash consideration for same	Geo. Page, Milwaukee	$25 and costs
Nov. 23	S. W. Hammond, Milwaukee	Accepting return of bakery goods and giving cash consideration for same	Geo. Page, Milwaukee	$25 and costs
Nov. 26	Ben Gruenenfelder, Waldo	Manufacturing American cheese for sale containing more than 39% moisture	Adam Trester, Sheboygan	$25 and costs
Nov. 28	Frank Matick, Forestville	Offering for sale adulterated milk, in that it contained less than 8.5% solids not fat	Martin Dehos, Sturgeon Bay	$25 and Costs

CONVICTIONS—Continued

Date	Defendant	Cause of Action	Trial Judge	Fine or Forfeiture
1927				
Dec. 3	Reimer Milwaukee Co., Milwaukee	Did unlawfully on Nov. 4 sell sausage that was adulterated	Geo. Page, Milwaukee	$25 and costs
Dec. 6	W. H. Borden, Milwaukee	Incomplete records of cold storage goods—to wit: eggs	Geo. Page, Milwaukee	$25 and costs
Dec. 6	Christ Abegglen, Ripplinger	Offering for sale adulterated cheese and offering for sale an article of food which was misbranded	Mr. Adler, Marshfield	$30 and costs
Dec. 14	Plover Cry. Co., Plover (O. R. McCormick)	Adulterated butter and offering for sale the same	L. J. N. Nuart, Stevens Pt.	$25 and costs
Dec. 19	Geo. Foelsch, Greenwood	Manufacturing American or Cheddar cheese containing more than 39% moisture	Wm. A. Campman, Neillsville	$50 and costs
Dec. 19	Sam Ross, Superior	Sale of adulterated eggs	F. S. Parker, Superior	$25 and costs
Dec. 21	Tittle Bros. Packing Co., Racine (A. W. Ritter)	Adulteration of bulk pork sausage, by addition of cereal and water. Sulphite in hamburger	E. R. Burgess, Racine	Fine susp. on pay't of costs
Dec. 21	R. L. Robinson, Mgr., National Tea Co., Superior	Selling adulterated eggs	F. S. Parker, Superior	$25 and costs
Dec. 28	Anton Marshek, R. 1, Maribel	Offered for sale and did sell adulterated milk	A. H. Schmidt, Manitowoc	$25 and costs
Dec. 30	Christ Abegglen, Ripplinger	Manufacturing American or Cheddar cheese containing more than 39% moisture	W. A. Campman, Neillsville	$25 and costs
1928				
Jan. 5	M. F. Lehman, Mgr., A. & P. Stores, Ashland	Sale of adulterated eggs	Geo. H. McCloud, Ashland	$25 and costs
Jan. 11	Alfred Nef and Alfred Gonzenbach, Clayton	Manufacture for sale American style cheese which contained more than 39% moisture	C. A. Stark, Rice Lake	$50 and costs
Jan. 12	Joe Ansell, Superior	Sale of adulterated eggs	F. S. Parker, Superior	$25 and costs
Jan. 17	Iron County Creamery, Hurley, Van Hoff and Mehnert, Props.	Selling a lesser quantity of butter than was represented to be	Jas. E. Flandrena, Hurley	$15 and costs
Jan. 26	Wm. Thompson, Superior	Sale of adulterated butter through Joe Ansell	F. S. Parker, Superior	$25 and costs
Feb. 2	Henry Dziedzic, Kenosha	Preparing, handling and caring for food in an unclean manner	J. S. Slater, Kenosha	$30 and costs
Feb. 14	Ellef Steen, R. 1, Fairchild	Maintaining premises and utensils of his cheese factory in an insanitary condition	S. M. Samdahl, Blk. Riv. Fls.	$25 and costs

Feb. 21	Bert Smith, Madison	Sale of food containing benzoic acid to wit: a bottle of moquin Bronx cocktail containing above acid	S. B. Schein, Madison	$25 and costs
Feb. 29	B. N. Stone, South Range	Possession for sale of food to wit: milk in misbranded bottle or container	F. S. Parker, Superior	$25 and costs
Mar. 1	Alex Karcz, Pulaski	Lead slug in poise causing scale to be short weight 5 pounds per 100	Mr. Monahan, Green Bay	$1 and costs
Mar. 6	Frank Graff, Superior	Possession for sale of a food product to wit: cream. In misbranded bottle	F. S. Parker, Superior	$25 and costs
Mar. 13	Ray Washata, Park Falls	Selling adulterated article of food for man to wit: butter below standard in butter fat	C. A. Nelson, Park Falls	$25 and costs
April 3	Wm. Rasch, Lake Geneva	For selling hamburger or chopped meat containing sulphite	F. N. Fryer, Whitewater	$25 and costs
April 20	Malnik & Weinstein, Madison	Selling article of food containing added benzoic acid	S. B. Schein, Madison	$25 and costs
April 20	W. E. Lasch, Chicago, Ill.	Selling article of food containing added benzoic acid	S. B. Schein, Madison	$25 and costs
May 2	A. J. Kehlenbrink, West Allis	For selling hamburger or chopped meat containing sulphite	Geo. Page, Milwaukee	$25
May 7	Emil Luther, Greenwood	Manufacturing American cheese containing more than 39% moisture; selling a misbranded article of food for man and offering for sale adulterated cheese	Wm. A. Campman, Neillsville	$25 and costs
May 15	Henry Oliver, Superior	Possession for sale of a food (milk) in misbranded bottle	F. S. Parker, Superior	$25
May 15	Wm. Terry, South Range	Possession for sale of a food (milk) in misbranded bottles or containers	F. S. Parker, Superior	$25
May 22	Andrew Tillman, Grafton	For selling hamburger or chopped meat containing sulphite	G. H. Adam, Pt. Wash.	Fine susp. on pay't of costs
May 29	E. B. Mahlow, Superior	Misbranded milk bottles	F. S. Parker, Superior	$25 and costs
May 29	H. D. Hanson, Superior	Misbranded milk bottles	F. S. Parker, Superior	$25 and costs
May 29	Kenneth Knutson, Superior	Misbranded milk bottles	F. S. Parker, Superior	$25 and costs
June 8	Max Brazy, Menomonee Falls	For selling hamburger or chopped meat containing sulphite	T. W. Parkinson, Waukesha	$25 and costs
June 11	L. A. Milfred, Cazenovia	Possession with intent to deliver for sale, milk adulterated with water	W. F. J. Fogo, Richland Ctr.	$25 and costs
June 19	John Del Santo, Marinette	Having in his possession with intent to sell lime julep containing saccharine contrary to section 352.12 of the Wis. Statutes	C. A. Budlong, Marinette	$25 and costs
June 20	A. H. Gray, Zachow	Selling adulterated butter, it being below the legal standard for milk fat	John Alft, Shawano	$25 and costs
June 30	Clarence Milfred, Cazenovia	Possession with intent to deliver and offer for sale as servant of another, adulterated milk	W. F. J. Fogo, Richland Ctr.	$25 and costs

REPORT OF CHIEF CHEMIST

HONORABLE C. J. KREMER,
Dairy and Food Commissioner,
Madison, Wisconsin.

Dear Sir: A summary showing the activities of the laboratory with tabulations showing the results of analyses of adulterated articles of foods, a few drug products and linseed oils, has been prepared and is herewith submitted. As has been the custom in the past, several of the more or less important classes of foods have been briefly discussed from the standpoint of analyses and their relation to our work. I wish to call special attention to the large amount of purely investigational work carried on. I have no doubt about there being plenty of other fields for a continuation of investigational work for several years to come. I believe that some time might profitably be spent in the near future in work with cream and creamery products. Some tests (such as the Wisconsin curd test in the cheese field) might be developed in connection with the grading of cream for butter making.

Another subject ripe for investigation, I believe, is the use of the Babcock test for determining the percentage of butter fat in milk and cream. While the general principles of the Babcock test are quite well understood by those using the test in the commercial field, several refinements in making the test are not understood nor practiced. Unless the test is performed in strict compliance with the principles laid down by Professor Babcock, the inventor of the test, and each step is performed properly, the test in fact ceases to be a true Babcock test but becomes the operator's modification of the test. I will mention just one or two points to illustrate what is meant.

Directions for the test require the use of 17½ cubic centimeters of sulphuric acid of definite concentration used at or very near a specified temperature. Most of the sulphuric acid sold for Babcock testing is too strong so that when the full amount 17½ cc, is so used a test will be ruined. The proper procedure in such circumstances is to dilute the acid to the proper strength and use the specified amount. Common practice, however, is to use ⅔ to ¾ of some guessed at amount of the undiluted acid, thus failing to perform the test in compliance with the principles upon which it is based.

The results of our investigation of standardizing milk for cheese making and the knowledge gained by our investigation of the manufacture of sausage ought to be of considerable value if legislation is attempted along either of these lines.

Time and space will not permit a further discussion of the many problems which await solution. The earnest plea of the laboratory is that the legislature may acquaint itself with the need for a new location which will permit of expansion and facilitate the work of the department.

Respectfully yours,

HARRY KLUETER,
Chief Chemist.

SUMMARY ANALYSIS

June 30, 1926 to July 1, 1928

4,579 Samples

	Number of Samples		
BEVERAGES			146
Free from adulteration or misbranding	53		
Sold in contravention of law	63		
Submitted—Standard	16		
Not Standard	14		
DAIRY PRODUCTS			3,006
Butter		309	
Official Samples—			
Standard	197		
Not Standard	72		
Submitted Samples—			
Standard	35		
Not Standard	5		
Cheese		1,063	
Official Samples—			
Standard	280		
Not Standard	680		
Submitted Samples—			
American cheese—standard	17		
American cheese—not standard	44		
Brick and Limburger cheese—standard	7		
Brick and Limburger cheese—not standard	6		
Swiss cheese—standard	8		
Samples analyzed in investigation of the manufacture of Brick Cheese	21		
Cream		117	
City Milk Supply—			
Standard	17		
Not Standard	33		
Submitted Samples—			
Standard	66		
Not Standard	1		
Ice Cream		84	
Standard	48		
Not Standard	36		
Milk		1,241	
Delivered at creameries, cheese factories, or condenseries—			
Standard	74		
Not Standard	213		
City Milk—			
Standard	39		
Not Standard	49		
Herd Samples	159		
Submitted Samples—			
Standard	285		
Not Standard	32		
Bacterial Count	390		
Samples of milk or cream submitted or collected as official samples for the purpose of checking fat tests	158		
Miscellaneous Dairy Products		34	
FLAVORINGS AND FLAVORING EXTRACTS			16
Standard	5		
Not Standard	11		
LARD			3
Standard	0		
Not Standard	3		
LINSEED OIL			11
Standard	10		
Not Standard	1		
MEAT AND MEAT PRODUCTS			168
Standard	34		
Not Standard	134		
MISCELLANEOUS PRODUCTS			130

SUMMARY ANALYSIS—Continued

June 30, 1926 to July 1, 1928—Continued

	Number of Samples		
SACCHARINE PRODUCTS			46
Maple Syrup		43	
Standard	24		
Not Standard	19		
Honey		3	
Standard	3		
VINEGAR			112
Standard	74		
Not Standard	38		
ANALYTICAL WORK FOR SUPERINTENDENT OF PUBLIC PROPERTY			16
ANALYTICAL WORK FOR BOARD OF CONTROL			8
EXPERIMENTAL WORK			295
Samples analyzed in connection with Fat and Casein ratio of milk		59	
Milk	18		
Whey	30		
Cheese	11		
Loyal, Matznick Standardization Experiment		130	
Milk	34		
Whey	24		
Skim Milk	12		
Cream	12		
Whey Cream	24		
Cheese	24		
North Leeds Investigational Work with Alferi Cheese Mineral		50	
Milk	10		
Whey	10		
Whey Drippings	10		
Cheese	10		
Whey Cream	10		
Samples analyzed in Preliminary Investigation of Sausage	39		
Investigation of effect of adding water and farinaceous	17		
PROHIBITION SAMPLES			624

SODA WATER BEVERAGES

Almost every biennial report of the department for several years past has dealt more or less with soda water beverages either from the standpoint of factory inspection, licensing of factories, composition of products or branding. The federal government in the Bureau of Chemistry has done much work on this class of food products but I do not find that all phases of the matter have been dealt with.

Soda water beverages need standardization, but it seems before a thorough piece of work along these lines can be accomplished, the subject of soda water flavors needs attention. Are all flavors used synthetic in whole or in part; are print syrups suitable without being reinforced? A correct classification of these products so as to be in harmony with the provisions of the general law on adulteration is no small task.

There has been a noticeable increase in the tendency to use saccharin and benzoate of soda. This may be due to the increased popularity of uncarbonated or lightly carbonated beverages for these products are much more apt to spoil. In many instances uncarbonated beverages so called "still drinks" must be pasteurized to insure their keeping quality. This adds materially to the cost of production hence, the incentive to eliminate this step in manufacture. Fixing a minimum sugar content by statute would be one of the simple steps to be taken but by no means the most important.

A special study of this class of foods may be timely because the business has grown away from former application and will no doubt expand on its own merits.

We have analyzed 146 samples of beverages 69 of which were passed as being in compliance with law. Seventy-seven samples were held to be misbranded as having false or misleading statements or the net content was not stated. Nineteen contained a chemical preservative, benzoate of soda, and seven contained saccharin. A rather interesting fact concerning beverages is noticeable in the sugar content. Fifty per cent of the samples tested for sugar (sucrose) contained over six and one-half per cent. Seventeen samples fell below that figure and six contained less than three per cent.

BUTTER

There were 309 official samples of butter analyzed and 72 of these were found to be below the fat content required by statute. The highest percentage of fat found in these samples was 84.99 and the lowest was 72.89. A large percentage of the adulterated samples have a fat content between 79.5 and 80. There is a decided variation in the salt content of these samples and in some instances it is the high percent-

age of salt and not the high percentage of moisture that has brought the butter below the minimum milk fat requirement of 80%.

A perusal of the records of analyses of the samples of butter classed as standard shows a lack of uniformity in moisture content, salt content, and therefore, naturally in milk fat content. Quite a number of samples classed as standard contain more than 16% of moisture. If such butter is shipped to states having a 16% moisture standard, its sale would of course be in contravention of law. Some of the larger cities it appears have passed fat standards, and I am informed that a double butter standard exists in some of these cities. That is, the butter is judged not only on the fat content but on the moisture content as well.

There are good reasons for high or low percentages of salt. The producer may be shipping to a market that requires a highly salted or a slightly salted butter. It would appear that if action resulting in the production of butter or a more uniform composition were possible, such action on the part of state agencies having to do with the manufacture and sale of butter, either in an educational or regulatory manner, would be desirable. No doubt the quality of Wisconsin butter could be improved if conditions suitable for grading cream at creameries existed. While a difference in price for cream of different grades appears to be purely a marketing problem, it is certain that if a practice of paying for cream on a quality basis were more uniformly adopted, such practice would reflect its adoption in the improved quality of our butter.

About the usual number of samples of butter have been submitted, 40 samples in all. Thirty-five samples are classified as standard. Where possible, a complete analysis of the butter is made but many of the samples could be tested only for the presence of foreign fats. Many of the samples were rancid and of poor quality. It appears that this may have been the reason for suspecting adulteration. Five samples were classed not standard. One was found to be a mixture of oleomargarine and butter. One was found to be renovated butter and two were below standard in fat content, and one was misbranded.

CHEESE SAMPLES

A total of 1,044 samples of cheese was received and analyzed. This exceeds the number of samples analyzed during the preceding biennial period, when 693 samples were analyzed. For convenience of discussing the results of analyses, samples may be classed as official and submitted samples. By "official" samples we mean those sent in by our own inspectors or state supervisors of cheese grading for the Department of Markets. There were 960 official samples, 680 of which are classed as not standard and 280 as standard.

During this biennial period, there were rumors to the effect that skimming of milk by cheese makers was being practiced in a small

way, that is, milk was not actually skimmed by the use of the separator, in many cases vats were allowed to stand for several hours to permit the cream to rise. This was removed and put into the whey and later recovered as whey cream. Up to the time of the Supreme Court's decision of the Langlade County Creamery case, which dealt specifically with the removal of fat from milk for Swiss cheese making, and an opinion by the Attorney General to the effect that the Supreme Court decision not only affected the removal of fat from milk for Swiss cheese making, but applied to the removal of fat from milk for the making of other types of cheese, there seemed to be less necessity for checking the fat content of cheese because it was quite generally accepted that the dairy laws prescribed such practice.

From this time on, our records show that we were no longer content with a moisture determination, but that we began to determine the percentage of fat and calculate the percentage of fat in the moisture free substance. If the practice of the removal of fat was to be controlled where cheese was made from standardized milk, it appeared that the simplest way of controlling that practice would be by enforcing the provisions of the general food law prohibiting the sale of an adulterated article of food, which provisions declare an article of food to be adulterated "if any valuable or necessary ingredient has been wholly or in part abstracted from it, or if it is below that standard of quality, strength, or purity represented to the purchaser or consumer.". And by making fat determinations in addition to the usual moisture determinations we found that 83 samples of the 680 official not standard samples fell below the minimum fat requirement for cheese fixed by statute. The commonest form of adulteration, however, continued to be the addition of excess moisture. Sixty-one samples of American cheese were submitted; 44 of these samples were below standard because of excess moisture or because they were deficient in fat. Eight samples of Swiss cheese were analyzed and found to be standard. Thirteen samples of brick and limburger were submitted for analysis and seven were found to be standard and six were not standard.

A group of samples of American cheese which appeared to be of special interest, is found in the table headed "Early Experimental Data on Fat and Casein of Milks with Composition of Cheese Made Therefrom and Loss of Fat in the Whey." At a conference with cheese dealers during the summer months of 1926, when the matter of Federal legislation on process cheese was under consideration, the claim was freely made by more than one cheese dealer that it was difficult to get cheese in Sheboygan county territory that would contain 50% of fat in the water-free substance. This statement would lead to one of two conclusions: either the cheese makers were skimming or the composition of the milk received at cheese factories in that territory was such that when made into cheese the resultant cheese would not contain 50% of fat in the dry matter.

The commissioner decided that an investigation should be made

and the dairy inspector for that section was directed to collect samples of cheese from factories so that we might learn the truth of the claims by analyses. The work done on these samples will be found in a table headed, "Composition of Cheese Taken at Factories from Which Milk Samples were Collected But Manufactured Prior to Date of Factory Inspection." It will be observed that in no case did the cheese analyzed contain less than 51% of fat in the water-free substance and the lowest percentage found was 51.27, while the highest percentage found was 53.97. This group of samples when considered from the standpoint of moisture content does not show up as well, seven of them contained more than the maximum amount of moisture permitted for American cheese. We were not content to prove that the statements made by the cheese dealers in the Sheboygan county region were untrue by these samples, but felt that we should investigate the milk used in that section, the fat losses in the whey and composition of the cheese under the observation of an inspector. The table gives the composition of composite samples of factory milk as well as the composition of the milk in the vat or vats where the factories were equipped with more than one vat.

In addition to the work shown in the table, the inspector tested the milk delivered by each patron for adulteration. He determined the percentage of fat and made a lactometer reading, for these determinations would enable him to detect watering or skimming. If adulterated milk had been detected, samples of milk, whey, and cheese would not have been taken but the matter of the delivery of adulterated milk given attention.

At this early date we did not know as much about the fat content of cheese made from milk with different ratios of fat to casein. We found, however, that the relation of fat to casein was quite constant and that the percentages of both fat and casein were such as to produce cheese well above the minimum fat requirement even with fat losses in the whey in excess of what they need be. With our more recent knowledge of cheese factory milk it appears that standardization of milk might even be practiced. The analysis of cheese from this group of factories prior to any knowledge by the cheese makers of what was taking place when compared with a more complete investigation of milk and cheese, seems to refute the claims made as to the low fat content of cheese made in the region under consideration.

During the latter part of October, 1926, the Lakeshire Cheese Company, of Plymouth, submitted four samples of brick cheese. The samples were analyzed and found to be badly adulterated because they contained less than the minimum fat content for cheese fixed by statute, and further because they contained more than the permitted amount of moisture for brick cheese. One of the samples contained only 44.72% of fat when the minimum requirement is 50%. The samples had been sent by mail and were unsealed so that they would have been useless if the department had decided to take court action against the manufacturer or seller of the cheese. Mr. Bruhn of the

department was sent to Plymouth to investigate the matter and found that the samples submitted had been taken from a car lot shipment of brick cheese from Monroe. The Plymouth company had made a settlement of the cheese with the shipper in Monroe and had used the cheese in the manufacture of process cheese. It was impossible to obtain further samples. We decided, however, that the matter warranted further action and an investigation of the source of the cheese was made at Monroe, at the warehouse of the dealer from which it was shipped. Inspectors were sent to the various factories to examine the milk used for cheese making and they were requested to learn the methods of making used. We found that the milk in general was free from adulteration but that most of the factories supplying this brick cheese were making it in Swiss kettles and were using mechanical stirrers. The samples of the cheese manufactured at these factories were obtained and analyzed. The results are given in a table entitled, "Investigation of the Manufacture of Brick Cheese." We found that out of 21 samples collected, only three contained the required amount of fat for brick cheese. The highest percentage of fat found in the water-free substance of this group of samples was 51.34% and the lowest percentage of fat was 45.44%.

Of the three samples that contained the required amount of fat two contain more than the permitted amount of moisture. In all thirteen samples of the group were adulterated with excessive moisture. In short, the practice in these factories seems to have been to remove fat by beating it out of the curd and into the whey replacing the fat so lost with excessive moisture to obtain the normal yield and make cheese not easily detected as skim milk cheese because of the high moisture.

The results of the investigation were given to the dealer at Monroe and the matter of manufacturing adulterated cheese was taken up with the factories. We felt at the time that our activity in this matter and the publicity given it were sufficient to correct the conditions. Further if we had attempted to bring action under the skim milk cheese law, which deals with the manufacture and sale of skim milk cheese or cheese manufactured from milk from which any of the fat had been removed, I doubt whether we could have drawn a complaint that would have stood court action. We could have proceeded against the seller of such cheese under the general food law, but in this connection it is well to remember that the matter of the use of milk from which any of the fat had been removed for cheese making was before the Supreme Court.

EARLY EXPERIMENTAL DATA ON FAT AND CASEIN CONTENTS OF MILKS WITH COMPOSITION OF CHEESES MADE THEREFROM AND LOSS OF FAT IN WHEY

			Milk			Whey	Cheese			
Date	Inspection Number	Sample	% Fat	% Casein	Ratio F to C	% Fat	% Moisture	% Moisture free Substance	% Fat	% Fat in Moisture free Substance
7-23-26	592ARV	Composite	3.35	2.24	1 to 0.67					
7-23-26	593ARV	Vat 1	3.35	2.24	1 to 0.67	0.29	37.91	62.09	32.82	52.85
7-23-26	594ARV	Vat 2	3.35	2.20	1 to 0.66	0.30	39.90	60.10	32.76	54.50
7-27-26	604ARV	Composite	3.45	2.20	1 to 0.63					
7-27-26	605ARV	Vat	3.45	2.19	1 to 0.63	0.48	36.79	63.21	33.34	52.74
7-28-26	612ARV	Composite	3.45	2.25	1 to 0.65					
7-28-26	613ARV	Vat A	3.45	2.23	1 to 0.65	0.33	39.53	60.47	32.03	52.96
7-29-26	620ARV	Composite	3.67	2.40	1 to 0.65					
7-29-26	621ARV	Vat A	3.68	2.40	1 to 0.65	0.41	37.35	62.65	33.30	53.15
7-29-26	622ARV	Vat B	3.67	2.44	1 to 0.66	0.35	37.22	62.78	33.23	52.93
8- 3-26	633ARV	Composite	3.30	2.18	1 to 0.66					
8- 3-26	634ARV	Vat A	3.30	2.19	1 to 0.66	0.46		No cheese		
8- 3-26	635ARV	Vat B	3.30	2.21	1 to 0.67	0.49	37.09	62.91	33.10	52.61
8- 4-26	646ARV	Composite	3.50	2.32	1 to 0.66					
8- 4-26	647ARV	Vat A	3.50	2.32	1 to 0.66	0.41	39.57	60.43	32.05	53.03
8- 6-26	654ARV	Composite	3.40	2.22	1 to 0.65					
8- 6-26	655ARV	Vat A	3.30	2.17	1 to 0.66	0.53	38.42	61.58	32.10	52.12
8- 6-26	656ARV	Vat B	3.55	2.31	1 to 0.65	0.61	38.35	61.65	31.91	51.75

COMPOSITION OF CHEESES TAKEN AT FACTORIES FROM WHICH MILK SAMPLES WERE COLLECTED BUT MANUFACTURED PRIOR TO DATE OF INSPECTION

From factory corresponding to—	% Moisture	% Moisture free Substance	% Fat	% Fat in Moisture free Substance
593 & 594 ARV	38.97	61.03	32.09	52.58
	38.52	61.48	32.03	52.09
	38.77	61.23	32.32	52.78
605 ARV	38.89	61.11	32.30	52.85
	37.99	62.01	33.00	53.21
613 ARV	39.38	60.62	32.14	53.51
	40.71	59.29	31.82	53.66
621 & 622 ARV	37.31	62.69	33.83	53.96
	36.07	63.93	34.34	53.71
	36.56	63.44	34.24	53.97
634 & 635 ARV	36.39	63.61	33.14	52.09
	37.11	62.89	32.37	51.47
	37.33	62.67	32.43	51.74
	36.80	63.20	32.61	51.59
647 ARV	39.98	60.02	30.79	51.29
	40.28	59.72	30.62	51.27
655 & 656 ARV	39.95	60.05	31.03	51.67
	39.58	60.42	31.78	52.59
	39.94	60.06	31.64	52.68
	37.89	62.11	32.27	51.95

INVESTIGATION OF THE MANUFACTURE OF BRICK CHEESE

Factory	Cheese from Warehouse				Cheese Made Under Inspection				Milk	Whey
	% Moisture	% Fat	% Solids	% Fat in M. F. S.	% Moisture	% Fat	% Solids	% Fat in M. F. S.	% Fat	% Fat
Apple Grove, Blanchardville					44.78	27.15	55.22	49.16	4.10	1.19
Big Rock, Blanchardville	42.24	26.25	57.76	45.44	45.78	25.63	54.22	47.27	3.95	
Blum, Monroe	42.97	29.28	57.03	51.34						
Crosby, South Wayne	42.09	28.33	57.91	48.92						
Fairview, Hollandale*	43.56	27.90	56.44	49.43	45.00	27.17	55.00	49.40	3.90	.91
Flanagan, Argyle	42.99	27.52	57.01	48.27						
Horseshoe Bend, Hollandale	40.21	27.43	59.79	45.87	43.59	26.97	56.41	47.81	3.60	.97
Horseshoe Bend*	43.59	27.55	56.41	48.83						
Kubly, Clarno	44.76	28.12	55.24	50.90						
Scott, Browntown	41.48	27.78	58.52	47.47	44.13	26.94	55.87	48.21	3.75	
Spring Valley, Hollandale	41.16	28.88	58.84	49.08	44.51	28.18	55.49	50.78	3.60	.79
Spring Valley*	45.16	27.02	58.84	49.27						
Stauffacher, Monroe	40.92	28.70	59.08	48.57						
Walnut Hill, Hollandale	44.13	27.08	55.87	48.47	50.31	23.23	49.69	46.75	3.50	.94
Walnut Hill*	48.50	25.02	51.42	48.65						

*Cheese picked at random from factory curing room.

CREAM

Fifty official samples of cream were collected from city milk dealers. Thirty-three of these practically were found to be adulterated because they contained less than the minimum fat content for cream as fixed by statute.

Sixty-seven submitted samples of cream were received and tested, one of which was classed as not standard because it contained 17% of milk fat. The principal reason for submitting samples of cream was undoubtedly dissatisfaction with the test of cream by other testers. We have much less trouble with churned samples of cream. This, I think, is due to the use of smaller containers usually well filled. I do not know that any significance attaches to the fact that a smaller number of cream samples were received over this period than were received for the preceding biennial period.

MILK

Two hundred eighty-seven official samples of milk were collected from patrons delivering milk at creameries, cheese factories, and condenseries. 88 official samples of milk were collected from city milk supplies. The greater part of these samples were found to be adulterated either by the addition of water, the removal of fat, or in some instances because the milk fell below the legal requirement of 3% for milk. 75% of the samples delivered to the factories were adulterated, and approximately 60% of the city milk samples were adulterated. The motive for adulterating milk or cream is too well known to need discussion. Our work at factories and in city milk supplies has proven beyond a reasonable doubt that the adulteration of milk is in the minimum and is indeed the exception.

During the month of February and March, 1927, we made a survey of the bacterial content of milk delivered to one of the largest city milk plants in the state. 350 samples of patrons' milk were plated and counted for bacteria. 83 samples, or 23.7% of the total samples showed a bacterial count of less than 50,000 colonies per cubic centimeter. 29 samples, or 8.2% fell between 50,000 and 100,000. 96 samples, or 27.4% fell between 100,000 and 500,000. 43 samples, or 12.2% fell between 500,000 and 1,000,000. And 99 samples, or 28.2% contained over 1,000,000 colonies per cubic centimeter.

An examination of the pasteurized milk offered for sale by this company gave the following results:

Forty samples were received, one of which contained less than 10,000 colonies per cubic centimeter. Six fell between 10,000 and 20,000; five between 20,000 and 50,000; 28, or 70% were over 50,000.

When these results were made known, it is needless to say that considerable added activity in the inspection and handling of milk at this plant occurred. A great field for work in market milk among

the smaller cities has remained untouched because of the lack of adequate means. No doubt some day public sentiment will demand this work and a state market milk inspection service, similar to the much needed meat inspection service, will become realized.

Submitted milk has been given considerable attention during the past year. There are two reasons why the department may be interested in these samples. It may afford us an opportunity of checking tests made by others or possibly we may be put in touch with sources of adulteration of milk. As simple as the matter of submitting samples of milk seems to be, a surprisingly large percentage of samples are received in such condition that they cannot be tested. No doubt more educational work along these lines will be necessary. There seems to be a lack of understanding on the part of not only farmers, but factorymen concerning what may happen to a sample in transit. After milk fat is separated in the form of butter, it cannot be reincorporated, and unless reincorporated the test of the milk is worse than useless because it is a false test of the milk.

A form card was prepared and sent to all parties submitting either milk or cream. An examination of these cards shows a surprisingly small number of those submitting samples claim or admit there has been any trouble with the purchaser concerning the test. In practically all of the samples submitted it was impossible to make a complete analysis and have such work correctly informative for the reason that samples are in almost all cases preserved with corrosive sublimate tablets which add solids to the milk.

The total number of submitted milk samples was 317. 285 contained 3% or more of milk fat; 32 were classed as not standard because they contained less than 3% of milk fat. The highest fat content found in milk was 6.25%. The lowest was 1.40%.

CHEMICAL PRESERVATIVES

The preservative materials submitted to the laboratory for analysis, may be divided into four classes. The first and only unobjectionable one is that consisting of a mixture of a chloride and nitrate, usually the sodium, potassium, calcium or magnesium salt. This is used as a meat pickle.

The second group is also applied to meat in many cases and consists of from 85 to 97% sodium sulphite, the remainder being sodium sulphate. This is an illegal preservative and its presence in samples of chopped meat has been demonstrated by the laboratory analysis of chopped meats. A very subtle way of selling such a product to the consumer has been adopted by one company who sells the product as "Preservo" to be used to "Smoke meat in ice box." This material consists largely of free sulphur and charcoal which on burning in the ice box produces sulphur dioxide, a strong antiseptic. The sulphur dioxide acts in the same way on foods which are exposed to it as does

the sodium sulphite. This product is claimed to be of use for the purpose of sweetening the ice box. However, although it does sweeten the ice box, it also attacks the food present there and renders it unfit to be eaten. This package in which the powder is sold specifically states that butter and such foods need not be removed during the process of burning the powder. Such food products as meats, vegetables, fruits, would all be affected by the sulphur dioxide and the consumer be unaware that they were injurious to his health.

In a certain instance, sodium sulphite was labeled as a cleaning compound, but the salesman who sold the product, informed the meat dealer that it could also be used to preserve the meat to be sold.

The third and fourth classes of preservatives are those used in beverages. The use of hydrogen peroxide in chocolate beverages is a recently adopted practice by certain soda water manufacturers. Benzoate of soda is also to some extent in beverages, especially in the so-called "still" or noncarbonated products.

WORK WITH FLAT SOUR CANNED PEAS

During May and June, 1927, nineteen samples of canned peas were examined in the laboratory to determine whether or not they were what is known on the market as "Flat Sour." By definition, a canned product designated as a "flat sour", is one which has undergone a bacteriological change in which acid is produced and little or no gas is formed which will cause the ends of the can to become extended. The consumer in buying such a product is unable by the external appearance of the can to differentiate between the normal and the flat sour cans of food. On opening the cans, a slight disagreeable odor and cloudy liquor was noticeable. To establish the fact that the samples were sour, the hydrogen ion concentration was determined and the presence of a strain of thermophylic bacteria was established. Fourteen of the nineteen samples had an abnormally high acid content. Seventeen of the samples contained thermophylic bacteria. Some of the samples containing the thermophylic organisms were not sour, indicating that the proper incubation temperatures had not been provided for growth and production of acid. These organisms grow at relatively high temperatures such as are provided when the cans of vegetables are stacked in piles without cooling after processing.

A sample of canned lobster which was examined at the laboratory during this period was found to contain a black deposit on the inside of the can. The black material was identified as iron sulphide, probably due to the reaction between the lobster which had undergone a degradation process, and the imperfectly tin covered iron can.

SAUSAGE INVESTIGATIONAL AND INSPECTIONAL WORK

During the 1927 session of the Legislature an attempt was made to repeal the provisions of the present sausage law permitting the use of cereal or potato flour. The bill specifically prohibited the use of artificial color either in the meat of sausage or on the casing. Hearings were held by the Committee on Education and Public Welfare of the Senate, and it appeared at first that there would be little or no opposition to the passage of this bill. However, when it became generally known throughout the State, much opposition developed. Manufacturers of sausage were divided, one group supporting the bill, the other bitterly opposing it. For several years past the department had not been especially active in this field because of other duties and the Commissioner decided that this would be an opportune time to investigate the status of the manufacture and sale of sausage in this State. Section 352.05 of the statutes makes it a misdemeanor to sell, offer or expose for sale, or have in possession with intent to sell, any product as and for sausage unless the same complies with the definition and standard therein fixed. The composition of sausage is quite carefully guarded. Provision is made to prevent adulteration by the addition of water in excess of that contained in the meat used when in its fresh condition and, further, if the sausage bears a name descriptive of kind, composition or origin, it must correspond to such descriptive name. This provision appears to be a branding requirement. It does not make branding compulsory, but if the product is branded, it must be correctly branded.

The statute goes further and provides for the manufacture and sale of sausage mixed with not to exceed four per cent of cereal or potato flour and not to exceed ten per cent of added water, provided such sausage with cereal or potato flour, as the case may be, is sold as and for what it is. The statute specifically provides that the animal tissues used as containers, such as casings, stomach, etc., are to impart to the contents no other substance than salt. The bill attempting to eliminate the use of cereal and artificial color failed of passage and it seemed advisable to make an investigation of the manufacture and sale of sausage.

One of the first questions raised was that concerning the use of artificial color. It seemed necessary to seek the advice of the Attorney General's Department as to whether Section 352.05 prohibited the addition of color to the casing. The Attorney General's opinion is given in full:

"The material facts presented in your letter of August 19th are as follows:

"Many manufacturers of sausage, after enclosing the sausage meat in a casing, submerge the casing in a solution which imparts color to the casing.

"For the purpose of this opinion, it is assumed that such coloring does not constitute an adulteration of food within the meaning of sec. 352.02, sub-sec. (2) of the statutes. You inquire whether the addition of coloring to the casing in this manner, constitutes a violation of sec. 352.05 of the statutes.

"Sec. 352.57 of the Stats. provides—'Any person who by himself or his agent shall offer or expose for sale, take orders for, or sell, or have in his possession with intent to sell for use or consumption within the state any sausage or chopped meat compound containing any artificial coloring, or chemical preservative or antiseptic, except common salt, saltpeter, spices or wood smoke shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than twenty-five dollars nor more than one hundred dollars.' This section was created by chapter 243, Laws of 1901, and was amended by chapter 261, Laws of 1905. The statutes contain no definition of the word 'sausage.' Standing alone, this section might be interpreted as forbidding the ordinary coloring of the casing used as containers for the sausage.

"Sub-sec. (1) of sec. 352.05 provides, in part, as follows:

" 'No person by himself, his servant or agent, or as the servant or agent of any other person, or as the servant or agent of any firm or corporation, shall sell, offer or expose for sale or have in possession with intent to sell any product as and for sausage, unless the same complies with the following definition and standard, to-wit: Sausage, sausage meat, is a comminuted meat from neat cattle or swine, or a mixture of such meats, either fresh, salted, pickled or smoked, with added salt and spices and with or without the addition of edible animal fats, blood, sugar, or subsequent smoking. * * * All animal tissues used as containers, such as casings, stomachs, etc., are clean and sound and impart to the contents no other substance than salt.'

"This section was created by chapter 381 of the Laws of 1909. The statute treats the product commonly known as sausage as being composed of two separate and distinct elements: (1) the contents; and (2) the container or casing. The standard of the contents is definitely fixed; the standard for the casing has not been specifically provided. If animal tissues are used, they must be clean and sound, and impart to the contents no other substance than salt. The statute is silent as to the coloring of the container or casing.

"Section 352.57 and subsec. (1) of sec. 352.05 are *in pari materia* and must be construed together. At the time sec. 352.57 was enacted the statute did not define the term 'sausage.' The term was subsequently defined in sub-sec. (1) of sec. 352.05. Construing the sections together, this Department is of the opinion that the coloring of the container or casing of the sausage does not violate the provisions of sec. 352.57. Sub-sec. (1) of sec. 352.05 clearly does not prohibit the coloring of casings prior to the time the contents are enclosed therein. Neither does it expressly prohibit the coloring of casings after the contents have been enclosed.

"We are, therefore, of the opinion that the coloring of the casings does not violate sec. 352.05 of the statute, if the same does not 'impart to the contents any substance other than salt.' "

After a preliminary survey of the sausage found on sale in the local market, an attempt was made to apply the provisions of law, especially with respect to the addition of water and cereal. Very little information as to the composition of sausage on the market during the past few years was available in the literature devoted to food analysis. To enforce the moisture provision of the sausage law re-

quired not only a determination of the moisture content, but the analysis would have to be able to say whether the moisture found was in excess of that contained in the meat used in its fresh condition and, if so, to what extent. We could deal with the matter of cereal and potato flour, and artificial color, as methods of analysis for desired information concerning those points were at hand. It became evident that it would be necessary and desirable to build up standards for the various types of sausage. We therefore collected samples of the various kinds or types of sausage made from three of the more prominent sausage manufacturers located in this State. Thirty-nine samples in all were collected, including wieners, frankfurters, various types of liver sausage, Bologna, New England ham sausage, Polish, Mosaic, blood, pork and other kinds. The samples were analyzed in the laboratory where we determined the percentage of ash, protein, moisture, cereal or other farinaceous substances, and the presence or absence of artificial color in the meat or on the casing. The results of the analytical work were tabulated and are given in table No. 1 together with the relation that exists between the moisture and protein, which is known as the Feder value. The Feder value is the number obtained by dividing the moisture content of meat or meat products, expressed in percentage, by the percentage of protein. Had a Feder value been fixed and known to us, the problem of determining whether or not sausage was adulterated by the addition of water would have been a simple matter. We could have made a simple moisture determination and by use of the Feder value and a simple mathematical calculation determined the exact amount of water in the sausage in excess of that originally contained in the meat.

After observing that a rather definite relation existed between moisture and protein in the samples analyzed, and after a perusal of the reports of investigational work carried on in Germany along the same lines and in which the Feder value was discussed, we began to search for data showing a number of analyses of meat in which the percentage of moisture, fat, protein and ash had been determined.

Bulletin 28, U. S. Department of Agriculture, written by W. O. Atwater, Ph.D., and A. P. Bryant, M.S., entitled Chemical Composition of American Food Materials, gives the data sought in detail. The various cuts of meat obtained from the beef carcass, such as brisket, chuck, flank, loin, etc., as well as the various cuts from pork, veal, mutton and the organs commonly used in the manufacture of sausage such as livers, hearts, etc., had been analyzed and the results are tabulated. By using the average percentages given for moisture and protein where a number of samples of each of the above mentioned cuts were analyzed, and multiplying the percentage of protein by four, the result will be greater than the moisture content of the meat analyzed. This means that we are perfectly safe and even liberal in establishing a Feder value of four.

At about the time we completed our investigation, there appeared in the Journal of the Association of Official Agricultural Chemists in

Volume 2, Number 1, an article entitled "Detection and Determination of Added Water in Sausage," by Percy A. Sigler of the Meat Inspection Division, Bureau of Animal Industry. This article gives tables of analysis of the various kinds and grades of fresh meats used in the manufacture of sausage, it gives data concerning the meat from cattle, calves, swine and sheep, all of which corroborates analytical results published by Atwater and Bryant.

It is noticeable in the data given in table one that there was considerable variation in the percentages of fat, protein and moisture for the same kind of sausage, but obtained from different manufacturers. To illustrate, wieners from manufacturer number three contained approximately nine per cent more fat than did those obtained from manufacturer number one. They contained approximately seven and one-half per cent less moisture and two per cent less protein.

In the Bologna type, we have two samples of smoked sausage from different manufacturers. One sample contains .63 per cent less moisture than the other sample does, yet it unquestionably is adulterated with added water.

In the Frankfurter type, the samples of all three manufacturers gave a Feder value greater than four, indicating added water. Without a knowledge of the relation existing in fresh meat between protein and moisture, wieners from manufacturer number one might have been declared adulterated with added water, while the wieners from the other manufacturer would have been passed, yet the product containing 61.15 per cent of moisture was not adulterated by the addition of water while the product containing only 53.01 per cent of moisture is adulterated with water.

Although a few of the samples of sausage collected from the three concerns heretofore mentioned contained a small amount of added water and three of the samples were encased in artificially colored casings, the meat in no instance was artificially colored and all of the sausage had a pleasing appetizing appearance which had been brought about in all cases, except the three mentioned, without the use of artificial color and by proper methods of manufacture, including the use of suitable raw materials and suitable provision for proper smoking. If good quality meat is used and the smoking period is properly regulated, a better color can be produced in the sausage than is possible when artificial color is employed. There may have been something to the contention put forth by those sponsoring the bill in the 1927 Legislature prohibiting the use of artificial color in connection with sausage in any manner, be it in the meat or on the casing. Prolonged periods of smoking, however, eliminate moisture and this may have been the underlying reason for applying artificial color. By osmosis the color deposits on the meat in a layer about one-eighth of an inch in thickness usually, but in a few instances the action has been sufficient to allow the color to penetrate the sausage quite thoroughly. Beginning the early part of November 1927, we

began an intensive campaign on sausage. The inspectors were instructed to pick up samples of sausage for the laboratory. Analytical results, together with reports of inspectors, soon established that considerable sausage containing cereal and added water was being sold as sausage in contravention of law. No attempt was being made to inform the purchaser by word of mouth or by label that the product given him when he called for sausage was not sausage, but sausage with cereal or potato flour.

A letter was prepared by the Dairy and Food Commissioner addressed to manufacturers and sellers of sausage which follows:

"The Dairy and Food Department has made an examination of certain sausages made and offered for sale in Wisconsin. It was found:

"1. That many varieties contained added cereal, but were not sold as and for sausage with cereal as provided for by law;

"2. That materials other than salt, spices, animal fats, blood or sugar were added to comminuted meats and made into sausage, thereby making the resulting product unlawful;

"3. That certain sausages were loaded with and contained excessive quantities of water;

"4. That some casings had been artificially colored to the extent that the coloring matter had been imparted to the contents.

"It is my duty to stop unlawful practices and prosecute persons who may indulge in them. To the end that the law be complied with and litigation may be avoided, you are requested to plainly mark each sausage of the ring variety or larger containing cereal or potato flour near each end, 'Sausage with cereal,' or 'Sausage with potato flour,' as the case may be, and to plainly mark each link of smaller varieties, such as Frankforts and Vienna style when it contains cereal or potato flour, 'Sausage with cereal,' or 'Sausage with potato flour,' as the case may be.

"I am taking this means of advising you that I shall hold all sausages in which articles other than salt, spices, animal fats, blood or sugar added to comminuted meats are used to be unlawful sausage and intend to prosecute the sellers thereof.

"I am of the opinion that when excessive moisture is added to sausage, the resulting product is an adulterated article of food and its sale is proscribed.

"Sausage, the casings of which have been colored to the extent that the color has been imparted to the contents of the sausage, is in my opinion, an unlawful product."

The analysis of the samples submitted by the inspectors covers a total of one hundred and forty-two samples, eighteen of which were found to be standard. One hundred and twenty-four were not standard and the adulteration consisted of either added water or the addition of cereal or potato flour and water, coupled with failure to inform the purchaser that he was getting sausage with cereal and not sausage. Twenty-seven samples which did not contain added cereal, but which were adulterated simply because they contained added water, were found. Six of the twenty-seven contained more than ten per cent of added water, the highest per cent of added water found being 15.11 per cent.

Twenty-five samples contained cereal with more than ten per cent

of added water. Four per cent of starch was the highest percentage of cereal found in these twenty-five samples and the highest percentage of added water was twenty-one and one-half per cent. The highest percentage of starch found in all samples containing cereal, with the exception of a sample of Kaszowka, which is a foreign type sausage supposed to contain a large percentage of cereal, was 5.24 per cent. The sample of special sausage contained 9.71 per cent of starch.

Of the nine samples pronounced standard after analysis, two were sold as grits sausage, which really means a cereal sausage. They contained 3.81 and 7.9 per cent of starch respectively. Neither of these samples contained added water. The highest percentage of water found in the standard samples is 64.29 per cent and the lowest percentage was 45.20 per cent. It might seem that 64 per cent of water was an excessive amount in sausage, and would indicate the addition of water. In this particular sample, however, which contained a very low percentage of fat, with a high percentage of protein, the amount of water found is in keeping with the analysis of various kinds of meat used in the manufacture of sausage.

In the other sample containing the low percentage of moisture, which, by the way, was a sample of sausage with cereal, and so marked and sold, we find a rather high percentage of fat. It is apparent that where the percentage of fat is low, we may expect a moisture content in the neighborhood of 60 per cent. As the work of inspection and analysis progressed, we were confronted with another question. We learned that manufacturers of pork sausage in links were using cracker crumbs and were not labeling their product as sausage with cereal as requested in the Commissioner's letter of November 15. The manufacturers using cracker crumbs claimed that they did not assist in holding added water, that they were added chiefly for flavor. Another claim advanced at about this time was that it was necessary to permit the use of not to exceed 10 per cent of water in the smoked varieties of sausage to increase their palatability. These claims seemed to call for another investigation.

Arrangements therefore were made with one of the manufacturers of sausage to permit the department to outline a series of samples containing varying amounts of cereal, cracker meal and moisture to be manufactured under shop conditions. This would also afford a further opportunity to study more fully the moisture to protein ratio and the effect of the addition of cereal or cracker crumbs on the moisture-holding capacity of sausage meat. Samples of sausage containing 10, 20 and 30 per cent of added water with both cracker meal and cereal were prepared. The composition of the meat mixture used was as follows:

Beef	50 pounds
Hearts	10 "
Head Meat	10 "
Trimmings	30 "
Spices	3 "

TABLE I

Sausage

Manufacturers' Number	Sample of	% Fat	% Ash	% Protein	% Moisture	Feder Vaule	% Cereal or Other Farinaceous Substance	Artificial Meat	Color Casing
1	Wieners	20.58		15.47	61.15	3.95	none	none	none
2	Wieners	25.42	3.09	13.74	56.75	4.13	none	none	none
3	Wieners	21.69	2.88	13.85	60.02	4.33	none	none	none
3	Wieners (colored)	22.13	2.75	14.03	60.98	4.34	none	none	present
3	Snappy Red Hots	29.06	3.13	12.87	53.51	4.15	none	none	none
	Average	23.71	2.96	13.99	58.48	4.18			
1	Frankfurters	23.99		14.12	58.77	4.16	none	none	none
2	Frankfurters	20.67	3.08	13.35	60.39	4.52	none	none	none
3	Frankfurters	23.14	2.70	13.82	60.20	4.35	none	none	none
	Average	22.60	2.89	13.76	59.78	4.34			
1	Fresh Liver Sausage	30.72		14.59	49.22	3.37	present	none	none
2	Fresh Liver Sausage	31.57	3.15	13.80	49.81	3.60	present	none	none
3	Fresh Liver Sausage	24.99	3.68	16.38	52.95	3.23	none	none	none
	Average	29.09	3.41	14.92	50.32	3.40			
1	Braunschweiger Liver Sausage	30.28		14.30	49.14	3.43	present	none	none
2	Braunschweiger Liver Sausage	32.50	3.94	13.57	47.21	3.47	present	none	none
3	Braunschweiger Liver Sausage	22.89	3.81	16.58	54.14	3.26	none	none	none
	Average	28.55	3.87	14.81	50.16	3.38			
1	Smoked Liver Sausage	29.16		15.31	49.57	3.23	none	none	none
3	Smoked Liver Sausage	25.66	3.61	17.11	51.06	2.98	none	none	none
	Average	27.41		16.21	50.31	3.10			
1	Ring Bologna	25.04		14.11	57.50	4.07	none	none	none
3	Ring Bologna	21.31	3.15	15.02	59.41	3.95	none	none	none
3	Ring Bologna (colored)	23.12	3.47	15.13	57.64	3.80	none	none	present
3	Bologna I	15.77	3.07	15.43	64.82	4.20	none	none	none
3	Smoked Sausage in pairs	19.56	3.71	15.00	60.78	4.05	none	none	none

2	Smoked Sausage	22.70	2.63	12.93	60.15	4.65	none	none	none
3	Knackwurst	19.38	3.67	15.33	60.61	3.95	none	none	none
	Average	20.12	3.28	14.70	60.13	4.09			
1	New England Ham Sausage	10.24		19.41	68.33	3.52	none	none	none
2	New England Ham	10.89	3.43	18.30	67.04	3.66	none	none	none
3	New England Ham	9.96	4.26	19.20	66.78	3.47	none	none	none
	Average	16.36	3.84	18.99	67.38	3.55			
1	Polish Sausage	27.84		14.09	54.60	3.87	none	none	none
3	Polish Sausage	28.74	2.92	15.00	52.46	3.49	none	none	none
3	Polish Sausage (colored)	30.03	2.73	14.71	52.09	3.54	none	present	present
	Average	28.87	2.82	14.60	53.05	3.63		sm. amt.	
1	Mosaic Sausage	27.69		13.95	55.44	3.97	none	none	none
3	Mosaic Sausage	21.52	3.06	14.93	60.69	4.06	none	none	none
	Average	24.60		14.44	58.06	4.01			
2	Long Blood Sausage	38.36	2.98	14.13	44.08	3.11	none	none	none
2	Thueringer Blood Sausage	42.15	2.64	13.12	40.05	3.05	none	none	none
	Average	40.25	2.81	13.62	42.06	3.08			
2	Smoked Pork Sausage	32.96	3.49	15.09	47.46	3.14	none	none	none
3	Fresh Breakfast Sausage	46.60	2.96	11.24	38.13	3.39	none	none	none
	Average	39.78	3.22	13.16	42.79	3.26			
3	Ham Bologna	13.96	3.05	13.55	67.66	4.99	none	none	none
1	Ham Sausage	21.91		13.93	61.48	4.41	none	none	none
1	Sevilla Loaf Sausage	20.90		14.05	62.81	4.47	none	none	none
3	Mortadella Sausage	6.90	3.03	15.46	73.84	4.77	none	none	none

TABLE II

Part 1
Formulae Used in Compounding Sausages

Sample Number	Meat Base	Added Water	Cereal	Cracker Meal
1 and 2	100%	none	none	none
3	90%	10%	none	none
6	88%	10%	2%	
9	86%	10%	4%	
12	88%	10%		2%
15	86%	10%		4%
4	80%	20%	none	none
7	78%	20%	2%	
10	76%	20%	4%	
13	78%	20%		2%
16	76%	20%		4%
5	70%	30%	none	none
8	68%	30%	2%	
11	66%	30%	4%	
14	68%	30%		2%
17	66%	30%		4%

Part 2
Composition in Pounds of Sausages Before Being Cooked and Smoked

Meat Base	Added Water	Cereal	Cracker Meal
22.5	2.5	none	none
22.05	2.45	0.5	
21.5—	2.5	1.0	
22.0	2.5		0.5
21.5	2.5		1.0
20.0	5.0	none	none
19.5	4.95	0.5	
19.0	5.0	1.0	
19.5	5.0		0.5
19.0	5.0		1.0
17.73	7.27	none	none
17.05	7.45	0.5	
16.5	7.5	1.0	
17.0	7.5		0.5
16.5	7.5		1.0

TABLE II

Part 3

Calculated Percentage Composition of Sausages Before Being Cooked and Smoked

Sample Number	Meat Base	Water in Meat Base	Added Water	Total Water	Protein	Cereal	Cracker Meal	Calculated Feder Value
1 and 2	----------	55.09	----------	----------	15.25	none	none	3.6
3	90.0	49.58	10.00	59.58	13.72	none	none	4.3
6	88.2	48.48	9.81	58.29	13.42	2.00	----------	4.3
9	86.0	47.37	10.00	57.37	13.11	4.00	----------	4.3
12	88.00	48.48	10.00	58.48	13.42	----------	2.00	4.3
15	86.0	47.37	10.00	57.37	13.11	----------	4.00	4.3
4	80.0	44.07	20.00	64.07	12.20	none	none	5.2
7	78.2	43.08	19.80	62.89	11.92	2.00	----------	5.2
10	76.0	41.86	20.00	61.86	11.59	4.00	----------	5.3
13	78.0	42.97	20.00	62.97	11.89	----------	2.00	5.3
16	76.0	41.86	20.00	61.86	11.59	----------	4.00	5.3
5	70.92	39.07	29.08	68.15	10.81	none	none	6.3
8	68.20	37.57	29.80	67.37	10.40	2.00	----------	6.4
11	66.00	36.36	30.00	66.36	10.06	4.00	----------	6.5
14	68.00	37.46	30.00	67.46	10.37	----------	2.00	6.5
17	66.00	36.36	30.00	66.36	10.06	----------	4.00	6.5

TABLE II

Part 4

Percentage Composition of Sausage After Being Smoked and Cooked

Sample Number	Moisture	Protein	Ash	Starch from		Fat by Difference	Added Water Based on Feder Value of		Feder Value
				Cereal	Cracker Meal		4	3.61	
2	52.79	16.54	3.18			27.49	none	none	3.19
3	56.13	14.86	2.92			26.09	none	2.49	3.77
6	55.51	14.83	2.95	1.66		25.05	none	1.98	3.74
9	54.81	14.64	2.81	3.66		24.08	none	2.06	3.74
12	55.98	15.17	2.82		1.75	24.28	none	1.22	3.69
15	54.75	14.77	2.84		3.05	24.59	none	1.43	3.70
4	61.11	13.62	2.53			22.74	6.63	11.95	4.48
7	59.10	13.51	2.63	1.77		22.99	5.06	10.33	4.38
10	59.27	13.65	2.45	3.05		21.58	4.67	10.00	4.34
13	59.04	14.19	2.53		1.77	22.47	2.28	7.82	4.16
16	56.21	14.33	2.73		3.31	23.42	none	4.48	3.92
5	65.06	12.25	2.40			20.29	16.06	20.84	5.31
8	64.23	12.10	2.21	1.86		19.60	15.83	20.55	5.30
11	62.33	12.21	2.22	3.53		19.71	13.49	18.26	5.10
14	59.96	13.46	2.48		1.99	22.11	6.12	11.37	4.45
17	61.34	12.47	2.35		3.16	20.68	11.46	16.33	4.91

TABLE III

Sample Number	Percentage Composition			Number of People Choosing Sample as			
	Meat Base	Added Water	Cracker Crumbs	First Choice	Second Choice	Third Choice	Fourth Choice
2	100	none	none	4	3	1	0
3	90	10	none	4	2	0	2
14	68	30	2	0	2	6	0
17	66	30	4	0	1	1	5

This mixture was run through a silent cutter, one of the more common types of machines used for comminuting meats. To portions of this meat mixture the necessary amount of water was added in accordance with the formula in part one of table two. The mixtures of meat thus prepared and other mixtures of meat with water and cracker crumbs or cereal were packed in Bologna type and size casings for cooking and smoking. The samples were smoked three hours and then cooked in boiling water for one-half hour. The original meat mixture, with a Feder value of 3.61, contained 55.09 per cent of water, 15.25 per cent of protein, 3.07 per cent of ash, and 26.59 per cent of fat, the percentage of fat having been determined by difference.

The values in part three of table two are based on the above analysis of the meat. A physical examination of the finished product revealed that cracker meal was slightly less efficient than was cereal when used under the same conditions and in the same moisture concentrations. However, both products produced a much firmer product. The casings appeared to have been more completely filled and were tight and plump. Surprising and unlooked for phenomena occurred in the cooking of the sausage. Comparisons of corresponding values in parts three and four of table two show at a glance the dehydrating action which takes place when sausage is smoked and cooked.

Sample number two, which contained no added water or farinaceous material, lost water to such an extent that the Feder value was reduced from 3.61 to 3.19. The added water, calculated on the basis of the Feder value, of the original meat mixture (3.61) is shown in the table as well as that calculated on the basis of a Feder value of 4. To our surprise, it was found that samples containing no added cereal or cracker crumbs, retained more of the added water than did those with added starchy materials. However, the samples without starchy materials do not have as firm a texture and it is apparent at once that they do contain an excessive amount of moisture. Samples which contained a starchy substance had the appearance of being free from added water.

On the basis of this experiment as to the relative merits of cracker meal and cereal, it appears that cereal is slightly more efficient in holding added water and, further, in forming a more compact mass of the meat and water, giving the appearance of well filled casings. The flavor imparted by the cracker crumbs may be slightly different from that given by the cereal. In each case where 10, 20, or 30 per cent of water was added, the samples containing no cereal or cracker crumbs actually retained more of the water originally incorporated in them than the corresponding samples containing the starchy material. These samples containing only added water were soft and unsatisfactory in appearance.

The above conclusions are based on the one series of experiments, and before drawing more extensive conclusions, it would be necessary

to repeat this work and also pay more attention to the relation between the physical appearance and composition.

It would also be advantageous to do this series of experiments with different mixtures of meat from the one used. The use of smaller or larger casings than those used would no doubt affect the results obtained.

PROHIBITION WORK

The appointment of a new Prohibition Commissioner resulted in the chemical laboratory of that department being terminated, and arrangements were made with the Dairy and Food Commissioner to have the analyses of alcoholic beverages made in our laboratory. Articles of cooperation were duly drawn up under the provisions of Section 14.65, 1927 statutes. The amount of time consumed for this work was carefully recorded and furnished to the Prohibition Department. This necessitated placing our chemists on the pay roll of the Prohibition Department for a part of their salary and deducting this amount from their regular salary with the Dairy and Food Department. This arrangement, however, was unsatisfactory and the articles of agreement between the two departments were later changed so that the Dairy and Food Department now renders a bill to the Prohibition Department for the number of hours consumed in prohibition work each month. This arrangement was worked out much more satisfactorily. Our chemists are again on our own pay roll for their full monthly salary.

On February 5, 1927, the first sample was submitted for analysis. From that time up to the end of the present biennial period, 625 samples were analyzed. The analysis in most instances consists of determining the percentage of alcohol in the beverage. In some cases a more detailed analysis was called for because at the time of trial the defendant's attorney claimed that the article sold by the defendant was not a beverage but denatured alcohol. There are quite a number of chemicals used to denature alcohol, and the methods of determining and estimating some of these compounds are not well defined. The work as a whole, however, has been of a purely analytical nature. I do not see that the work of the Prohibition Department has interferred seriously with the work of our own department, and it appears that the arrangement is feasible.

ARSENICAL SPRAY WORK ON APPLES

In September of 1926 three samples of apples were submitted to the laboratory by Professors L. R. Jones and E. B. Hart for fruit growers at Sturgeon Bay with the request that the amount of arsenic be determined.

A Federal Food Inspector from the Minneapolis Station had made several visits to the orchards of Door County as part of a program intended to reduce arsenical residues on fruit shipped in interstate commerce. Sprays used on fruit trees to control the coddling moth contained varying percentages of arsenic preparations such as lead arsenate or calcium arsenate. It was the aim of the enforcement officials to bring fruit down to or below the arsenic content permitted, one one hundredth of a grain per pound of fruit, by preventive methods rather than by seizure and prosecution. Growers were urged to arrange their sprays so as to give as long a period between the last spray and picking of fruit as is consistent with good practice; or, if late sprays were necessary, to insure good fruit and to protect the trees, the percentage of arsenic in these was to be reduced to a minimum. The other alternative would be to remove excessive arsenical residues either by wiping or washing fruit before shipment.

The fruit submitted had been picked from trees sprayed the week of August 14 to 21 and arrived at the laboratory September 21st. The samples consisted of one sample of unwiped fruit as picked from trees having fruit with heavy spray residues and two samples of wiped fruit. All samples were well within the tolerance for arsenic fixed by the Bureau of Chemistry. The results are given in a table showing work on twenty-eight samples which were either submitted by growers or other interested parties or were collected by the department.

Growers and shippers had become uneasy about the situation. We naturally became interested in the fruit shipped in from the apple producing states in the West. We wished to take such action as might be necessary to protect the food of the people from adulteration and be in a position to render service to our own producers.

The immediate result of the work at Sturgeon Bay was that most of the apples were wiped before shipment when there was the slightest doubt about the amount of spray residue. The results given in the table show Wisconsin grown apples to compare very favorably with western grown apples. Only four of the twelve samples analyzed carried arsenic in excess of the permitted amount, while in the samples from western states, thirteen out of sixteen were found to contain almost double or more than double the permitted amount of arsenic.

After Federal activity in Door County, we looked for an active enforcement of Federal regulation controlling the arsenic content of apples shipped in interstate commerce, when we were informed by

Federal officials that due to pleas of an urgent character by producers for a delay in the enforcement of the proposed tolerance of one one hundredth of a grain, a new tolerance of twenty-five thousandths of a grain per pound of fruit for the 1927 crop was established. The following year a tolerance of one one hundredth of a grain was proposed for the 1928 crop, which again resulted in further delay, but with a slight reduction in the tolerance so that for the 1928 crop the tolerance is two one hundredths of a grain of arsenic per pound of fruit.

Date	Bought of or Submitted by	Location of Orchard	Grs. per lb. of Arsenous Oxide	Remarks
1926				
Sept. 21	Door Co. Fruit Growers Union, Sturgeon Bay	Wisconsin	.003 to .005	Unwiped Fruit
Sept. 21	Door Co. Fruit Growers Union, Sturgeon Bay	Wisconsin	.004	Wiped Fruit
Sept. 21	Door Co. Fruit Growers Union, Sturgeon Bay	Wisconsin	.009 to .010	Wiped Fruit
Sept. 29	Ba Rell's, Madison	Washington	.023	
Oct. 5	Ba Rell's, Madison	Washington	.026	
Oct. 4	Fruit Growers Market, Madison	Washington	.015	
Oct. 4	Fruit Growers Market, Madison	Washington	.007 to .010	
Oct. 7	Frank Brothers, Madison	Washington	.031	
Oct. 8	Ellman Fruit Co., Madison	Idaho	.014 to .022	White Spots on Apples
Oct. 8	Jos. Kastner Co., Milwaukee	Michigan	.028	
Oct. 7	E. R. Godfrey & Sons Co., Milwaukee	Washington	.027	
Oct. 8	E. R. Godfrey & Sons Co., Milwaukee	Washington	.019	
Oct. 8	Schroeder & Daly Co., Milwaukee	Washington	.006	
Oct. 8	R. Kramer, Milwaukee	Washington	.020	
Oct. 8	J. Schuster, Milwaukee	Washington	.027	
Oct. 16	Lincoln Ave. Fruit Store, Milwaukee	Washington	.028 to .044	
Oct. 16	Lincoln Ave. Fruit Store, Milwaukee	Washington	.036 to .039	
Oct. 16	Lincoln Ave. Fruit Store, Milwaukee		.005 to .008	
Oct. 15	Public Fruit Market, Milwaukee		.014	
Nov. 12	Prof. R. Fischer, Madison	Wisconsin	.005	Unwiped Fruit
Nov. 12	Prof. R. Fischer, Madison	Wisconsin	.003	Fruit Wiped
1927				
Aug. 3	Prof. G. W. Keitt, Madison	Wisconsin	.046	
Aug. 3	Prof. G. W. Keitt, Madison	Wisconsin	.006	
Aug. 3	Prof. G. W. Keitt, Madison	Wisconsin	.021	
Aug. 12	Prof. L. R. Jones, Madison	Wisconsin	.003	Sprayed 6-20
Aug. 12	Prof. L. R. Jones, Madison	Wisconsin	.022	Sprayed 7-28
Aug. 23	E. E. Wilson, Sturgeon Bay	Wisconsin	.001	
Aug. 23	E. E. Wilson, Sturgeon Bay	Wisconsin	.005	

It appears that up to the years 1925 and 1926 the matter of spray residues had been given insufficient attention, probably due to the abundance of other food problems. Growers were naturally very much interested in protecting their trees as well as their fruit and were uninformed on spray residues. The result was that our markets were supplied with quantities of fruit carrying excessive spray residues and producers were not equipped to properly treat the fruit so as to remove these residues.

The activities of both Federal and State Food Control Officials in fruit producing states has resulted in the adoption of proper spray

calendars and efficient methods of removing spray residues. Fruit is not only being wiped to remove these residues but is also being washed in many sections with proper solutions in which the residues are soluble; the fruit is finally given a thorough rinse with clean water.

From recent Federal food inspection reports it appears that by the adoption of an educational plan with not a few embargoes of car lot shipments which were released when the fruit had been properly cleaned, a rather serious situation appears to have been well handled with a minimum of danger to a great agricultural industry.

It would seem that a survey of fruits offered for sale is necessary from time to time as a means of keeping informed on the use of arsenical sprays.

NEW LABORATORY ROOMS

When the new wing to the Chemistry Building was planned, a rearrangement of laboratories was considered. Our present quarters were needed to complete arrangements for the inorganic chemistry department and it was suggested that we be provided for in the new wing. This part of the building is fireproof and therefore a much more desirable place because our records should be preserved. The proposal was given consideration by the department and accepted. Suitable quarters in the way of rooms are now ready to be furnished as soon as funds are available. It will be necessary for our department to install proper chemical laboratory work desks, hoods, balance shelves, light fixtures, wall shelves, etc.

The university budget would not anticipate our needs, and therefore it appears necessary to make provision for funds by going directly to the legislature.

I propose that the laboratory be permanently located in the chemistry building by legislative act, and that there be appropriated a sum of money for permanent equipment. Further, a certain sum should be provided annually for maintenance.

We have outgrown our present quarters. New equipment must be obtained but we have no place for it. I strongly urge that the matter be completely and properly presented to the next legislature.

BUTTER—NOT STANDARD

Date of Purchase 1926	Insp. No.	Bought of	Manufacturer or Jobber	Composition		
				Per cent Moisture	Per cent Fat	Per cent Salt and Curd
July 1	150 WFC	Kamenski & Jakurz, Stevens Point	Plover Gold Butter Co., Plover	17.35	79.19	3.46
July 1	777 RRC	Warrens Creamery Co., Warrens	Warrens Cry. Co., Warrens	16.95	79.81	3.24
July 6	153 WFC	Peoples Store, Pardeeville	Wyocena Cry. Co., Wyocena	17.61	79.90	2.49
July 7	783 RRC	North Bend Cry. Co., North Bend	North Bend Creamery Co., North Bend	17.11	79.88	3.01
July 12	252 AJR	Cornell Cry., Cornell	Cornell Cry., Cornell	16.99	79.67	3.34
Aug. 2	159 WFC	Meyer and Rose, Poynette	Poynette Cry. Co., Poynette	15.90	78.23	5.87
Aug. 6	162 WFC	C. Failinger & Son, Waterloo	Waterloo Cry. Co., Waterloo	15.94	79.76	4.30
Aug. 10	261 AJR	Mason Coop. Cry., Mason	Mason Coop. Cry., Mason	19.31	77.07	3.62
Aug. 17	167 WFC	John Heismann, Watertown	John Habheggen, Watertown	16.51	79.19	4.30
Aug. 17	571 JJW	Hank's Grocery, Green Bay	Tri-County Cry. Co., Pulaski	23.12	73.60	3.28
Aug. 19	168 WFC	Otto Bayer, Watertown	H. C. Christian, Johnson Creek	16.82	79.64	3.54
Sept. 13	267 AJR	Summitt Coop. Dairy Assn., Wilson	Spring Valley Cry. Co., Spring Valley	17.61	79.27	3.12
Sept. 21	268 AJR	Washburn Meat Market, Washburn	Chequamegon Coop. Cry. Co., Washburn	15.22	79.14	5.64
Nov. 5	610 JJW	Lawerman Bros. Store, Marinette	Marinette Products Co., Marinette	16.67	79.79	3.54
Nov. 17	809 RRC	Ellsworth Cry. Co., Ellsworth	Ellsworth Cry. Co., Ellsworth	17.25	79.41	3.34
Nov. 26	319 RLR	Gears Dairy, Menasha	Gears Dairy, Menasha	19.20	76.94	3.86
Nov. 26	320 RLR	G. M. Daukl, Neenah	G. M. Daukl, Neenah	15.62	79.64	4.74
Nov. 29	322 RLR	Chris Meshkl, Hortonville	Swift & Co., Oshkosh	18.65	77.58	3.77
Dec. 22	816 RRC	Genoa Coop. Cry. Co., Genoa	Genoa Coop. Cry, Co., Genoa	16.31	79.28	4.41
Dec. 28 1927	130 PHM	Elza Dobson, Lancaster	Beck & Swartz, Lancaster	16.08	79.38	4.54
Jan. 6	327 RLR	Hallada's Grocery, Seymour	Albert H. Graf, Zachow	16.56	79.00	4.44
Feb. 3	782 GHS	Rhinelander Cry. & Prod. Co., Rhinelander	Rhinelander Cry. & Prod. Co., pur. from outside party	15.88	79.56	4.56
Feb. 5	584WMN	Consumers Wholesale Sup. Co., Eau Claire	Consumers Wholesale Sp. Co., Mpls., Minn.	16.47	79.12	4.41
Feb. 7	830 RRC	Farmers' Cry. Co., Bangor	Farmers' Cry. Co., Bangor	16.49	79.72	3.79
Feb. 28	840 RRC	Kerr's Grocery, La Crosse	Geo. Galstad Cry., Dakota, Minn.	16.35	79.72	3.93
Feb. 28	841 RRC	Jos. A. Koller, Grocer, La Crosse	Henry Abnet, Pine Creek, Minn.	15.91	79.07	5.02
Mar. 10	794 GHS	Hanchett Grocery Store, Rhinelander	Swift & Co., Chicago	15.57	79.77	4.66
Mar. 14	317 IDJ	Chas. Zanuzoski, Superior	Moose Lake Cry. Co., Moose Lake, Minn.	16.91	79.09	4.00
Mar. 15	319 IDJ	Store 34	Consumers Wholesale Sup. Co., Mpls., Minn.	18.42	78.30	3.28
Mar. 19	335 AJR	Consumers Wholesale Sup. Co., Chippewa Falls	Consumers Wholesale Sup. Co., Mpls., Minn.	18.09	77.94	3.97
April 2	851 RRC	J. B. Mulder, La Crosse	Henry Abnet, La Crescent, Minn.	22.04	73.83	4.13
April 8	300 JEB	Smiths Market, Madison	Henry Zander, Cross Plains	17.86	79.87	2.27
April 8	350 IDJ	Ansell Brqs., Superior	Stadheins Cry. Co., Duluth, Minn.	18.36	77.86	3.51
April 16	350 RLR	Elizabeth Young, Grocer, Appleton	I. D. Segal Groc. Co., Appleton	16.06	79.82	4.12

May 11	339 AJR	Ansell Bros. Market, Superior	Stadheins Cry. Co., Duluth, Minn.	16.68	79.81	3.51
May 18	792 GHS	Vincent Kryger, Pulaski	A. H. Graf, Zachow	16.67	78.57	4.76
May 18	793 GHS	A. H. Graf, Zachow	A. H. Graf, Zachow	18.86	76.08	5.06
May 24	39 PHM	R. E. Penniman, Lancaster	Beck & Swartz, Lancaster	15.88	79.57	4.55
June 9	679 JJW	Meadow Brook Ch. Factory, Lena	Suring Cry. Co., Suring	20.77	72.89	6.34
July 15	870 RRC	Tarrant Coop. Cry. Co., Durant	Tarrant Coop. Cry. Co., Durand	16.22	79.78	4.00
July 27	871 RRC	Price Cry. Ass'n., Fairchild	Price Cry. Ass'n., Fairchild	16.68	79.35	3.97
Aug. 12	876 RRC	York Cry. Ass'n., Osseo	York Cry. Ass'n., Osseo	17.23	79.50	3.27
Aug. 19	880 RRC	North Bend Cry. Co., North Bend	North Bend Cry. Co., North Bend	16.40	79.68	3.92
Sept. 14	887 RRC	Tarrant Coop. Cry. Co., Durand	Tarrant Coop. Cry. Co., Durand	17.69	78.42	3.89
Oct. 10	697 JJW	Lo-Price Market, Green Bay	Swift & Co., Green Bay	18.68	76.39	4.93
Oct. 10	698 JJW	Lo-Price Market, Green Bay	Swift & Co., Green Bay	18.73	76.34	4.93
Oct. 10	699 JJW	Platton Bros., Green Bay	Armour & Co., Green Bay	16.83	78.82	4.35
Oct. 10	700 JJW	Platton Bros., Green Bay	Armour & Co., Green Bay	16.64	78.92	4.44
Oct. 10	904 RRC	Ferryville Cry. Co., Ferryville	Ferryville Cry. Co., Ferryville	15.71	78.95	5.34
Oct. 21	702 JJW	Peoples Cash Market, Green Bay	Swift & Co., Green Bay Branch	21.46	73.61	4.93
Oct. 21	703 JJW	Peoples Cash Market, Green Bay	Swift & Co., Green Bay Branch	21.49	73.91	4.60
Nov. 21	15 JMT	Plover Gold Butter Co., Plover	Plover Gold Butter Co., Plover	17.06	79.39	3.55
Nov. 21	16 JMT	Peirce Grocery, Plover	Plover Gold Butter Co., Plover	16.65	78.51	4.84
Nov. 28	815 GHS	E. O. Nelson Grocery, Wausau	Levenhagen Dairy Prod. Co., Wausau	16.71	79.51	3.78
Dec. 5	4 SJM	South St. Market, Superior	Moose Lake Cry. Co., Moose Lake, Minn.	17.00	79.60	3.40
Dec. 8	820 GHS	Pacific Ice Cream Co., Antigo	Wis. Valley Dairy Prod. Co., Milwaukee	16.45	79.67	3.88
Dec. 14	923 RRC	J. B. Mulder, Grocer, La Crosse	Wm. J. Heyer, La Crescent, Minn.	16.69	79.52	3.79
Dec. 21	24 JMT	J. E. Heisman & Son, Watertown	Watertown B. & Ch. Co., Watertown	16.98	79.32	3.70
Dec. 22	88 HK	Madison Dairy Prod. Co., Madison	Madison Dairy Prod. Co., Madison	17.00	79.44	3.56
Dec. 22	89 HK	Madison Dairy Prod. Co., Madison	Madison Dairy Prod. Co., Madison	16.72	79.91	3.37
Dec. 22	90 HK	Madison Dairy Prod. Co., Madison	Madison Dairy Prod. Co., Madison	16.69	79.45	3.86
Dec. 22	91 HK	Madison Dairy Prod. Co., Madison	Madison Dairy Prod. Co., Madison	16.90	79.34	3.76
Dec. 22	92 HK	Madison Dairy Prod. Co., Madison	Madison Dairy Prod. Co., Madison	16.97	79.68	3.35
Dec. 27	30 JMT	Thompson & Richmond Grocery, Lodi	Lodi Creamery Co., Lodi	15.82	79.31	4.87
Dec. 30	50 JMT	H. F. Muenchow Grocery, Cambria	Cambria Cry. Co., Cambria	16.06	79.42	4.52
1928						
Jan. 5	104 PHM	Geo. H. Baxter, Lancaster	Fred W. Maso, Lancaster	16.41	79.47	4.12
Jan. 18	79 JMT	Briggsville Coop. Cry. Co., Briggsville	Briggsville Coop. Cry. Co., Briggsville	16.57	79.21	4.22
Jan. 19	254 JMK	Fred Herman Co., Sheboygan	Midwest Creamery Co., Manitowoc	17.64	79.38	3.97
Feb. 1	15 SJM	A. & P. Store, Park Falls	Park Falls Cry. Co., Park Falls	19.09	75.49	5.42
Feb. 2	87 JMT	Star Cry. Co., Lake Mills	H. C. Christianson Co., Johnson Creek	18.03	78.83	3.14
Feb. 17	114 PHM	Beck & Schwartz, Lancaster	Beck & Schwartz, Lancaster	16.12	79.60	4.28
June 6	848 GHS	A. H. Graf Cry., Zachow	A. H. Graf Cry., Zachow	17.28	79.05	3.67

CHEESE—NOT STANDARD

Date of Purchase	Insp. No.	Kind	Bought or Collected at	Manufacturer or Jobber	Composition			
					Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids
1926								
July 6	583 ARV	American	Pauly & Pauly Ch. Co., Manitowoc	Clarence Halverson, Reedsville	41.12			
July 6	584 ARV	American	Pauly & Pauly Ch. Co., Manitowoc	Clarence Halverson, Reedsville	39.74			
Aug. 3	29 PHM	American	Phoenix Ch. Co., Plymouth	John Schoepper, Ridgeway	39.97			
Aug. 6	259 AJR	American	Blodgett Ch. Co. Wh., Stanley	Geo. Hamm, Cadott	39.28			
Aug. 16	302 RLR	American	A. D. De Land Ch. Co., Neenah	Geo. Spiegelberg, Larsen	40.43			
Aug. 16	303 RLR	American	A. D. De Land Ch. Co., Neenah	Geo. Spiegelberg, Larsen	40.71			
Aug. 19	51 PHM	American	Schmitt Bros. Wh. Cazenovia	F. Ray Rego, Cazenovia	42.17			
Aug. 27	304 RLR	American	Pauly & Pauly Ch. Co., Seymour	Andrew Adamski, Seymour	39.56			
Aug. 27	305 RLR	American	Pauly & Pauly Ch. Co., Seymour	Andrew Adamski, Seymour	39.30			
Aug. 27	265 AJR	American	Carlson Ch. Wh., New Richmond	John Weiss, Clayton	39.22	60.78	30.29	49.83
Aug. 28	136 ATB	American	A. H. Kaufman, Cascade	A. H. Kaufman, Cascade	40.23	59.77	30.15	50.44
Sept. 1	266 AJR	American	Federation Ch. Wh., Cumberland	Andrus Coop. Dairy Co., Andrus	39.27	60.73	32.59	53.66
Sept. 1	407 RBS	American	Laabs Ch. Co. Wh., Curtiss	Frank Marquardt, Milan	38.87	61.13	29.98	49.03
Sept. 1	408 RBS	American	Laabs Ch. Co. Wh., Curtiss	Frank Marquardt, Milan	39.50	60.50	31.60	52.23
Sept. 2	668 ARV	American	Northern Wis. Prod. Co., Manitowoc	John Kolancheck, Manitowoc	40.01	59.99	30.76	51.27
Sept. 2	669 ARV	American	Northern Wis. Prod. Co., Manitowoc	John Kolancheck, Manitowoc	41.46	58.54	28.85	49.28
Sept. 2	670 ARV	American	Northern Wis. Prod. Co., Manitowoc	John Kolancheck, Manitowoc	41.00	57.00	29.50	50.00
Sept. 15	12 ELA	American	Herbert Mueller, Suring		40.97			
Sept. 15	13 ELA	American	Herbert Mueller, Suring		39.41			
Sept. 21	307 RLR	American	E. Krummenacher, Dale	Maple View Ch. Fcty., Dale	40.25			
Sept. 27	271 AJR	American	Carlson Ch. Wh., New Richmond	Hersey Ch. Fcty., Hersey	39.74			
Sept. 27	272 AJR	American	Carlson Ch. Wh., New Richmond	Spring Valley Cry., Spring Valley	40.27			
Sept. 28	29 WER	American	Emil Johnson, Black Earth	Emil Johnson, Black Earth	39.48			
Sept. 28	32 WER	American	Torge Gaderstad, Black Earth	Torge Gaderstad, Black Earth	39.83			
Sept. 28	33 WFR	American	Torge Gaderstad, Black Earth	Torge Gaderstad, Black Earth	39.64			
Sept. 28	34 WER	American	Joe Hoesli, Black Earth	Joe Hoesli, Black Earth	39.22			
Sept. 29	274 AJR	American	Fred Weiss, Clayton	Fred Weiss, Clayton	35.92	64.08	31.83	49.67
Oct. 1	277 AJR	American	Blodgett Ch. Wh., Rice Lake	Clover Leaf Ch. Fcty., Clayton	38.99	61.01	30.04	49.23
Oct. 1	412 RBS	American	Dairy Belt Ch. Co., Spencer	Leonard Cramer, Spencer	40.61			
Oct. 4	590 JJW	American	Pauly & Pauly Ch. Wh., Green Bay	Gopher Hill Ch. Fcty., W. De Pere	41.92			
Oct. 4	591 JJW	American	Pauly & Pauly Ch. Wh., Green Bay	Gopher Hill Ch. Fcty., W. De Pere	39.77			
Oct. 6	94 PHM	American	Schmitt Bros. Wh., Mineral Point	John Bruckner, Blanchardville	41.94			
Oct. 6	309 RLR	American	Jacquot Ch. Co., Appleton	Albert Lau, Brillion	40.45			
Oct. 6	310 RLR	American	Jacquot Ch. Co., Appleton	Albert Lau, Brillion	40.48			
Oct. 6	311 RLR	American	Jacquot Ch. Co., Appleton	Frank Flynn, Briarton	41.71			

Oct. 6	7 WK	American	Emmet Gr. Ch. Fcty., Watertown	Emmet Gr. Ch. Fcty., Watertown	43.04			
Oct. 13	95 PHM	American	Walther Bros. Ch. Wh., Platteville	August Lindner, E. Dubuque, Ill.	41.09			
Oct. 15	763 GHS	American	Phenix Ch. Co., Birnamwood	Herman Kolpack, Mattoon	42.58			
Oct. 15	764 GHS	American	Phenix Ch. Co., Birnamwood	Herman Kolpack, Mattoon	39.43			
Oct. 20	314 RLR	American	Armours Crys., Neenah	Richard Mielke, Poy Sippi	40.31			
Oct. 20	315 RLR	American	Armours Crys., Neenah	Richard Mielke, Poy Sippi	40.36			
Oct. 22	8 WJK	American	North Rd. Ch. Fcty., Watertown	G. Zurschmiede, Watertown	43.74			
Oct. 26	10 WJK	Brick	Phenix Ch. Wh., Plymouth	Gottfried Moser, Oostburg	46.77			
Oct. 27	1 GM	American	A. H. Barber, Platteville	A. H. Barber, Platteville	41.52	58.48	31.92	54.58
Oct. 27	2 GM	American	Ed. Walther, Platteville	Walther Bros., Platteville	41.69	58.31	31.14	53.40
Oct. 28	9 WJK	American	Pabst Corp., Milwaukee	H. M. Scott, Waldo	39.78	60.22	30.70	50.98
Nov. 2	39 WER	American	Juneau Ch. Co., Juneau	John Van Buskirk, Oconomowoc	44.76			
Nov. 2	40 WER	American	Juneau Ch. Co., Juneau	John Van Buskirk, Oconomowoc	44.26			
Nov. 2	41 WER	American	Juneau Ch. Co., Juneau	John Van Buskirk, Oconomowoc	43.31			
Nov. 2	605 JJW	American	S. H. Conover Co. Wh., Algoma	Gold Leaf Ch. Fcty., Forestville	39.33			
Nov. 2	606 JJW	American	S. H. Conover Co. Wh., Algoma	Gold Leaf Ch. Fcty., Forestville	40.80			
Nov. 2	607 JJW	American	S. H. Conover Co. Wh., Algoma	Kodan Cry., Algoma	40.44			
Nov. 2	608 JJW	American	S. H. Conover Ch. Wh., Algoma	Kodan Cry., Algoma	39.32			
Nov. 9	14 ELA	American	Elroy Bachus, Oconto	Elroy Bachus, Oconto	40.16			
Nov. 9	15 ELA	American	Elroy Bachus, Oconto	Elroy Bachus, Oconto	41.46			
Nov. 9	16 ELA	American	Herbert Mueller, Suring	Herbert Mueller, Suring	42.79			
Nov. 9	17 ELA	American	Herbert Mueller, Suring	Herbert Mueller, Suring	42.56			
Nov. 9	18 ELA	American	A. & P. Tea Co., Green Bay		43.75			
Nov. 9	98 PHM	American	Kirkpatrick Wh., Richland Center	Alfred Huebsch, Richland Center	40.39			
Nov. 15	616 JJW	American	Bur Groc. Co., Green Bay	Straubel Ch. Co., Green Bay	41.56	58.44	31.21	53.40
Nov. 15	201 ATB	Brick	Triangle Ch. Co., Monroe	Flanigan Ch. Fcty., Argyle	41.23	58.77	28.95	49.26
Nov. 15	202 ATB	Brick	Triangle Ch. Co., Monroe	Horseshoe Bend Ch. Fcty., Hollandale	40.94	59.06	26.55	44.95
Nov. 15	203 ATB	Brick	Triangle Ch. Co., Monroe	Clay Hill Ch. Fcty., Barneveld	41.24	58.76	29.40	50.03
Nov. 15	204 ATB	Brick	Triangle Ch. Co., Monroe	Scott Ch. Co., Browntown	44.30	55.70	26.40	47.39
Nov. 16	205 ATB	Brick	Ackerman-Emmeneger, Monroe	Walnut Hill Ch. Fcty., Hollandale	42.91	57.09	27.60	48.34
Nov. 16	206 ATB	Brick	Ackerman-Emmeneger, Monroe	Crosby Ch. Fcty., South Wayne	45.20	54.80	26.55	48.44
Nov. 16	207 ATB	Brick	Ackerman-Emmeneger, Monroe	Kueng Ch. Fcty., Juda	45.12	54.88	27.00	49.19
Nov. 16	209 ATB	Brick	Ackerman-Emmeneger, Monroe	Fairview Ch. Fcty., Hollandale	43.42	56.58	27.00	47.72
Nov. 16	210 ATB	Brick	Ackerman-Emmeneger, Monroe	Stone Hill Ch. Fcty., New Glarus	39.56	60.44	30.00	49.63
Nov. 16	211 ATB	Brick	Sun Prairie Ch. Co., Monroe	Newman Ch. Co., Darlington	42.74	57.26	27.60	48.20
Nov. 16	212 ATB	Brick	Sun Prairie Ch. Co., Monroe	Apple Gr. Ch. Co., Argyle	42.17	57.83	27.00	46.68
Nov. 16	213 ATB	Brick	Sun Prairie Ch. Co., Monroe	Maple Gr. Ch. Fcty., New Glarus	44.15	55.85	27.00	48.34
Nov. 16	214 ATB	Brick	Regez Ch. Co., Monroe	Big Rock Ch. Co., Argyle	43.88	56.12	25.84	46.04
Nov. 16	215 ATB	Brick	Regez Ch. Co., Monroe	Ed. Blume, Monroe	43.59	56.41	28.20	49.99
Nov. 16	216 ATB	Brick	Phenix Ch. Co., Monroe	Stanffacher Ch. Co., Monroe	40.58	59.42	29.40	49.47
Nov. 16	217 ATB	Brick	Phenix Ch. Co., Monroe	Postville Ch. Co., Blanchardville	43.60	56.40	27.30	48.40
Nov. 16	218 ATB	Brick	Badger Ch. Co., Monroe	Sandhill Ch. Co., Mt. Horeb	43.34	56.66	27.30	48.18
Nov. 16	219 ATB	Brick		Avon Ch. Co., Brodhead	41.52	58.48	29.10	49.76

CHEESE—NOT STANDARD—Continued

Date of Purchase	Insp. No.	Kind	Bought or Collected at	Manufacturer or Jobber	Composition			
					Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids
1926								
Nov. 17	423 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Dairy Belt Ch. Co., Spencer	45.82			
Nov. 17	424 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Dairy Belt Ch. Co., Spencer	43.42			
Nov. 17	425 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Dairy Belt Ch. Co., Spencer	41.03			
Nov. 18	426 RBS	American	Dairy Belt Ch. Co., Spencer	Carl Hanson, Unity	41.98			
Nov. 18	617 JJW	American	A. & P. Ch. Wh., Green Bay	G. T. O'Keefe, Watertown	44.44			
Nov. 18	618 JJW	American	A. & P. Ch. Wh., Green Bay	G. T. O'Keefe, Watertown	41.77			
Nov. 18	619 JJW	American	A. & P. Ch. Wh., Green Bay	G. T. O'Keefe, Watertown	42.97			
Nov. 19	102 PHM	American	Schmitt Bros. Wh., Mineral Point	E. J. Griffiths, Mineral Point	40.54			
Nov. 19	103 PHM	American	Schmitt Bros. Wh., Mineral Point	E. J. Griffiths, Mineral Point	40.01			
Nov. 19	3 GM	American	Walther Bros., Platteville		40.59	59.41	32.40	54.53
Nov. 19	4 GM	American	Walther Bros., Platteville		40.75	59.25	32.40	54.68
Nov. 19	5 GM	American	Walther Bros., Platteville		42.29	57.71	31.50	54.58
Nov. 22	174 WFC	Brick	Fred Wenger, Cambria	Fred Wenger, Cambria	43.28			
Nov. 22	177 WFC	Brick	Spring Vale Ch. Fcty., Cambria	Fred Hasler, Rio	43.78			
Nov. 22	178 WFC	Brick	Courtland Ch. Fcty., Cambria	Fred Buetschli, Cambria	44.60			
Nov. 22	179 WFC	American	Cambria	John Voegli, Cambria	41.84			
Nov. 22	180 WFC	American	Cambria	John Voegli, Cambria	40.91			
Nov. 23	42 WER	Brick	Taken in R. R. car at Friesland	Ben Williams, Cambria	43.70			
Nov. 23	46 WER	Brick	Taken at South Randolph	Wm. Kempfer, Randolph	45.30			
Nov. 23	48 WER	American	Taken in R. R. car at Randolph	Walter Trepton, Randolph	39.49			
Nov. 23	49 WER	Brick	Taken in R. R. car at Randolph	John Inabanet, Cambria	44.37			
Nov. 24	50 WER	Brick	Taken in R. R. car at Fox Lake	Carl Vogel, Fox Lake	46.08			
Nov. 24	51 WER	Brick	Taken in R. R. car at Fox Lake	Gust Bischaff, Fox Lake	43.44			
Nov. 24	52 WER	Brick	Taken at Fox Lake in R. R. car	Ernest Indor Muehle, Fox Lake	43.24			
Nov. 24	53 WER	Brick	Taken in R. R. car at Fox Lake	Frank Mach, Fox Lake	43.01			
Nov. 24	55 WER	American	Juneau Ch. Co., Juneau	Art Klayman, Oconomowoc	43.50			
Nov. 24	56 WER	American	Juneau Ch. Co., Juneau	Art Klayman, Oconomowoc	43.71			
Nov. 24	57 WER	American	Juneau Ch. Co., Juneau	John Van Buskirk, Oconomowoc	43.25			
Nov. 26	107 PHM	American	Nesbits Wh., Richland Center	Aaron Adsit, Boaz	45.02			
Nov. 30	59 WER	Brick	J. S. Hoffman Ch. Co., Mt. Horeb	Walter Zurfluh, Mt. Horeb	48.61		25.52	49.65
Nov. 30	60 WER	Brick	J. S. Hoffman Ch. Co., Mt. Horeb	John Hinny, Mt. Horeb	45.05	54.95	28.58	52.01
Dec. 1	19 ELA	American	Anton Husar, Cato	Anton Husar, Cato	42.45			

Dec. 1	20 ELA	American	Anton Husar, Cato	Anton Husar, Cato	44.21			
Dec. 1	323 RLR	American	Dairy Belt Ch. Co., Fremont	Ernest Nicklans, Weyauwega	41.42			
Dec. 1	324 RLR	American	Dairy Belt Ch. Co., Fremont	Ernest Nicklans, Weyauwega	39.76			
Dec. 3	427 RBS	American	Dairy Belt Ch. Co., Spencer	Carl Hanson, Unity	41.74			
Dec. 9	69 WER	Brick	Fred Schneeberger, Rubicon	Fred Schneeberger, Rubicon	44.92			
Dec. 9	70 WER	Brick	Fred Schneeberger, Rubicon	Fred Schneeberger, Rubicon	44.51			
Dec. 9	72 WER	Brick	Adolph Moser, Rubicon	Adolph Moser, Rubicon	43.47			
Dec. 9	428 RBS	American	Dairy Belt Ch. Co., Thorp	E. J. Witt, Holcombe	40.62			
Dec. 9	296 AJR	Brick	Isadore Kuhn, Almena	Isadore Kuhn, Almena	45.03			
Dec. 10	73 WER	Brick	Juneau Ch. Co., Juneau	Willie Heiman, Reeseville	44.88			
Dec. 10	74 WER	Brick	Juneau Ch. Co., Juneau	Willie Heiman, Reeseville	45.27			
Dec. 10	75 WER	American	Juneau Ch. Co., Juneau	Chas. Schmidt, Waupun	42.89			
Dec. 10	125 PHM	American	Schmitt Bros. Wh., Cazenovia	F. Roy Rego, Cazenovia	39.91	60.09	32.25	53.66
Dec. 14	78 WER	Brick	Taken from R. R. Car, Clyman	Chas. Pieper, Clyman	45.49			
Dec. 13	185 WFC	American	Taken at Pardeeville Depot	Christ Bhend, Pardeeville	39.53			
Dec. 14	80 WER	American	G. Zurschmeide, Watertown	G. Zurschmeide, Watertown	43.18			
Dec. 20	21 ELA	American	A. & P. Tea Co., Green Bay		44.61			
Dec. 20	22 ELA	American	A. & P. Tea Co., Green Bay		42.46			
Dec. 20	23 ELA	American	A. & P. Tea Co., Green Bay		41.68			
Dec. 20	24 ELA	American	A. & P. Tea Co., Green Bay		45.65	54.35	23.33	42.92
Dec. 20	25 ELA	American	A. & P. Tea Co., Green Bay		47.61	52.39	22.04	42.06
Dec. 20	26 ELA	American	A. & P. Tea Co., Green Bay		41.61			
Dec. 21	11 WJK	Brick	Taken from R. R. Car, Sun Prairie	Anton Sutter, Sun Prairie	45.35			
Dec. 21	811 RRC	American	Viroqua Wh. of C. A. Carlson Co.	Mike Zwisky, Cashton	43.65			
Dec. 21	812 RRC	American	C. A. Carlson Wh., Viroqua	Mike Zwisky, Cashton	42.01			
Dec. 21	813 RRC	American	C. A. Carlson Wh., Viroqua	John P. Clark Ferryville	41.59			
Dec. 21	814 RRC	American	C. A. Carlson Wh., Viroqua	John P. Clark, Ferryville	44.35			
Dec. 21	815 RRC	American	C. A. Carlson Wh., Viroqua	John P. Clark, Ferryville	40.02			
Dec. 22	300 AJR	American	C. A. Carlson Wh., Cameron	Fred Steinman, Prairie Farm	40.84	59.16	31.96	54.02
Dec. 22	301 AJR	American	C. A. Carlson Wh., Cameron	Andrew Klink, Osceola	41.03	58.97	30.60	51.89
Dec. 22	302 AJR	American	C. A. Carlson Wh., Cameron	James Holms, Clayton	44.08	55.92	30.04	53.70
Dec. 23	128 PHM	American	Schmitt Bros. Wh., Blue River	Joe Nussbaum, Bridgeport	40.96	59.04	30.75	52.08
Dec. 24	81 WER	American	Juneau Ch. Co., Juneau	Wuethrich Bros., Cambria	40.56			
Dec. 24	82 WER	American	Juneau Ch. Co., Juneau	Wuethrich Bros., Cambria	41.79			
Dec. 28	13 WK	Brick	Crystal Creek Ch. Fcty., Beaver Dam	Crystal Cr. Ch. Fcty., Beaver Dam	44.93			
Dec. 29	83 WER	American	Juneau Ch. Co., Juneau	Ed. Barnberg, Beaver Dam	41.95			
Dec. 29	84 WER	American	Juneau Ch. Co., Juneau	Ed. Barnberg, Beaver Dam	43.04			
Dec. 29	12 WJK	American	Hubbleton Coop. Ch. Co., Hubbleton	Hubbleton Coop. Ch. Co., Hubbleton	43.00			
Dec. 29	15 WJK	American	Taken at Hubbleton Station	Van Deldon Ch. Fcty., Watertown	39.39			
1927								
Jan. 4	16 WJK	Brick	Union Ch. Fcty., Watertown	Emil Kuenzi, Watertown	43.61			
Jan. 4	6 GM	Brick	Carl Marty & Co., Monroe	Evergreen Fcty., Clarno	49.82	50.18	25.48	50.77
Jan. 4	7 GM	Brick	Carl Marty & Co., Monroe	College Hill Fcty., Monroe	48.47	51.53	25.71	49.90
Jan. 5	626 JL	Brick	Evergreen Ch. Co., Clarno	Evergreen Ch. Co., Clarno	48.11	51.89	25.77	49.66

CHEESE—NOT STANDARD—Continued

Date of Purchase	Insp. No.	Kind	Bought or Collected at	Manufacturer or Jobber	Composition			
					Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids
1927								
Jan. 5	627 JL	Brick	College Hill Ch. Co., Monroe	College Hill Ch. Co., Monroe	49.11	50.89	25.19	49.50
Jan. 5	625 JJW	American	A. & P. Ch. Wh., Green Bay	Juneau Ch. Co., Juneau	42.92			
Jan. 5	626 JJW	American	A. & P. Ch. Wh., Green Bay	Juneau Ch. Co., Juneau	39.80			
Jan. 5	85 WER	Brick	Phenix Ch. Co., Beaver Dam	Spring Vale Ch. Co., Cambria	44.88			
Jan. 6	328 RLR	American	Pauly & Pauly Ch. Co., Seymour	Theo. Van Dew Berg, Kaukauna	41.59			
Jan. 6	329 RLR	American	Pauly & Pauly Ch. Co., Seymour	Theo. Van Dew Berg, Kaukauna	41.88			
Jan. 7	415 WAS	Brick	Alfred Tschau, Oconomowoc	Alfred Tschau, Oconomowoc	47.16			
Jan. 7	819 RRC	American	C. E. Blodgett Ch. B. & Egg Co., Merrillan	Lorenz Krueger, Alma Center	41.51			
Jan. 7	820 RRC	American	C. E. Blodgett C. B. & Egg Co., Merrillan	Lorenz Krueger, Alma Center	41.03			
Jan. 7	2 PHM	American	R. B. Egan Wh., Highland	Abe Nelson, Highland	41.17	58.83	31.50	53.54
Jan. 7	3 PHM	American	R. B. Egan Wh., Highland	Abe Nelson, Highland	40.86	59.14	32.10	54.27
Jan. 7	4 PHM	American	R. B. Egan Wh., Highland	Abe Nelson, Highland	41.00	59.00	30.75	52.12
Jan. 7	5 PHM	American	Schmitt Bros. Wh., Blue River	H. L. Nussbaum, Bridgeport	38.07	61.93	32.70	52.80
Jan. 7	8 GM	American	A. H. Barber, Platteville		50.56	49.44	24.55	50.05
Jan. 7	9 GM	American	A. H. Barber, Platteville		52.84	47.16	24.30	51.52
Jan. 11	821 RRC	American	Schmitt Bros. Wh., La Farge	James Dedrick, Bloom City	41.00			
Jan. 11	826 RRC	American	Schmitt Bros. Wh., La Farge	Ben Rode, Gillingham	39.85			
Jan. 17	307 AJR	American	C. A. Carlson Wh., Cameron	Emil Hanson, Cadott	40.18	59.82	33.00	55.16
Jan. 17	308 AJR	American	C. A. Carlson Wh., Cameron	Emil Hanson, Cadott	39.42	60.58	33.00	54.47
Jan. 17	309 AJR	American	C. A. Carlson Wh., Cameron	Arland Ch. Fcty., Arland	44.27	55.73	30.60	54.90
Jan. 17	310 AJR	American	C. A. Carlson Wh., Cameron	Campia Ch. Fcty., Rice Lake	40.50	59.50	31.80	53.44
Jan. 17	89 WER	American	Juneau Ch. Co., Juneau	Ed. Bornberg, Beaver Dam	40.14			
Jan. 14	18 WJK	Brick	Rolling Prairie Ch. Fcty., Juneau	Gott. Schubiger, Juneau	44.03			
Jan. 18	335 RLR	Brick	Winnebago Ch. Co., Fond du Lac	Carl Brum, Iron Ridge	46.02	53.98	27.00	50.02
Jan. 18	336 RLR	Brick	Winnebago Ch. Co., Fond du Lac	Rock Riv. Ch. Fcty., Mayville	44.52		29.10	
Jan. 18	337 RLR	Brick	Winnebago Ch. Co., Fond du Lac	Aug. Westphal, Hartford	44.65		30.00	
Jan. 20	95 WER	Brick	Taken from R. R. Car, Ixonia	Albert Neff, Ixonia	43.37			
Jan. 20	96 WER	Brick	Taken from R. R. Car, Ixonia	Albert Neff, Ixonia	43.88			
Jan. 21	338 RLR	American	Jacquot Ch. Co., Appleton	Frank Flynn, Briarton	40.52			
Jan. 21	339 RLR	American	Jacquot Ch. Co., Appleton	Frank Flynn, Briarton	41.39			
Jan. 21	6 PHM	American	Schmitt Bros. Wh., Cazenovia	Peter H. Rego, Cazenovia	40.48	59.52	30.90	51.91
Jan. 21	7 PHM	American	Schmitt Bros. Wh., Cazenovia	Peter H. Rego, Cazenovia	39.35	60.65	31.95	52.67

Jan. 24	430 RBS	American	C. E. Blodgett C.B. & Egg Co., Marshfield	Henry Kloth, Dorchester	40.63			
Jan. 24	431 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Henry Kloth, Dorchester	40.47			
Jan. 26	432 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Martin Nissen, Marengo	40.76			
Jan. 27	433 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Emil Laabs, Dorchester	42.59			
Jan. 27	434 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Emil Laabs, Dorchester	41.93			
Jan. 27	435 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Emil Laabs, Dorchester	40.36			
Jan. 28	10 FAG	American	C. E. Blodgett C. B. & Egg Co., Stanley	Ed. Witt, Holcombe	42.18			
Jan. 28	11 FAG	American	C. E. Blodgett C. B. & Egg Co., Stanley	Ed. Witt, Holcombe	43.60			
Jan. 28	12 FAG	American	C. E. Blodgett C. B. & Egg Co., Stanley	Ed. Witt, Holcombe	43.00			
				G. Friedli, Neosha	40.53			
Jan. 28	98 WER	American	Juneau Ch. Co., Juneau	John J. Zastrow, Stetsonville	42.58			
Jan. 29	436 RBS	American	Kraft Ch. Co. Wh., Marshfield	John J. Zastrow, Stetsonville	43.49			
Jan. 29	437 RBS	American	Kraft Ch. Co., Marshfield	Long Lake Ch. Fcty., Clayton	39.70	60.30	30.25	50.16
Jan. 31	315 AJR	American	Long Lake Ch. Fcty., Clayton	Long Lake Ch. Fcty., Clayton	39.30	60.70	30.69	50.56
Feb. 1	316 AJR	American	Long Lake Ch. Fcty., Clayton	Long Lake Ch. Fcty., Clayton	44.19	55.81	27.41	49.11
Feb. 1	318 AJR	American	Long Lake Ch. Fcty., Clayton	Emil Stricker, Clayton	40.14	59.86	30.14	50.35
Feb. 2	320 AJR	American	Carlson Ch. Wh., New Richmond	Hans Frutig, Belmont	41.39			
Feb. 3	10 PHM	American	A. H. Barber Wh., Platteville	Hans Frutig, Belmont	41.25			
Feb. 3	11 PHM	American	A. H. Barber Wh., Platteville	Bert Kitelinger, Cuba City	41.95			
Feb. 3	12 PHM	American	Walthers Wh., Platteville	Bert Kitelinger, Cuba City	41.47			
Feb. 3	13 PHM	American	Walthers Wh., Platteville	James E. Neefe, Viola	40.91			
Feb. 7	14 PHM	American	Kirkpatrick Wh., Viola	Julius Brei, Clintonville	40.04			
Feb. 10	783 GHS	American	C. A. Straubel Ch. Co., Shawano	Julius Brei, Clintonville	42.01			
Feb. 10	784 GHS	American	C. A. Straubel Ch. Co., Shawano	Otto T. Radke, Birnamwood	40.13			
Feb. 11	785 GHS	American	Phenix Ch. Co., Birnamwood	Otto T. Radke, Birnamwood	39.38			
Feb. 11	786 GHS	American	Phenix Ch. Co., Birnamwood	Clifford Gile, Avoca	41.16		31.50	
Feb. 11	19 PHM	American	Tisdale & Recob Wh., Muscoda	Frank Tietz, Juneau	44.42			
Feb. 16	19 WJK	Brick	Taken at Minnesota Junct. Depot	Geo. Pflanzer, Unity	45.60			
Feb. 16	441 RBS	American	Taken in R. R. Car, Unity	Geo. Pflanzer, Unity	41.43			
Feb. 16	442 RBS	American	Taken in R. R. Car, Unity					
Feb. 18	443 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Anton Banz, Withee	41.37			
Feb. 18	444 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Anton Banz, Withee	42.04			
				J. M. Shomshak, Hersey	44.59			
Feb. 18	327 AJR	American	Hersey Ch. Fcty., Hersey	John P. Clark, Ferryville	39.45			
Feb. 18	836 RRC	American	C. A. Carlson Ch. Wh., Viroqua	John P. Clark, Ferryville	41.82			
Feb. 18	837 RRC	American	C. A. Carlson Ch. Wh., Viroqua	Geo. Meister, Prairie du Chien	40.68	59.32	30.75	51.83
Feb. 21	21 PHM	American	Schmitt Bros. Wh., Blue River					

CHEESE—NOT STANDARD—Continued

Date of Purchase	Insp. No.	Kind	Bought or Collected at	Manufacturer or Jobber	Composition			
					Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids
1927								
Feb. 21	645 JJW	American	Planert Ch. Fcty., De Pere	Otto Planert, De Pere	39.56	60.44	30.75	50.87
Feb. 23	20 WJK	American	Grant Hill Cry. Co., Waterloo	Peter Haesler, Waterloo	39.20			
Feb. 23	680 ARV	American	Pauly & Pauly Ch. Co., Newton	Walter Koepsel, Manitowoc	39.07	60.93	31.50	51.69
Feb. 23	683 ARV	American	Pauly & Pauly Ch. Co., Newton	Walter Koepsel, Manitowoc	39.29	60.71	30.90	50.89
Feb. 23	684 ARV	American	Pauly & Pauly Ch. Co., Newton	Walter Koepsel, Manitowoc	39.18	60.82	31.50	51.79
Feb. 23	685 ARV	American	Pauly & Pauly Ch. Co., Newton	Walter Koepsel, Manitowoc	39.37	60.63	30.90	50.96
Feb. 24	788 GHS	American	C. A. Straubel Ch. Co., Shawano	Julius Brei, Clintonville	42.20			
Feb. 24	656 JJW	American	A. & P. Ch. Wh., Green Bay	Morrison Ch. Fcty., Greenleaf	39.54	60.46	32.40	53.58
Feb. 28	695 ARV	American	English Lake Ch. Fcty., Manitowoc	Walter Koepsel, Manitowoc	39.02	60.98	30.90	50.67
Feb. 28	697 ARV	American	J. H. Schaefer, Sheboygan	J. H. Schaefer, Sheboygan	40.73			
Feb. 28	698 ARV	American	J. H. Schaefer, Sheboygan	J. H. Scheafer, Sheboygan	42.26			
Feb. 28	699 ARV	American	J. H. Schaefer, Sheboygan	J. H. Schaefer, Sheboygan	40.89			
Feb. 28	700 ARV	American	J. H. Schaefer, Sheboygan	J. H. Schaefer, Sheboygan	39.88			
Mar. 1	447 RBS	American	Kraft Ch. Co. Wh., Marshfield	Arnold Zastrow, Stetsonville	40.47			
Mar. 1	448 RBS	American	Kraft Ch. Co. Wh., Marshfield	Arnold Zastrow, Stetsonville	42.99			
Mar. 1	701 ARV	American	J. H. Schaefer, Sheboygan	J. H. Schaefer, Sheboygan	40.30			
Mar. 1	842 RRC	American	Anton Fluder, Bangor	Anton Fluder, Bangor	41.10			
Mar. 1	843 RRC	American	Anton Fluder, Bangor	Anton Fluder, Bangor	40.54			
Mar. 1	844 RRC	American	Anton Fluder, Bangor	Anton Fluder, Bangor	46.12			
Mar. 2	702 ARV	American	J. H. Schaefer, Sheboygan	J. H. Schaefer, Sheboygan	39.06			
Mar. 11	21 WJK	Brick	J. S. Hoffman Wh., Mt. Horeb	Wild Cheese Co., Verona	44.37	55.63	26.10	46.91
Mar. 11	23 WJK	Brick	J. S. Hoffman Ch. Wh., Mt. Horeb	Goodwin Ch. Co., Verona	44.60	55.40	27.30	49.27
Mar. 11	704 ARV	American	W. J. Possley, New Holstein	W. J. Possley, New Holstein	41.62			
Mar. 16	105 WER	American	A. C. Kohli, Mayville	A. C. Kohli, Mayville	39.25			
Mar. 17	106 WER	Brick	Juneau Ch. Co., Juneau	Prairie Hill Ch. Fcty., Beaver Dam	46.07			
Mar. 24	713 ARV	American	Blanke Ch. Co., Plymouth	Walter Linder, Adell	41.74			
Mar. 24	714 ARV	American	Blanke Ch. Co., Plymouth	Walter Linder, Adell	40.25			
April 4	336 AJR	American	Carlson Ch. Wh., Cameron	Arland Ch. Fcty., Clayton	43.31			
April 4	456 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Ben Hemmerich, Stetsonville	41.80			
April 4	457 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Ben Hemmerich, Stetsonville	41.93			
April 4	458 RBS	American	Lakeshire Ch. Co., Marshfield	Henry Kloth, Dorchester	40.19			
April 6	111 WER	American	Juneau Ch. Co., Juneau	Adolf Zubke, Randolph	42.16			

April 6	112 WER	American	Juneau Ch. Co., Juneau	Adolph Zubke, Randolph	40.95			
April 6	113 WER	American	Juneau Ch. Co., Juneau	Geo. Schram, Beaver Dam	41.73			
April 8	459 RBS	American	C. E. Blodgett C. B. & Egg Co., Stratford	Herbert Wehrmann, Colby	41.37			
April 13	460 RBS	American	Lakeshire Ch. Co., Marshfield	Alfred Mandel, Loyal	40.85			
April 13	461 RBS	American	Lakeshire Ch. Co., Marshfield	Alfred Mandel, Loyal	40.66			
April 13	462 RBS	American	Lakeshire Ch. Co., Marshfield	Geo. Hutter, Loyal	44.66			
April 13	463 RBS	American	Lakeshire Ch. Co., Marshfield	Geo. Hutter, Loyal	41.88			
April 21	25 PHM	American	Prairie Gr. Ch. Fcty., Barneveld	R. N. Leer, Barneveld	43.66	56.34	30.00	53.24
April 21	26 PHM	American	Blue Mounds on truck	R. N. Leer, Barneveld	42.97	57.03	30.00	52.60
April 21	27 PHM	American	J. S. Hoffman Co., Mt. Horeb	R. N. Leer, Barneveld	44.04	55.96	29.32	52.21
May 4	464 RBS	American	Taken from R. R. Car, Colby	C. A. Zilisch, Colby	41.09			
May 4	465 RBS	American	Taken from R. R. Car, Colby	C. A. Zilisch, Colby	39.62			
May 11	13 FAG	American	C. A. Carlson Co., Cameron	A. R. Shomshak, Prairie Farm	39.48			
May 11	14 FAG	American	C. A. Carlson Co., Cameron	A. R. Shomshak, Prairie Farm	39.62			
May 11	15 FAG	American	C. A. Carlson Co., Cameron	A. R. Shomshak, Prairie Farm	39.47			
May 24	466 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Emil Laabs, Dorchester	41.45			
May 24	467 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Emil Laabs, Prairie Farm	41.38			
May 24	468 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Emil Laabs, Prairie Farm	40.82			
May 28	470 RBS	American	Lakeshire Ch. Co., Marshfield	Leo Hutter, Loyal	41.44			
May 28	471 RBS	American	Lakeshire Ch. Co., Marshfield	Leo Hutter, Loyal	41.18			
May 31	128 WER	American	Juneau Ch. Co., Juneau	Summitt Valley Ch. Fcty., Oconomowoc	39.62			
May 31	129 WER	American	Juneau Ch. Co., Juneau	Summit Valley Ch. Co., Oconomowoc	40.24			
May 31	130 WER	American	Juneau Ch.Co., Juneau	John Van Buskirk, Oconomowoc	39.88			
May 31	132 WER	American	Juneau Ch. Co., Juneau	Pleasant View Ch. Fcty., Oconomowoc	39.40			
May 31	134 WER	American	Juneau Ch. Co., Juneau	Emmet Gr. Ch. Fcty., Watertown	39.17			
May 31	135 WER	American	Juneau Ch. Co., Juneau	Leader Ch. Fcty., Reeseville	41.26			
June 2	42 PHM	American	Cobb Cheese Co., Cobb	Davis Dairy Co.	40.68			
June 2	44 PHM	American	Cobb Cheese Co., Cobb	Olaf Edwinson, Rewey	39.82		43.80	
June 10	472 RBS	American	C. E. Blodgett C. B. & Egg Co., Prentice	Ervin C. Marohl, Catawba	40.20			
June 10	473 RBS	American	C. E. Blodgett C. B. & Egg Co., Prentice	Ervin C. Marohl, Catawba	41.64			
June 10	474 RBS	American	C. E. Blodgett C. B. & Egg Co., Prentice	Ervin C. Marohl, Catawba	40.39			
June 16	137 WER	American	Juneau Ch. Co., Juneau	G. Friedli, Neosha	40.68			
June 16	138 WER	American	Juneau Ch. Co., Juneau	G. Friedli, Neosha	39.76			
June 16	139 WER	American	Juneau Ch. Co., Juneau	Westford Ch. Fcty., Beaver Dam	40.29			
June 17	141 WER	American	Juneau Ch. Co., Juneau	Frank Westphal, Randolph	39.37			
June 25	475 RBS	American	Lakeshire Ch. Co., Marshfield	Leo Hutter, Loyal	41.57			

CHEESE—NOT STANDARD—Continued

Date of Purchase	Insp. No.	Kind	Bought or Collected at	Manufacturer or Jobber	Composition			
					Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids
1927								
June 25	476 RBS	American	Lakeshire Ch. Co., Marshfield	Leo Hutter, Loyal	39.24			
June 28	683 JJW	American	Pauly & Pauly Wh., Green Bay	Glenmore Ch. Fcty., Denmark	40.90			
June 28	684 JJW	American	Pauly & Pauly Wh., Green Bay	Glenmore Ch. Fcty., Denmark	42.00			
June 29	54 PHM	American	Schmitt Bros. Wh. Blue River	R. Gerber, Frankville, Iowa	44.49			
June 29	55 PHM	American	Schmitt Bros. Wh., Blue River	Henry Nussbaum, Pr. du Chien	40.95			
June 29	56 PHM	American	Schmitt Bros. Wh., Blue River	Leo Rusk, Blue River	41.34			
June 29	685 JJW	American	Kraft Ch. Wh., Gillett	Erich Schuettpelz, Breed	41.23			
June 29	686 JJW	American	Kraft Ch. Wh., Gillett	Erich Schuettpelz, Breed	40.78			
June 29	687 JJW	American	Kraft Ch. Wh., Gillett	Fred W. Riegert, Underhill	41.77			
June 29	688 JJW	American	Kraft Ch. Wh., Gillett	Fred W. Riegert, Underhill	39.94			
July 6	28 WJK	American	Phenix Ch. Co. Wh., Plymouth	G. Moser, Oostburg	39.99	60.01	30.00	50.00
July 7	58 PHM	American	Peacock Ch. Co., Wh., Platteville	Alfred Dietrich, Hazel Green	37.05	62.95	30.90	49.08
July 7	59 PHM	American	Peacock Ch. Co. Wh., Platteville	Alfred Dietrich, Hazel Green	36.51	63.49	29.40	46.30
July 8	60 PHM	American	Schmitt Bros. Wh., Cazenovia	Vic. Miller, Loyd	40.57			
July 8	61 PHM	American	Schmitt Bros. Wh., Cazenovia	S. A. Wolf, Loyd	42.98			
July 8	62 PHM	American	Schmitt Bros. Wh., Cazenovia	Howard Southerland, Loyd	40.40			
July 8	63 PHM	American	Schmitt Bros. Wh., Cazenovia	Chas. Way, Cazenovia	40.19			
July 14	64 PHM	American	Prairie Gr. Ch. Fcty., Barneveld	R. Leer, Barneveld	40.74	59.26	29.25	49.35
July 14	65 PHM	American	Prairie Gr. Ch. Fcty., Barneveld	R. Leer, Barneveld	41.79	58.21	29.40	50.50
July 19	253 ATB	American	Schmitt Bros., Cazenovia	Chas. Way, Cazenovia	40.91	59.09	31.80	53.81
July 19	254 ATB	American	Schmitt Bros., Cazenovia	Chas. Way, Cazenovia	40.65	59.35	32.10	54.08
July 19	255 ATB	American	Schmitt Bros., Cazenovia	Emil Nelson, Cazenovia	41.60	58.40	30.90	52.91
July 22	256 ATB	American	P. H. Peacock Ch. Co., Platteville	Alfred Dietrich, Hazel Green	35.40	64.60	31.50	48.76
July 26	258 ATB	American	Winnebago Ch. Co., Fond du Lac	E. Schneider, Chilton	40.96	59.04	30.90	52.33
July 26	259 ATB	American	Winnebago Ch. Co., Fond du Lac	Tom Eisenhut, El Dorado	40.99	59.01	30.60	51.85
July 28	260 ATB	American	A. D. Deland Ch. Co., Sheboygan	John Gasse, Sheboygan	42.07	57.93	29.40	50.75
July 28	261 ATB	American	A. D. Deland Ch. Co., Sheboygan	John Gasse, Sheboygan	42.40	57.60	30.60	53.12
July 28	262 ATB	American	R. Schreiber Ch. Co., Sheboygan	Walter Gruenewald, Sheboygan	40.57	59.43	30.90	51.99
Aug. 5	264 ATB	American	A. D. Deland Co., Neenah	Charles Marteen, Neenah	39.10	60.90	33.00	54.18
Aug. 5	265 ATB	American	Neenah Cold Storage Co., Neenah	John Steiner, Omro	39.76	60.24	33.00	54.78
Aug. 10	75 PHM	American	F. W. Brehm & Co. Wh., Fennimore	Floyd Yerke, Stitzer	40.01	59.99	31.50	52.50
Aug. 15	78 PHM	American	John Kirkpatrick, Muscoda	Clifford Gile, Avoca	39.98	60.02	32.25	53.73
Aug. 15	1 JWM	American	A. H. Barber, Plymouth	Gruendeman & Blanke, W. Bend	39.45	60.55	31.65	52.27
Aug. 19	2 JWM	American	Blanke Wh., Plymouth	Fred Linder, Malone	39.93	60.07	33.00	54.93
Aug. 25	3 JWM	American	Phenix Ch. Wh., Kiel	G. M. Matznick, Kiel	41.01	58.99	32.40	54.92

Aug. 26	4 JWM	American	Phenix Ch. Wh., Plymouth	Fred Schneeberger, Oostburg	41.12	58.88	30.75	52.22
Aug. 29	477 RBS	American	Lakeshire Ch. Co., Marshfield	Leo Hutter, Loyal	39.85	60.15	32.10	53.37
Aug. 29	478 RBS	American	Lakeshire Ch. Co., Marshfield	Leo Hutter, Loyal	40.15	59.85	31.80	53.13
Aug. 30	274 ATB	American	Pauly & Pauly, Sherwood	Geo. Hernke, Chilton	39.72	60.28	30.75	51.01
Aug. 30	276 ATB	American	Pauly & Pauly, Manitowoc	Henry Janke, Collins	40.62	59.38	31.20	52.54
Aug. 31	277 ATB	American	Pauly & Pauly, Manitowoc	Henry Huhn, Branch	41.99	58.01	30.90	53.26
Aug. 31	278 ATB	American	Pauly & Pauly, Manitowoc	Art Valleskey, Kiel	40.64	59.36	31.80	53.57
Sept. 1	279 ATB	American	Phenix Ch. Co., Plymouth	Matt Guelig, Calvary	40.34	59.66	31.20	52.30
Sept. 2	88 PHM	American	A. H. Barber Wh., Platteville	Joe Buening, Galena, Ill.	41.14	58.86	31.20	52.16
Sept. 2	89 PHM	American	Schmitt Bros. & Walther, Platteville	Anton Fluder, Fennimore	42.17	57.83	31.20	53.95
Sept. 9	5 JWM	American	Phenix Ch. Co. Wh., Plymouth	Ben Grenfelder, Waldo	43.54	56.46	28.80	51.01
Sept. 13	281 ATB	Brick	S. J. Hoffman Ch. Co., Mt. Horeb	Spring Valley Ch. Fcty., Vermont	38.36	61.64	30.47	49.43
Sept. 26	694 JJW	American	Pauly & Pauly Ch. Wh., Green Bay	Herman Brockman, De Pere	40.32	59.68	30.60	51.27
Sept. 26	695 JJW	American	Pauly & Pauly Ch. Wh., Green Bay	Herman Brockman, De Pere	39.99	60.01	30.30	50.49
Sept. 29	349 AJR	American	Blodgett Ch. Wh., Rice Lake	Otto Rhode, Clayton	37.81	62.19	30.22	48.59
Sept. 30	283 ATB	American	A. H. Barber, Platteville	An Illinois Factory	39.46	60.54	31.20	51.54
Oct. 5	285 ATB	American	Pauly & Pauly Co., Manitowoc	Wm. Weenrow, Chilton	42.05	57.95	30.00	51.76
Oct. 5	286 ATB	American	Pauly & Pauly Co., Manitowoc	Art Valleskey, Kiel	39.40	60.60	33.00	54.45
Oct. 5	760 ARV	American	Northern Wis. Prod. Co., Manitowoc	Paul Loeschig, Manitowoc	45.20	54.80	25.74	46.97
Oct. 7	287 ATB	American	Blanke Ch. Co., Plymouth	Walter Linder, Adell	42.92	57.08	30.90	54.13
Oct. 7	288 ATB	American	Blanke Ch. Co., Plymouth	Walter Linder, Adell	42.60	57.40	30.75	53.57
Oct. 8	479 RBS	Brick	Kraft Ch. Co., Marshfield	Abe Blatter, Rice Lake	38.38	61.62	26.25	42.60
Oct. 8	480 RBS	Brick	Kraft Ch. Co., Marshfield	Abe Blatter, Rice Lake	38.15	61.85	21.90	35.40
Oct. 11	30 WJK	American	Taken from R. R. Car, Astico	Chas. Lange, Doylestown	44.63	55.37	27.75	50.11
Oct. 11	289 ATB	American	E. W. Fleming, Avoca	E. W. Fleming, Avoca	39.54	60.46	31.80	52.60
Oct. 11	290 ATB	American	Kirkpatrick Ch. Co., Muscoda	Clifford Gyle, Avoca	40.84	59.16	31.50	53.23
Oct. 11	291 ATB	American	H. L. Noyes Wh., Muscoda	Julius Johnsrud, Avoca	39.53	60.47	31.80	52.59
Oct. 12	292 ATB	American	F. W. Brehm, Fennimore	John Fay, Fennimore	40.63	59.37	31.80	53.56
Oct. 13	354 AJR	American	Long Lake Ch. Fcty., Clayton	Otto Rohde, Clayton	34.54	65.46	29.89	45.66
Oct. 14	357 AJR	American	Maple Leaf Ch. Fcty., Clayton	Maple Leaf Ch. Fcty.,	41.20	58.80	27.45	46.68
Oct. 14	358 AJR	American	Blodgett Ch. Wh., Rice Lake	Alfred Nef, Clayton	41.87	58.13	28.12	48.37
Oct. 19	701 JJW	American	Pauly & Pauly Ch. Wh., Green Bay	Nick Lipinsky, Krakow	42.14	57.86	30.30	52.36
Oct. 29	293 ATB	American	C. A. Carlson Co., New Richmond	Meyers Ch. Co., Ceylon	42.62	57.38	29.40	51.23
Nov. 1	93 PHM	American	Armours Cry. Wh., Richland Center	Aaron Adsit, Boaz	42.19	57.81	30.90	53.45
Nov. 4	94 PHM	American	Noyes Wh., Muscoda	Oscar Johnsrud, Wauzeka	40.70	59.30	31.50	53.12
Nov. 5	295 ATB	American	Clifford Gile, Avoca	Avoca Banner Ch. Fcty., Avoca	39.88	60.12	31.50	52.40
Nov. 8	12 JMT	Brick	Rosedale Ch. Co., Cambria	Otto Nunz, Cambria	45.67	54.33	28.50	52.45
Nov. 8	296 ATB	American	Phenix Cheese Co., Plymouth	Ben Gruenenfelder, Waldo	43.55	56.45	29.40	52.08
Nov. 14	360 AJR	American	Dairy Belt Ch. Wh., Ladysmith	Herman Weigel, Ladysmith	40.58	59.42	32.40	54.53
Nov. 14	361 AJR	American	Dairy Belt Ch. Wh., Ladysmith	Herman Weigel, Ladysmith	40.27	59.73	31.80	53.24
Nov. 16	14 JWM	Brick	Lakeshire Wh., Marshfield		43.93	56.07	29.82	53.18
Nov. 16	15 JWM	Brick	Lakeshire Wh., Marshfield		47.81	52.19	28.12	53.88
Nov. 17	16 FAG	American	Kraft Ch. Co., Marshfield	J. J. Zastrow, Stetsonville	43.67	56.33	31.11	55.22
Nov. 17	302 ATB	American	Herman Alderman, Gillingham	Herman Alderman, Gillingham	41.63	58.37	32.01	54.83
Nov. 17	303 ATB	American	Herman Alderman, Gillingham	Herman Alderman, Gillingham	41.81	58.19	32.46	55.78
Nov. 17	304 ATB	American	Schmitt Bros. Co., La Farge	Ed. Kaukal, Hillsboro	40.80	59.20	31.74	53.61

CHEESE—NOT STANDARD—Continued

Date of Purchase	Insp. No.	Kind	Bought or Collected at	Manufacturer or Jobber	Composition			
					Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids
1927								
Nov. 19	17 FAG	American	C. E. Blodgett B. & Egg Co., Marshfield	Alex Witt, Greenwood	41.00	59.00	32.02	54.27
Nov. 19	27 ELA	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Chris Abeglen, Riplinger	41.93	58.07	32.06	55.20
Nov. 22	18 JWM	American	Federation Wh., Plymouth	O. H. Stolzman, Kiel	40.07	59.93	33.43	55.78
Nov. 23	19 JWM	American	Blanke Wh., Plymouth	Geo. Jacoby, Grafton	46.28	53.72	19.84	36.93
Nov. 23	20 JWM	American	Phenix Ch. Co., Plymouth	G. G. Krueger, Kiel	43.31	56.69	29.94	52.81
Nov. 23	18 FAG	American	Dairy Belt Ch. Co., Boyd	E. J. Witt, Holcombe	41.90	58.10	32.10	55.24
Nov. 23	19 FAG	American	Dairy Belt Ch. Co., Boyd	E. J. Witt, Holcombe	41.87	58.13	32.10	55.22
Nov. 23	20 FAG	American	Dairy Belt Ch. Co., Boyd	E. J. Witt, Holcombe	42.64	57.36	31.50	54.91
Nov. 23	95 PHM	American	Brehm Wh., Fennimore	F. Mulvey, Preston	39.64	60.36	32.10	53.18
Nov. 25	481 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Dairy Belt Ch. Co., Spencer	43.58	56.42	31.50	55.83
Nov. 25	482 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Dairy Belt Ch. Co., Spencer	43.58	56.42	27.51	48.76
Nov. 25	483 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Dairy Belt Ch. Co., Spencer	41.72	58.28	31.50	54.04
Nov. 25	21 FAG	American	C. E. Blodgett C. B. & Egg Co., Greenwood	Emil Luther, Greenwood	39.70	60.30	32.70	54.22
Nov. 25	22 FAG	American	C. E. Blodgett C. B. & Egg Co., Greenwood	Emil Luther, Greenwood	39.96	60.04	33.00	54.96
Nov. 26	23 FAG	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Walter Wessel, Thorpe	42.34	57.66	30.90	53.59
Nov. 28	305 ATB	American	Phenix Ch. Co. Wh., Plymouth	Ben Gruenfelder, Waldo	42.82	57.18	29.10	50.89
Nov. 28	306 ATB	American	Phenix Ch. Co., Wh., Plymouth	Ben Gruenfelder, Waldo	43.66	56.34	29.10	51.65
Nov. 28	307 ATB	American	Phenix Ch. Co. Wh., Plymouth	Ben Gruenfelder, Waldo	43.35	56.65	29.25	51.63
Nov. 28	308 ATB	American	Phenix Ch. Co. Wh., Plymouth	Ben Gruenfelder, Waldo	41.65	58.35	30.00	51.41
Nov. 29	22 JWM	American	H. L. Noyes, Wh., Muscoda	Lawrence Meister, Bagley	41.45	58.55	31.20	53.28
Nov. 29	484 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Ed. Greenway, Arpin	39.90	60.10	29.20	48.58
Nov. 29	485 RBS	American	C. E. Blodgett C. B. & Egg Co., Marshfield	Ed. Greenway, Arpin	39.13	60.87	30.59	50.25
Dec. 5	370 AJR	American	Carlson Ch. Wh., Cameron	Fred Ludy, Turtle Lake	40.07	59.93	31.50	54.23
Dec. 5	152 WER	American	Wm. Remmel, Mayville	Wm. Remmel, Mayville	37.11	62.89	31.32	49.80
Dec. 5	153 WER	American	Wm. Remmel, Mayville	Wm. Remmel, Mayville	38.86	61.14	30.44	49.78

Dec. 6	309 ATB	American	A. H. Barber Ch. Wh., Platteville	G. P. Morgan, Lancaster	42.35	57.65	30.60	53.08
Dec. 6	310 ATB	American	A. H. Barber Ch. Wh., Platteville	G. P. Morgan, Lancaster	43.35	56.65	30.60	54.05
Dec. 6	311 ATB	American	F. W. Brehm, Fennimore	Jacob Schurman, Lancaster	40.12	59.88	32.10	53.61
Dec. 6	159 WER	American	John O. Widmer, Theresa	John O. Widmer, Theresa	39.48	60.52	30.56	50.47
Dec. 6	10 FEC	American	Lakeshire Wh., Marshfield	Ernest Herman, Neillsville	40.82	59.18	31.88	53.86
Dec. 6	11 FEC	American	Lakeshire Wh., Marshfield	Henry Dittner, Loyal	39.65	60.35	32.63	54.06
Dec. 6	12 FEC	American	Lakeshire Wh., Marshfield	Wm. Essex, Loyal	39.84	60.16	32.68	54.32
Dec. 8	27 JWM	American	Dairy Belt Ch. Wh., Spencer	Chas. Rickner, Marshfield	39.93	60.07	32.70	54.43
Dec. 8	28 JWM	American	Dairy Belt Ch. Wh., Spencer	John E. Hickey, Custer	46.00	54.00	28.61	52.98
Dec. 12	373 AJR	American	Blodgett Ch. Wh.,	E. J. Witt, Holcombe	39.07	60.93	33.75	55.39
Dec. 13	164 WER	American	Juneau Ch. Co., Juneau	F. C. Westphal, Randolph	39.57	60.43	32.30	53.45
Dec. 17	13 FEC	American	Kirkpatrick Ch. Wh., Richland Center	Martin Meister, Hill Point	41.28	58.72	30.01	51.10
Dec. 19	14 FEC	American	Kirkpatrick Wh., Richland Center	Martin E. Meister, Hill Point	43.36	56.64	28.71	50.68
Dec. 20	31 JWM	American	C. A. Carlson Ch. Wh., Cameron	A. R. Shamshak, Prairie Farm	41.95	58.05	31.80	54.78
Dec. 20	15 FEC	American	Schmitt Bros. Wh., Blue River	Oscar Strong, Boscobel	39.80	60.20	32.10	53.32
Dec. 20	28 ELA	American	C. A. Carlson Wh., New Richmond	Ben Kittelson, Emerald	42.00	58.00	30.00	51.72
Dec. 20	10 JDC	American	Blodgett Ch. Wh., Rice Lake	David Gobeli, Hayward	41.23	58.77	30.90	52.57
Dec. 21	16 FEC	American	Schmitt Bros. Wh., Spring Green	Patrick Walsh, Hill Point	43.71	56.29	29.55	52.49
Dec. 21	17 FEC	American	Schmitt Bros., Spring Green	Patrick Walsh, Hill Point	42.26	57.74	30.00	51.95
Dec. 21	11 JDC	American	Carlson Ch. Co., Cameron	H. A. Kurt, Almena	40.25	59.75	32.70	54.72
Dec. 21	12 JDC	American	Carlson Ch. Wh., Cameron	James A. Holmes, Clayton	46.05	53.95	29.25	54.21
Dec. 21	165 WER	American	Spring Brook Ch. Fcty., Waupun	Spring Brook Ch. Fcty., Waupun	46.40	53.60	27.90	52.05
Dec. 21	166 WER	American	Spring Brook Ch. Fcty., Waupun	Spring Brook Ch. Fcty., Waupun	43.90	56.10	28.50	50.80
Dec. 21	22 JMT	American	Hubbleton Coop. Ch. Fcty., Watertown	Fred Fentz, Watertown	40.95	59.05	31.50	53.34
Dec. 22	18 FEC	American	Schmitt Bros. Wh., Spring Green	Ole A. Amble, Black Earth	43.04	56.96	30.00	52.66
Dec. 22	33 JWM	American	C. A. Carlson Wh., Cameron	James A. Holmes, Clayton	47.10	52.90	29.70	56.14
Dec. 22	34 JWM	American	C. A. Carlson Wh., Cameron	James A. Holmes, Clayton	41.16	58.84	32.25	54.80
Dec. 22	35 JWM	American	C. A. Carlson Wh., Cameron	A. R. Shomshak, Prairie Farm	40.46	59.54	32.25	54.16
Dec. 23	37 JWM	American	Blodgett Ch. Wh., Rice Lake	Nef & Gozenbach, Clayton	41.22	58.78	31.50	53.58
Dec. 27	428 WAS	American	George Jacoby, Grafton	George Jacoby, Grafton	41.28	58.72	30.15	51.34
Dec. 28	375 AJR	American	E. J. Witt, Holcombe	E. J. Witt, Holcombe	42.10	57.90	32.10	55.44
Dec. 28	376 AJR	American	E. J. Witt, Holcombe	E. J. Witt, Holcombe	41.16	58.84	33.00	56.08
Dec. 28	38 JWM	American	E. J. Witt, Holcombe	E. J. Witt, Holcombe	43.63	56.37	31.50	55.88
Dec. 28	24 FAG	American	C. E. Blodgett Ch. Wh., Stanley	E. J. Witt, Holcombe	44.40	55.60	24.00	43.16
Dec. 28	25 FAG	American	C. E. Blodgett C. B. & Egg Co., Stanley	George Hamm, Cadott	43.65	56.35	24.99	44.34
Dec. 28	26 FAG	American	C. E. Blodgett C. B. & Egg Co., Stanley	George Hamm, Cadott	43.15	56.85	26.27	46.20
Dec. 28	27 FAG	American	C. E. Blodgett C. B. & Egg Co., Stanley	George Hamm, Cadott	43.06	56.94	25.75	45.22
Dec. 29	14 JDC	American	Phenix Ch. Wh., Birnamwood	E. H. Janke, Birnamwood	41.10	58.90	29.10	49.40
Dec. 30	329 ELA	American (Process)	Pauly & Pauly Ch. Co., Marinette	B. Cubalchini, Loomis	42.22	57.78	30.00	51.92
Dec. 30	377 AJR	American	A. W. Johnson, Stanley	A. W. Johnson, Stanley	40.23	59.77	31.05	51.94
Dec. 30	823 GHS	American	Hatley Ch. Fcty., Hatley	J. W. Sazama, Hatley	42.06	57.94	29.40	50.74

CHEESE—NOT STANDARD—Continued

Date of Purchase	Insp. No.	Kind	Bought or Collected at	Manufacturer or Jobber	Composition			
					Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids
1927								
Dec. 30	167 WER	American	North Road Ch. Fcty., Watertown	North Rd. Ch. Fcty., Watertown	41.45	58.55	30.30	51.75
Dec. 30	168 WER	American	North Road Ch. Fcty., Watertown	Fred Haesler, Watertown	43.45	56.55	27.75	48.98
Dec. 31	30 ELA	American	Pauly & Pauly Ch. Co., Green Bay	Grafton Dairy Co., Grafton	43.97	56.03	22.64	40.40
Dec. 31	30-1 ELA	American	Pauly & Pauly Ch. Co., Green Bay	Grafton Dairy Co., Grafton	45.34	54.66	19.95	36.49
Dec. 31	30-2 ELA	American	Pauly & Pauly Ch. Co., Green Bay	Grafton Dairy Co., Grafton	42.37	57.63	23.61	40.96
Dec. 31	30-3 ELA	American	Pauly & Pauly Ch. Co., Green Bay	Grafton Dairy Co., Grafton	43.25	56.75	22.84	40.24
Dec. 31	30-4 ELA	American	Pauly & Pauly Ch. Co., Green Bay	Grafton Dairy Co., Grafton	45.18	54.82	20.10	36.66
1928								
Jan. 3	31 WJK	American	Wis. Ch. Prod. Fed., Dodgeville	John Dunbar, Dodgeville	45.46	54.54	26.6	48.77
Jan. 3	32 WJK	American	Wis. Ch. Prod. Fed., Dodgeville	John Dunbar, Dodgeville	47.02	52.98	25.	47.18
Jan. 3	52 JMT	Brick	Leeds Ch. Fcty., Morrisonville	Charles Fueg, Morrisonville	43.24	56.76	28.8	50.74
Jan. 3	53 JMT	American	No. Leeds Ch. Fcty., Arlington	Wm. Zwisky, Arlington	41.27	58.73	30.60	52.10
Jan. 4	28 FAG	American	A. & P. Tea Co., Green Bay	Ed Foral, R. 1, Oconto Falls	40.92	59.08	31.60	53.48
Jan. 4	19 FEC	American	Pauly & Pauly, Green Bay	John Levosh, Coleman	39.42	60.58	33.2	54.80
Jan. 4	20 FEC	American	Pauly & Pauly, Green Bay	John Levosh, Coleman	39.49	60.51	32.6	53.87
Jan. 4	31 ELA	American	Phenix Cheese House, Green Bay	Harry Schoen, Sobieski	42.12	57.88	31.20	53.90
Jan. 4	55 JMT	American	Hillside Ch. Fcty., Columbus, R. 6	Bern Bemmann, R. 6, Columbus	39.94	60.06	30.9	51.45
Jan. 4	56 JMT	Brick	Hard Stone Ch. Fcty., Fall River	H. H. Abegglen, Fall River	44.48	55.52	29.40	52.77
Jan. 4	57 JMT	Brick	Courtland Ch. Fcty., R. 2, Cambria	Fred Buetschli, Cambria	44.22	55.78	29.40	52.71
Jan. 4	825 GHS	American	FairView Ch. Fcty., R. 1, Mattoon	Wm. F. Teschke, R. 1, Mattoon	40.53	59.47	32.40	54.48
Jan. 4	826 GHS	American	Phenix Ch. Co., Birnamwood	H. E. Janke, R. 1, Birnamwood	40.01	59.99	30.70	51.17
Jan. 4	312 ATB	American	C. E. Blodgett Whse., Merrillan	Ellef Steen, Fairchild	35.30	64.70	30.00	46.36
Jan. 5	58 JMT	Brick	Randolph Courtland Ch. Fcty., Cambria	Mortiz Seborr, Cambria, R. D.	43.18	56.82	30.00	52.80
Jan. 5	59 JMT	American	Twin Oak Ch. Fcty., Randolph	W. A. Treptow, Randolph	39.48	60.52	32.20	53.21
Jan. 6	32 ELA	American	Pauly & Pauly, Green Bay	Wm. Coffey, R. 3, Kaukauna	41.76	58.24	30.50	52.36
Jan. 6	33 ELA	American	Pauly & Pauly, Green Bay	Herbert Mueller, Suring	41.70	58.30	30.50	52.31
Jan. 6	61 JMT	American	Welsh Prairie Ch. Fcty., Cambria	J. H. Voegeli, R. 3, Cambria	40.92	59.08	30.80	52.13
Jan. 6	15 JDC	American	Pauly & Pauly, Green Bay	Henry Dehn, Bonduel	40.66	59.34	31.0	52.24
Jan. 9	34 ELA	American	H. Blanke Ch. Co., Plymouth	G. M. Matznick, Kiel	43.36	56.64	30.0	52.08
Jan. 9	381 AJR	Brick	Peter Thill Ch. Fcty., Clayton, R. D.	Peter Thill, R. D., Clayton	43.80	56.20	30.36	54.02
Jan. 9	429 WAS	American	Decker Ch. Co., Cedarburg	Harry Hader, Cedarburg	39.53	60.47	32.8	54.24
Jan. 9	430 WAS	American	Saukville Dairy Co., Saukville	Walter Frank, Saukville	40.95	59.05	30.6	51.82

Jan. 10	431 WAS	American	Mike Posley, Fredonia	Mike Posley, Fredonia	41.75	58.25	29.2	50.13
Jan. 10	434 WAS	American	Alfred Antoine, Belgium	Alfred Antoine, Belgium	43.77	56.23	29.2	51.93
Jan. 10	435 WAS	American	Fred Fierstein, Belgium	Fred Fierstein, Belgium	40.82	58.18	31.8	54.66
Jan. 10	436 WAS	American	W. Oesch, R. 1, Fredonia	W. Oesch, R. 1, Fredonia	40.16	59.84	32.4	54.14
Jan. 10	437 WAS	American	F. H. Schultz, Belgium	F. H. Schultz, Belgium	42.53	57.47	29.80	51.85
Jan. 10	439 WAS	American	Jno. Arndt, Fredonia	Jno. Arndt, Fredonia	40.25	59.75	32.00	53.55
Jan. 10	33 WJK	American	Lakeshire Ch. Whse., Plymouth	Badger Mill Ch. Fcty., Boscobel	39.92	60.08	31.2	51.93
Jan. 10	34 WJK	American	Lakeshire Ch. Whse., Plymouth	Badger Mill Ch. Fcty., Boscobel	40.41	59.59	32.00	53.70
Jan. 10	35 WJK	American	Lakeshire Ch. Whse., Plymouth	Badger Mill Ch. Fcty., Boscobel	42.16	57.84	29.2	50.48
Jan. 10	383 AJR	Brick	Twin Town Ch. Co., R. 2, Turtle L.	Christ Dietrich, Turtle Lake	43.40	56.60	30.09	53.16
Jan. 10	21 FEC	American	Phenix Ch. Coop. Whse., Plymouth	Adam McLaughlin, Waldo	40.12	59.88	31.6	52.77
Jan. 11	36 WJK	Brick	Davis Bros. Whse., Plymouth	Hartford Ch. & Btr. Assoc., Hartford	45.46	54.54	29.00	53.17
Jan. 11	27 FEC	American	J. W. Brehn Whse., Fennimore	John Fach, Mt. Hope	39.55	60.45	32.4	53.59
Jan. 11	35 ELA	American	Phenix Warehouse, Plymouth	M. J. Schnieder, Malone	41.85	58.15	32.0	55.03
Jan. 11	36 ELA	American	Phenix Warehouse, Plymouth	Fred Haessler, Hartford	42.21	57.79	28.9	51.56
Jan. 11	441 WAS	American	Joseph Barnes, Newburg	Joseph Barnes, Newburg	39.32	60.68	31.50	51.91
Jan. 11	443 WAS	American	Fred Borchert, Kewauskum	Fred Borchert, Kewaskum	40.35	59.65	31.70	53.14
Jan. 11	314 ATB	American	A. D. De Land Ch. Co., Sheboygan	John Gosse, Sheboygan, R. 4	40.96	59.04	31.20	52.85
Jan. 11	63 JMT	American	Rosedale Ch. Fcty., R. 3, Cambria	Otto Munz, R. 3, Cambria	43.00	57.00	30.50	53.50
Jan. 11	64 JMT	American	Centerville Ch. Fcty., R. F. D., Cambria	Fred Roth, Cambria	39.94	60.06	31.60	52.61
Jan. 12	68 JMT	Brick	Waterside Ch. Fcty., R. F. D., Cambria	Marcel Steiner, Cambria	43.33	56.67	30.00	52.93
Jan. 12	832 GHS	American	Wis. Ch. Prod. Fed., Shawano	Lime Kiln Ch. & Btr. Co., R. 1, Shawano	40.18	59.82	31.8	53.16
Jan. 12	22 FEC	American	Phenix Ch. Coop. Whse., Sheboygan	Art Leuder, R. 2, Sheboygan	42.64	57.36	30.60	53.35
Jan. 12	16 JDC	American	Phenix Ch. House, Plymouth	Ben Weber, Ashippun	40.78	59.22	31.20	52.68
Jan. 12	444 WAS	Brick	Jno. Ruefner, Hartford	John Ruefner, Hartford	44.20	55.80	29.0	51.97
Jan. 13	445 WAS	Brick	Alfred Tschan, Oconomowoc	Alfred Tschan, Oconomowoc	45.81	54.19	27.8	51.30
Jan. 13	446 WAS	American	Jno. Van Buskert, Oconomowoc	Jno. Van Buskert, Oconomowoc	40.63	59.37	31.2	52.55
Jan. 14	486 RBS	American	C. E. Blodgett Ch., Stor., Merrillan	Ellef Steen, Fairchild	33.53	66.47	30.70	46.18
Jan. 16	384 AJR	American	Drywood Ch. Fcty., R. 2, Cadott	Emil Hanson, R. 2, Cadott	39.58	60.42	32.55	53.87
Jan. 16	385 AJR	American	Purity Ch. Fcty., R. 5, Cadott	Geo. Hamm, R. 5, Cadott	43.36	56.64	30.03	53.01
Jan. 17	315 ATB	American	Pauly & Pauly Ch. Whse., Green Bay	Grafton Dairy Co., Grafton	42.30	57.70	26.00	45.13
Jan. 17	170 WER	Brick	Huilsberg Ch. Fcty., R. 2, Rubicon	Fred Schneeberger, R. 2, Rubicon	44.23	55.77	28.60	51.28
Jan. 17	171 WER	Brick	Huilsberg Ch. Fcty., R. 2, Rubicon	Fred Schneeberger, R. 2, Rubicon	44.14	55.86	28.80	51.55
Jan. 18	172 WER	Brick	Cherry Hill Ch. Fcty., R, 1. Rubicon	Carl Adolph Gurtner, R. 1, Rubicon	44.45	55.55	29.50	53.10
Jan. 18	23 FEC	American	F. W. Brehm & Co. Wh., Fennimore	Wm. Frehner, Stitzer	40.64	59.36	31.6	53.23
Jan. 18	24 FEC	American	F. W. Brehn & Co., Fennimore	Wm. Frehner, Stitzer	40.89	59.11	32.0	53.46
Jan. 18	25 FEC	American	F. W. Brehn & Co., Fennimore	Wm. Frehner, Stitzer	40.52	59.48	31.6	53.12
Jan. 18	26 FEC	American	F. W. Brehn & Co., Fennimore	John Fach, Mt. Hope	39.39	60.61	32.4	53.46
Jan. 18	10 GM	Brick	Phenix Ch. Co., Monroe	John Frei, Blanchardville	44.62	55.38	28.0	50.56
Jan. 18	11 GM	Brick	Badger Ch. Co., Monroe	Schindler Fcty., Blanchardville	48.03	51.97	27.00	51.95
Jan. 18	12 GM	Brick	Badger Ch. Co., Monroe	Schindler Fcty., Blanchardville	44.12	55.88	27.37	48.98

CHEESE—NOT STANDARD—Continued

Date of Purchase	Insp. No.	Kind	Bought or Collected at	Manufacturer or Jobber	Composition			
					Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids
1928								
Jan. 18	37 WJK	Brick	Car—Minnesota Jct.	Mr. Dornfeldt	45.93	54.07	27.8	51.41
Jan. 19	38 WJK	American	Car—Horicon	Mr. Behle, Rolling Prairie	40.65	59.35	31.6	53.24
Jan. 19	39 WJK	American	Juneau Ch. Co. Warehouse, Juneau	Gottlieb Freidli, Neosho	41.01	58.99	31.0	52.55
Jan. 19	40 WJK	Brick	Juneau Ch. Co. Cooler, Juneau	Herbert F. Tietz, Ixonia	43.51	56.49	30.4	53.81
Jan. 19	42 WJK	Brick	Juneau Ch. Co. Cooler, Juneau	Paul Pinck, Beaver Dam	43.28	56.72	30.0	52.88
Jan. 19	43 WJK	American	Juneau Ch. Co., Juneau	Otto Voegli, Waterloo	40.01	59.99	30.6	51.01
Jan. 19	83 JMT	Brick	Warnke Bros. Ch. Fcty., Pardeeville	Albert Warnke, Pardeeville	46.43	53.57	26.6	49.65
Jan. 19	174 WER	American	Rock River Ch. Fcty., R. 1, Mayville	Alfred Hanni, R. 1, Mayville	42.66	57.34	30.40	53.01
Jan. 19	175 WER	American	Maple Grove Ch. Fcty., R. 2, Mayville	Carl Eicher, R. 2, Mayville	46.36	53.64	27.50	51.26
Jan. 20	45 WJK	American	Juneau Ch. Co. Cooler, Juneau	Mr. Gronert, Burnett	40.00	60.00	31.0	51.67
Jan. 20	46 WJK	Brick	Phenix Ch. Co., Beaver Dam	Mr. Froelich, Jr., Reeseville	49.89	50.11	25.14	50.17
Jan. 20	318 ATB	American	Winnebago Ch. Co., Fond du Lac	Leo. Mullen, So. Byron	39.47	60.53	31.6	52.21
Jan. 20	319 ATB	American	Winnebago Ch. Co., Fond du Lac	Emil Schneiter, Lomira	39.76	60.24	32.4	53.78
Jan. 20	321 ATB	American	A. C. Dow Ch. Co., Fond du Lac	Fred Rath, Cambria	40.25	59.75	32.0	53.56
Jan. 23	176 WER	American	Morning Glory Ch. Fcty., R. 1, Waterloo	Herman Jenni, R. 1, Waterloo	41.54	58.46	30.00	51.31
Jan. 24	177 WER	American	Lake Shore Ch. Fcty., R. 3, Beaver Dam	Geo. Schram, R. 3, Beaver Dam	44.55	55.45	28.00	50.49
Jan. 24	31 FAG	American	Dairy Belt Ch. Co., Ladysmith	Herman Weigel, Ladysmith	39.81	60.19	33.2	55.16
Jan. 24	32 FAG	American	C. A. Carlson Co., Cameron	Walter Heinz, Prairie Farm	40.32	59.68	32.6	54.62
Jan. 24	33 FAG	American	C. A. Carlson Co., Cameron	Walter Heinz, Prairie Farm	40.82	59.18	31.6	53.40
Jan. 24	47 WJK	American	Juneau Ch. Co. Wh., Juneau	Otto Waldner, Lowell	39.88	60.12	32.4	53.89
Jan. 25	48 WJK	American	Juneau Cheese Co., Juneau	G. T. O'Keefe, Watertown	41.72	58.28	30.0	51.48
Jan. 25	18 JDC	American	Pauly & Pauly Ch. Hse., Zachow	Louis Schoen, R. 3, Pulaski	40.04	59.96	30.8	51.37
Jan. 25	178 WER	Brick	County Line Ch. Fcty., R. 3, Randolph	Wm. G. Kempfer, R. 3, Randolph	47.90	52.10	26.60	51.05
Jan. 26	179 WER	American	Prairie View Ch. Fcty., R. 3, Fox Lake	Gust. J. Bischoff, R. 3, Fox Lake	42.49	57.51	30.50	53.03
Jan. 26	180 WER	American	East Trenton Ch. Fcty., R. 6, Beaver Dam	Earl Gerlach, R. 6, Beaver Dam	41.65	58.35	30.50	52.27
Jan. 26	108 PHM	American	Springdale Fcty., R. 4, Viola	Geo. W. McCumber, R. 4, Viola	39.54	60.46	33.50	55.40
Jan. 27	37 ELA	American	Pauly & Pauly Ch. Co. Wh., Marinette	E. C. Kahler, R. 3, Peshtigo	39.25	60.75	31.60	52.01
Jan. 27	38 ELA	American	Pauly & Pauly Ch. Co. Whse., Marinette	E. C. Kahler, R. 3, Peshtigo	39.47	60.53	31.50	52.04
Jan. 27	34 FAG	American	C. A. Carlson Co., New Richmond	E. R. Hanson, Wheeler	40.80	59.20	31.4	53.04

Jan. 27	35 FAG	American	C. A. Carlson Co., New Richmond	E. R. Hanson, Wheeler	40.51	59.49	31.4	52.78
Jan. 27	181 WER	American	Carey Ch. Fcty., R. 2, Juneau	C. F. Pieper, R. 2, Juneau	45.19	54.81	27.60	50.35
Jan. 30	182 WER	Brick	Schwefel Ch. Fcty., R. 2, Watertown	Alex C. Wagner, Watertown	45.23	54.77	28.50	52.03
Jan. 31	183 WER	American	Granite Hill Ch. Fcty., R. 2, Waterloo	Peter Haesler, R. 2, Waterloo	43.74	56.26	29.50	52.43
Jan. 31	184 WER	American	Granite Hill Ch. Fcty., R. 2, Waterloo	Peter Haesler, R. 2, Waterloo	43.34	56.65	29.60	52.25
Feb. 1	185 WER	American	Vermont Am. Ch. Fcty., Black Earth	Torge Goderstad, Black Earth	39.63	60.37	31.00	51.35
Feb. 1	324 ATB	American	A. H. Barber Whse., Platteville	Percy Anker, Platteville	41.28	58.72	29.8	50.75
Feb. 1	325 ATB	American	A. H. Barber W. H., Platteville	Hans Frutig, Belmont	43.71	56.29	29.0	51.52
Feb. 1	50 WJK	American	Kraft Ch. Co., Beaver Dam	Herman Trueffi, Turtle Lake, R. 2	40.88	59.12	31.20	52.77
Feb. 2	51 WJK	American	Horicon Car, Horicon Depot	Gust Bischoff, R. 2, Fox Lake	41.79	58.21	30.00	51.53
Feb. 2	52 WJK	American	Horicon Car, Horicon	Mr. Behle, Rolling Prairie	41.05	58.95	31.60	53.60
Feb. 3	187 WER	American	Leader Ch. Fcty., R. 1, Reeseville	Max Uttech, R. 1, Reeseville	40.41	59.59	30.40	51.01
Feb. 3	188 WER	American	Leader Ch. Fcty., R. 1, Reeseville	Max Uttech, R. 1, Reeseville	39.30	60.70	30.80	50.74
Feb. 3	13 GM	American	Barber Warehouse, Platteville	P. Anker, Platteville	43.96	56.04	29.60	52.81
Feb. 3	14 GM	American	Barber Warehouse, Platteville	P. Anker, Platteville	43.52	56.48	29.50	52.23
Feb. 3	15 GM	American	Barber Warehouse, Platteville	P. Anker, Platteville	43.43	56.57	30.00	53.05
Feb. 3	16 GM	American	Barber Warehouse, Platteville	P. Anker, Platteville	43.70	56.30	29.50	52.39
Feb. 6	110 PHM	American	Preston Ch. Fcty., Fennimore	F. J. Mulvey, Fennimore	39.45	60.55	33.0	54.50
Feb. 7	326 ATB	American	Eureka Ch. Fcty., R. 5, Darlington	Walter Dahler, Darlington	39.80	60.20	32.40	53.82
Feb. 8	189 WER	Brick	Glen Argyle Ch. Fcty., R. 2, Mayville	Emil Esslinger, R. 2, Mayville	44.96	55.04	28.30	51.41
Feb. 8	54 WJK	Brick	Woodland Car—Woodland	Alvin Swartz, Woodland	46.17	53.83	27.00	50.15
Feb. 9	56 WJK	Brick	Ixonia Car—Ixonia	Walter Lichty, Ixonia	48.68	51.32	26.40	51.44
Feb. 9	57 WJK	American	Ixonia Car—Ixonia	Walter Lichty, Ixonia	50.12	49.88	25.60	51.32
Feb. 9	368 RLR	American	Boss Ch. Fcty., Oshkosh	Fred Krummenacher, Oshkosh	41.17	58.83	31.0	52.69
Feb. 14	190 WER	Brick	Four Town Ch. Fcty., R. 2, Oconomowoc	Ferd. Frutiger, R. 2, Oconomowoc	45.22	54.78	28.60	52.20
Feb. 14	191 WER	Brick	Four Town Ch. Fcty., R. 2, Oconomowoc	Ferd. Frutiger, R. 2, Oconomowoc	45.20	54.80	29.6	54.01
Feb. 14	39 ELA	American	Winnebago Ch. Co., Fond du Lac	Fred Luethy, R. 2, Fond du Lac	39.54	60.46	30.50	50.44
Feb. 15	43 ELA	American	Winnebago Ch. Co., Fond du Lac	Leo Mullen, So. Byron	39.30	60.70	32.00	52.71
Feb. 15	50 JWM	American	Lakeshire Warehouse, Plymouth	Mr. Loeb, St. Cloud	40.00	60.00	31.00	51.66
Feb. 15	54 JWM	American	S. H. Conover Whse., Plymouth	Loehr Bros., St. Cloud	39.44	60.56	32.00	52.84
Feb. 15	55 JWM	American	S. H. Conover Whse., Plymouth	Loehr Bros., St. Cloud	39.82	60.18	32.00	53.17
Feb. 15	42 ELA	American	Winnebago Ch. Co., Fond du Lac	John Bachman, Mayville	39.20	60.80	32.10	52.79
Feb. 15	19 JDC	American	Phenix Ch. House, Sheboygan	Fred Feierstein, Belgium	41.43	58.57	31.00	52.9
Feb. 16	20 JDC	American	Winnebago Ch. Hse., Fond du Lac	Fred Gimmel, Mapleton	40.91	59.09	30.20	51.09
Feb. 21	117 PHM	American	Hub City Fcty., Yuba	Emil L. Nelson, Yuba	41.00	59.00	32.00	54.23
Feb. 21	192 WER	American	Prairie Hill Ch. Fcty., R. 2, Beaver Dam	Carl Bachofen, R. 2, Beaver Dam	42.41	57.59	30.40	52.78
Feb. 21	193 WER	American	Prairie Hill Ch. Fcty., R. 2, Beaver Dam	Carl Bachofen, R. 2, Beaver Dam	42.02	57.98	29.90	51.57
Feb. 21	36 FAG	American	C. A. Carlson Co., New Richmond	E. R. Hansen, Wheeler	40.00	60.00	31.60	52.66
Feb. 21	37 FAG	American	C. A. Carlson Co., New Richmond	E. R. Hansen, Wheeler	40.14	59.86	31.40	52.45
Feb. 21	38 FAG	American	C. A. Carlson Co., New Richmond	E. R. Hansen, Wheeler	41.61	58.39	30.60	52.40
Feb. 21	39 FAG	American	C. A. Carlson Co., New Richmond	E. R. Hansen, Wheeler	41.12	58.88	31.40	53.32
Feb. 23	124 PHM	American	Schmitt Bros. Whse., Cazenovia	S. A. Wolf, Loganville	40.89	59.11	31.60	53.45

CHEESE—NOT STANDARD—Continued

Date of Purchase	Insp. No.	Kind	Bought or Collected at	Manufacturer or Jobber	Composition			
					Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids
1928								
Feb. 24	56 JWM	American	Geo. S. Witcher, Platteville	Percy Anker, Platteville	39.60	60.40	31.60	52.31
Feb. 25	57 JWM	American	Staver Ch. Fcty., Belmont	Mr. Frutig, Belmont	41.32	58.68	29.00	49.42
Feb. 28	58 JWM	American	Peacock Warehouse, Platteville	H. J. Murphy, Platteville	39.17	60.83	33.50	55.07
Feb. 28	60 WJK	Brick	Car at Sun Prairie—Sun Prairie	Henry Thomaschesky, Windsor	44.58	55.42	28.40	51.24
Feb. 28	61 WJK	Brick	Car at Lebanon—Lebanon	Gust Drachenberg, Watertown	44.55	55.45	27.80	50.13
Feb. 28	194 WER	American	Carey Ch. Fcty., R. 2, Juneau	C. F. Pieper, R. 2, Juneau	41.46	58.54	30.40	51.93
Mar. 1	195 WER	American	Westford Ch. Fcty., R. 3, Beaver Dam	Fred Bleuer, R. 3, Beaver Dam	39.77	60.23	31.30	51.96
Mar. 2	196 WER	American	Highland Prairie Ch. Fcty., Juneau	Geo. Mintzlaff, Juneau	40.89	59.11	31.60	53.45
Mar. 2	128 PHM	American	Bloom City Fcty., Bloom City	James F. Dederick, Bloom City	40.19	59.81	31.60	52.83
Mar. 2	129 PHM	American	Bloom City Factory, Bloom City	James F. Dederick, Bloom City	39.36	60.64	32.50	53.59
Mar. 6	28 FEC	American	H. E. Austin, Boscobel	Frank Neis, Wauzeka	40.94	59.06	31.00	52.48
Mar. 7	130 PHM	Brick	Hollandale Ch. Fcty., Hollandale	Herman Schoepfer, Hollandale	47.54	52.46	24.50	46.70
Mar. 7	62 WJK	American	Pabst Dairy, Milwaukee	H. M. Scott, Plymouth	38.40	61.60	30.54	49.57
Mar. 13	23 JDC	American	C. A. Straubel Ch. Co., Gillett	Erich Schuettpelz, Breed	39.45	60.55	32.80	54.17
Mar. 13	327 ATB	American	Max P. Radloff, Fox Lake	G. J. Beschoff, Fox Lake	40.42	59.58	31.60	53.03
Mar. 13	328 ATB	American	Prairie View Ch. Fcty., Fox Lake	G. J. Beschoff, Fox Lake	40.05	59.95	31.80	53.04
Mar. 13	329 ATB	American	E. Trenton Ch. Fcty., Beaver Dam	Earl Gerlach, Beaver Dam	40.60	59.40	30.90	52.02
Mar. 13	330 ATB	American	E. Trenton Ch. Fcty., Beaver Dam	Earl Gerlach, Beaver Dam	42.32	57.68	30.20	52.35
Mar. 14	331 ATB	American	Max P. Radloff, Hustisford	Alfred Hanni, Mayville	39.34	60.66	32.70	53.90
Mar. 14	44 ELA	American	Pauly & Pauly Ch. Co., Marinette	Louis Sheevy, Stephenson, Mich.	42.82	57.18	28.80	50.36
Mar. 14	60 JWM	American	H. L. Noyes, Muscoda	Lewis Drews, Avoca	40.73	59.27	30.40	51.29
Mar. 14	24 JDC	American	Pauly & Pauly, Zachow	Albert Graf, Zachow	41.51	58.49	31.00	53.00
Mar. 16	25 JDC	American	S. J. Stevens Co., Campbellsport	Ray Schmidt, R. 8, Fond du Lac	40.29	59.71	31.20	52.25
Mar. 19	31 FEC	American	Schmitt Bros. Wh., Spring Green	Chas. Wright, Plain	39.68	60.32	31.20	51.72
Mar. 19	491 RBS	American	Woodland Ch. Fcty., Unity	J. M. Dillinger, Unity	39.78	60.22	30.20	50.14
Mar. 19	492 RBS	American	Woodland Coop. Dairy Assoc., Unity	J. M. Dillinger, Unity	40.01	59.99	30.00	50.00
Mar. 20	65 WJK	American	Union Transit & Refrig. Co. at Randolph	Ed. Seeger, Cambria	39.93	60.07	32.00	53.27
Mar. 20	62 JWM	American	G. M. Matznick, R. 1, Kiel	G. M. Matznick, Kiel, R. 1	39.58	60.42	33.00	54.61
Mar. 20	63 JWM	American	Thomas Rohde, R. 1, Timothy	Thomas A. Rohde, R. 1, Timothy	40.22	59.78	30.72	51.38
Mar. 20	64 JWM	American	Pine Grove Coop. Ch. Co., Timothy	Gilbert Blanke, Timothy	39.48	60.52	32.20	53.20
Mar. 21	66 JWM	American	Dairy State Cold Stge. Co., Plymouth	G. G. Krueger, New Holstein	40.93	59.07	29.57	50.05
Mar. 21	57 JWM	American	Dairy State Cold Stge. Co., Plymouth	G. G. Krueger, New Holstein	39.36	60.64	29.61	48.82
Mar. 22	68 JWM	American	Phoenix Warehouse, Plymouth	Fred Schneeberger, Oostburg	41.66	58.34	29.60	50.73

Mar. 22	69 JWM	American	Phoenix Warehouse, Plymouth	Fred Schneeberger, Oostburg	41.63	58.37	30.20	51.73
Mar. 22	70 JWM	American	H. Blanke Ch. Co., Plymouth	Saukville Dairy Co., Saukville	39.30	60.70	31.90	52.55
Mar. 22	71 JWM	American	H. Blanke Whse., Plymouth	Oscar Gerlach, West Bend	41.12	58.88	27.40	46.53
Mar. 22	335 ATB	Pimento	Jung Merc. Co., Sheboygan	Sheboygan Ch. Co., Sheboygan	38.08	61.92	30.31	48.95
Mar. 22	336 ATB	Proc. Amer.	Jung Merc. Co., Sheboygan	Sheboygan Ch. Co., Sheboygan	40.43	59.57	30.52	51.23
Mar. 24	33 FEC	American	F. W. Brehm & Co. Whse., Fennimore	Frank Neis, Wauzeka	39.24	60.76	32.40	53.32
Mar. 24	34 FEC	American	F. W. Brehm & Co. Whse., Fennimore	Frank Neis, Wauzeka	41.50	58.50	30.60	52.30
Mar. 24	35 FEC	American	F. W. Brehm & Co. Whse., Fennimore	Frank Neis, Wauzeka	40.89	59.11	31.30	52.95
Mar. 27	26 JDC	American	Winnebago Ch. Co., Fond du Lac	Fred Zuberbuehler, Horicon	40.62	59.38	31.00	52.20
Mar. 28	27 JDC	American	Winnebago Ch. Co., Fond du Lac	Wm. Larson, R. 3, Fond du Lac	39.70	60.30	31.60	52.40
Mar. 29	46 ELA	American	Pauly & Pauly Ch. Co., Marinette	E. C. Kahler, Peshtigo	38.66	61.34	26.39	43.02
Mar. 30	71 WJK	American	Juneau Ch. Co., Juneau	Bert Bachofen, R. 1, Columbus	39.75	60.25	31.40	52.11
Mar. 30	72 WJK	American	Juneau Ch. Co., Juneau	W. Trepton, Randolph	39.30	60.70	32.40	53.37
Mar. 30	47 ELA	American	Pauly & Pauly Whse., Marinette	Louis Sheevey, Stephenson, Mich.	45.26	54.74	27.13	49.56
Mar. 30	48 ELA	American	Pauly & Pauly Whse., Marinette	Louis Sheevey, Stephenson, Mich.	39.56	60.44	31.62	52.32
Mar. 30	49 ELA	American	Pauly & Pauly Whse., Marinette	Louis Sheevy, Stephenson, Mich.	41.09	58.91	29.89	50.74
Mar. 30	50 ELA	American	Pauly & Pauly Whse., Marinette	Louis Sheevy, Stephenson, Mich.	41.42	58.58	29.55	50.44
Mar. 31	28 JDC	American	Pauly & Pauly C. House, Seymour	Emil Wimmer, Seymour	40.10	59.90	31.70	52.92
April 4	73 JWM	American	Pabst Coop. Plant, Milwaukee	H. H. DeKarske, Fredonia	39.56	60.44	31.40	51.95
April 4	74 JWM	American	Pabst Coop. Plant, Milwaukee	Oscar Knudson, Cobb	41.24	58.76	30.20	51.39
April 5	75 JWM	American	Pauly & Pauly, Manitowoc	Henry Brux, Ladysmith	39.69	60.31	32.20	53.39
April 5	29 JDC	American	C. A. Straubel, Birnamwood	Carl Maurer, Aniwa	41.80	58.20	31.00	53.26
April 5	40 FAG	American	Kraft Ch. Co., Marshfield	James Parkinson, Granton	41.76	58.24	29.60	50.82
April 5	41 FAG	American	Kraft Ch. Co., Marshfield	James Parkinson, Granton	42.24	57.76	29.00	50.20
April 5	42 FAG	American	Kraft Ch. Co., Marshfield	James Parkinson, Granton	40.09	59.91	30.40	50.74
April 5	43 FAG	American	Kraft Ch. Co., Marshfield	James Parkinson, Granton	40.46	59.54	30.40	51.05
April 6	30 JDC	American	C. A. Straube Ch. House, Marion	R. E. Kreiwaldt, Marion	39.11	60.89	32.50	53.37
April 9	29 FEC	American	F. W. Brehm Whse., Fennimore	Frank Neis, Wauzeka	39.66	60.34	32.40	53.69
April 9	30 FEC	American	F. W. Brehm Whse., Fennimore	Frank Neis, Wauzeka	41.08	58.92	32.00	54.31
April 11	79 JWM	American	A. & P. Whse., Green Bay	Walter Siebert, Forest Jct.	40.27	59.73	31.80	53.23
April 11	930 RRC	American	Bangor Ch. Fcty., Bangor	Fred Schwartz, Bangor	42.36	57.64	30.00	52.04
April 13	31 JDC	American	Pauly & Pauly Ch. Hse., Zachow	Leo Timler, Krakow	42.08	57.92	30.40	52.48
April 14	32 JDC	American	Jacquot Ch. Co., Appleton	Geo. Schenk, Bear Creek	39.98	60.02	31.80	52.98
April 16	75 WJK	American	Juneau Ch. Co., Juneau	Art Kleman, R. 4, Oconomowoc	39.90	60.10	31.50	52.41
April 16	76 WJK	American	Juneau Ch. Co., Juneau	Gott. Freidli, Neosho	40.36	59.64	30.40	50.97
April 16	77 WJK	American	Juneau Ch. Co., Juneau	Otto Voegli, Waterloo	42.75	57.25	29.50	51.52
April 16	78 WJK	American	Juneau Ch. Co., Juneau	Otto Voegli, Waterloo	42.90	57.10	29.10	50.96
April 19	79 WJK	American	Juneau Ch. Co., Juneau	Gott. Schubiger, R. 3, Juneau	45.89	54.11	27.10	50.08
April 21	33 JDC	American	Armour Cry's, Neenah	Art Hein, Hortonville	39.86	60.14	31.40	52.21
April 24	52 ELA	American	Pauly & Pauly Ch. Co., Whse., Marinette	E. C. Kahler, Peshtigo	40.05	59.95	31.33	52.26
April 24	53 ELA	American	Pauly & Pauly Ch. Co., Whse., Marinette	E. C. Kahler, Peshtigo	41.82	58.18	30.37	52.20
April 24	54 ELA	American	Pauly & Pauly Ch. Co., Marinette	E. C. Kahler, Peshtigo	39.83	60.17	31.60	52.51
April 24	55 ELA	American	Pauly & Pauly Ch. Co., Marinette	E. C. Kahler, Peshtigo	43.46	56.54	29.86	52.81
April 25	57 ELA	American	Pauly & Pauly Ch. Co., Marinette	Ignatz Lubinski, Krakow	41.15	58.85	31.50	53.52

CHEESE—NOT STANDARD—Continued

Date of Purchase	Insp. No.	Kind	Bought or Collected at	Manufacturer or Jobber	Composition			
					Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids
1928								
April 26	80 WJK	Brick	Car at Ixonia, Ixonia	Walter Lichty, Ixonia	44.61	55.39	28.50	51.45
April 26	81 WJK	American	Juneau Ch. Co., Juneau	Gottlieb Schubiger, Juneau	42.55	57.45	29.00	50.47
April 26	82 WJK	Brick	Juneau Ch. Co., Juneau	Gottlieb Schubiger, Juneau	44.70	55.30	27.40	49.55
April 26	83 WJK	American	Car at Horicon, Horicon	Max Radloff, Hustisford	41.36	58.64	30.60	52.18
May 1	84 WJK	American	Car at Marshall, Marshall	Wuethrich Bros., Doylestown	42.26	57.74	29.00	50.22
May 2	85 WJK	Brick	Robt. Gronert, Burnett	Robt. Gronert, Burnett	43.89	56.11	29.40	52.39
May 7	34 JDC	American	Armour Cry's., Neenah	R. C. Jones, R. 3., Waupaca	40.80	59.20	30.50	51.52
May 9	35 JDC	American	Winnebago Ch. Co., Fond du Lac	Geo. Duffrin, Eldorado	40.88	59.12	29.00	49.05
May 9	114 JMT	Brick	Riverside Ch. Fcty., Ixonia, R. F. D.	Frank Pirola, Ixonia	43.39	56.61	29.00	51.22
May 10	58 ELA	American	Pauly & Pauly Whse., Manitowoc	Clarence Halverson, Reedsville	41.51	58.49	30.50	52.14
May 18	86 WJK	American	Juneau Ch. Co., Juneau	W. Treptow, Randolph	40.64	59.36	30.20	50.87
May 18	87 WJK	American	Juneau Ch. Co., Juneau	Martin Koepsell, R. 3, Brandon	39.51	62.49	31.50	50.40
May 23	59 ELA	American	Pauly & Pauly Whse., Two Rivers	Arthur Bauch, R. 1, Two Rivers	41.22	58.78	30.60	52.05
May 24	36 JDC	American	C. A. Straubel Ch. Co., Birnamwood	Art Mallion, Pulcifer	42.01	57.99	30.00	51.73
May 24	88 WJK	Brick	Car at Iron Ridge, Iron Ridge	Carl Bruni, Iron Ridge	44.85	55.15	26.50	48.05
May 24	89 WJK	Brick	Car at Iron Ridge, Iron Ridge	Herman Koepsell, Mayville	44.38	55.62	28.50	51.24
May 25	44 FAG	American	C. E. Blodgett Ch., Btr. & Egg Co., Athens	Carl Hopperdietzel, Athens	42.61	57.39	28.50	49.66
June 7	407 ATB	American	Kraft Cheese House, Thorp	Joe Schmittfranz, Thorp	39.31	60.69	29.96	49.36
June 14	493 RBS	American	Lone Pine Ch. Fcty., Thorp	Joe Scmittfranz, Thorp	38.42	61.58	30.53	49.57
June 14	494 RBS	American	Lone Pine Ch. Fcty., Thorp, R. 1	Joe Scmittfranz, Thorp, R. 1	39.31	60.69	30.63	50.46
June 14	495 RBS	American	S. Point Ch. Fcty., Thorp, R. 1	Aug. Ehlert, Thorp, R. 1	40.34	59.66	29.45	49.36
June 15	408 ATB	American	Schmitt Bros., Mineral Point	W. A. Woolcock, Darlington	37.78	62.22	30.41	48.87
June 22	37 JDC	American	Armour Cry's., Neenah	Art Bartelt, R. 6, Oshkosh	39.26	60.74	29.49	48.55
June 26	410 ATB	American	Peacock Ch. Co., Platteville	McCannel Cry. Co., McCannel, Ill.	40.20	59.80	30.16	50.43
June 28	412 ATB	American	Connelly Ch. Fcty., Blanchardville	C. W. Woolcock, Darlington	37.55	62.45	30.89	49.46

CHEESE—SUBMITTED SAMPLES

American

Date	Submitted by	Composition				Remarks
		Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids	
1926						
July 31	A. H. Koelle, Chicago, Ill.	39.24	60.76	32.34	53.22	Not standard—Contains excessive moisture
Aug. 12	Wm. Winder, Richland Center	42.42	57.58	16.83	29.22	Adulterated—below standard in fat, high in moisture
Sept. 13	W. F. Conway, Portage	42.67	57.33	31.35	54.68	Not standard— contains excessive moisture
Sept. 17	Mathew Michels, Madison	39.80	60.20	31.46	52.25	Not standard—contains excessive moisture
Sept. 25	Wm. Winder, Richland Center	39.28				Not standard
Oct. 6	Wm. Winder, Richland Center	39.87				Not standard—excessive moisture
Oct. 9	F. A. Graf, Marshfield	41.31				Not standard—contains excessive moisture
Oct. 12	F. E. Carswell, Richland Center	42.41				Not standard—contains excessive moisture
Oct. 20	F. A. Graf, Marshfield	39.94				Not standard—contains excessive moisture
Oct. 20	F. A. Graf, Marshfield	40.62				Not standard—contains excessive moisture
Dec. 30	W. E. Radke, Watertown	46.26				Not standard—contains excessive moisture
1927						
Feb. 14	A. S. Paine, C. & N. W. R. R. Co., Chicago, Ill.	41.00	59.00	31.55	53.47	Not standard—contains excessive moisture
Mar. 15	O. W. Necker, Lena	41.71				Not standard—contains excessive moisture
Oct. 21	Walter Kramer, Madison	50.98				Not standard—contains excessive moisture
Nov. 12	H. B. Luethy, Byron	38.92	61.08	29.83	48.82	Not standard—below standard in fat
Nov. 12	H. B. Luethy, Byron	39.52	60.48	30.01	49.61	Not standard— below standard in fat, high moisture
Nov. 12	H. B. Luethy, Byron	37.71	62.29	30.93	49.65	Not standard—below standard in fat
Dec. 1	F. W. Brehm & Co., Fennimore	39.12	60.88	32.40	53.21	Not standard—contains excessive moisture
Dec. 30	Phenix Cheese Corp., Plymouth	39.90	60.10	32.39	53.89	Not standard—contains excessive moisture
Dec. 30	Phenix Cheese Corp., Plymouth	40.12	59.85	31.78	53.09	Not standard—contains excessive moisture
1928						
Jan. 9	Sheboygan Falls Cry. Co., Sheboygan	41.08	58.92	30.50	51.76	Not standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	39.67				Not standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	39.45				Not standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	39.45				Not standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	41.18				Not standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	42.51				Not standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	41.11				Not standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	41.08				Not standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	39.40				Not standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	40.56				Not standard—contains excessive moisture

CHEESE—SUBMITTED SAMPLES—Continued

Date	Submitted by	Composition				Remarks
		Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids	
1926						
Jan. 9	John Kirkpatrick, Inc., Richland Center	41.42				Not Standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	42.54				Not Standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	39.95				Not Standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	40.46				Not Standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	40.19				Not Standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	40.12				Not Standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	40.85				Not Standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	39.77				Not Standard—contains excessive moisture
Jan. 9	John Kirkpatrick, Inc., Richland Center	41.54				Not Standard—contains excessive moisture
Jan. 12	Di Santo & Co., Duluth, Minnesota	44.64	55.36	18.58	33.56	About one-half fat had been removed from the milk
April 12	C. C. Manning, Fennimore	39.66	60.34	32.30	53.53	Not Standard— contains excessive moisture
May 7	Kraft-Phenix Cheese Co., Beaver Dam	43.00				Not Standard—contains excessive moisture
May 14	C. E. Blodgett B. & Egg Co., Marshfield	40.38	59.62	31.00	51.99	Not Standard—contains excessive moisture

CHEESE—SUBMITTED SAMPLES

Brick and Limburger Variety

Date	Submitted by	Composition				Remarks
		Per cent Moisture	Per cent Solids	Per cent Fat	Per cent Fat in Solids	
1926						
Oct. 25	Lakeshire Cheese Company, Plymouth	39.23	60.77	27.88	45.87	Not Standard—below standard in fat
Oct. 25	Lakeshire Cheese Company, Plymouth	39.10	60.90	27.24	44.72	Not Standard—below standard in fat
Oct. 25	Lakeshire Cheese Company, Plymouth	45.25	54.75	25.26	46.13	Not Standard—below standard in fat, high moisture
Oct. 25	Lakeshire Cheese Company, Plymouth	46.35	53.65	24.18	45.07	Not Standard—below standard in fat, high moisture
1927						
July 21	Badger Cheese Company, Monroe	39.02	60.98	30.00	49.19	Not Standard—below standard in fat
Oct. 25	Badger Cheese Company, Monroe	36.99	63.01	31.16	49.45	Not Standard—below standard in fat

CREAM FROM CITY MILK SUPPLY—NOT STANDARD

Date	Insp. No.	Delivered by or bought by	City	Per cent Milk Fat
1926				
Aug. 19	667 ARV	Musil Milk Company	Manitowoc	16.12
Nov. 17	318 RLR	A. Kollath	Seymour	17.25
Nov. 29	671 ARV	Alb. Krueger	Reedsville	17.50
Dec. 21	ARV	Austin Dairy	Plymouth	15.50
Dec. 28	299 AJR	Ideal Cafe	Rice Lake	10.87
1927				
Jan. 11	331 RLR	Bert Weyenberg	Appleton	15.84
Jan. 11	332 RLR	W. J. Tiedt	Appleton	16.13
Jan. 11	333 RLR	John Hietpac	Appleton	15.87
Jan. 13	335 RLR	Henry Birling	Menasha	15.66
Jan. 13	336 RLR	Nels Jacobsen	Neenah	15.86
Feb. 1	776 GHS	J. J. Hickey	Rhinelander	14.25
Feb. 1	777 GHS	Oneida Milk & Ice Cream Co.	Rhinelander	16.39
Feb. 1	778 GHS	Oneida Milk & Ice Cream Co.	Rhinelander	16.57
Feb. 1	779 GHS	Berstein Dairy Farm	Rhinelander	15.36
Feb. 3	438 RBS	Mike Redig Dairy (bought at Wm. Krause Store)	Marshfield	15.48
Feb. 4	439 RBS	Mike Redig Dairy (bought at Wm. Krause Store)	Marshfield	15.99
Feb. 4	440 RBS	Mike Redig Dairy (bought of W. A. Humphrey)	Marshfield	16.14
Feb. 8	638 JJW	Maple Lawn Dairy	Green Bay	15.19
Feb. 15	834 RRC	Wendling Bros.	La Crosse	15.71
Feb. 17	835 RRC	Krause Bros. Dairy	Onalaska	14.72
Feb. 17	323 AJR	Commercial Hotel Cafe	Hudson	13.70
Mar. 9	793 GHS	Bernstein Dairy Farm	Rhinelander	14.74
Mar. 29	347 RLR	Fred Frank	Stevens Point	16.71
April 7	852 RRC	H. M. Young	Ellsworth	16.03
Sept. 21	757 ARV	Austin Dairy	Plymouth	16.00
Nov. 15	917 RRC	Dr. H. Hensel	Arcadia	13.13
Nov. 17	810 GHS	John Tassava	Hurley	14.18
Nov. 17	811 GHS	James Cox	Hurley	15.65
Nov. 30	817 GHS	Ed. Haeger	Tomahawk	15.36
Nov. 30	365 AJR	J. C. Levines	Superior	14.52
Nov. 30	366 AJR	Manitou Falls Dairy	Superior	15.56
Dec. 1	368 AJR	W. Terry	Superior	12.46
Dec. 2	369 AJR	J. H. Carlsgaard	Superior (East End)	16.41

ICE CREAM—NOT STANDARD

Date	Bought of or Submitted by	Manufacturer or Jobber	Fat	Total Solids	Artificial Color
1926					
June 4	L. R. Keefe, Mosinee	Ed. Emmerich, Mosinee	11.02		none
June 18	E. F. Brown, Pittsville	Ralph Baker, Marshfield	11.46		none
July 21	Bayfield Coop. Cry., Bayfield	Dhooge Cry. Co., Ashland	10.18		
Aug. 4	Dhooge Cry. Co., Ashland	Dhooge Cry. Co., Ashland	11.91	36.71	
Aug. 18	Bayfield Cry. Co., Bayfield	Dhooge Cry. Co., Ashland	11.54		
Sept. 1	Karpinski & Gulden, Rosholt	Mory Ice Cream Co., Stevens Point	11.71		
Sept. 3	Milwaukee Package Ch. Co., Little Black	Milwaukee Package Ch. Co., Little Black	10.42		
Sept. 13	Corcoran's Trail 12 Cafe, Hudson	Crescent Cry. Co., St. Paul	12.72		present
Sept. 13	Rouman's, Rice Lake	Rice Lake Cry. Co., Rice Lake	10.74		
Sept. 9	N. W. Heintz, Rice Lake	G. O. Gustafson, Rice Lake	9.29		
Sept. 9	Mills Drug Co., Rice Lake	Rice Lake Cry. Co., Rice Lake	11.16		
Sept. 22	Everson & Holm, Ladysmith		11.62		
Sept. 28	Tri-State Ice Cream Corp., Eau Claire	Tri-State Ice Cream Corp., Eau Claire	11.63		
Oct. 4	Mills Drug Co., Rice Lake	Rice Lake Cry. Co., Rice Lake	11.80		
Oct. 4	N. W. Heintz, Rice Lake	G. O. Gustafson, Rice Lake	10.76		
Oct. 4	A. Gilbertson, Rice Lake	G. O. Gustafson, Rice Lake	11.16		
Oct. 8	Pete Schaffner, New Richmond	Crescent Cry. Co., St. Paul	11.81		
Oct. 19	Dhooge Cry. Co., Ashland		10.37	34.77	
Dec. 24	A. Gilbertson, Rice Lake	Gustafson Ice Cream Co., Rice Lake	11.43		
1927					
Jan. 25	Effinger Ice Cream Co., Baraboo	Effinger Ice Cream Co., Baraboo	11.69		
Feb. 28	Geo. Mills, Rice Lake	G. O. Gustafson, Rice Lake	0.94		
Feb. 28	Rouman's, Rice Lake	Rice Lake Cry. Co., Rice Lake	10.90		
Feb. 28	E. Gross, Rice Lake	G. O. Gustafson, Rice Lake	10.44		
Mar. 15	Chicras Bros., Superior	Chicras Bros., Superior	11.60		
Mar. 16	Earl Goeltz, Ashland	Bridgeman-Russell Co., Duluth	11.80		present
Mar. 30	Tri-State Ice Cream Corp., Eau Claire	Tri-State Ice Cream Corp., Eau Claire	11.02		
June 10	Paul Weiher, Almond	Ripon Ice Cream & Bev. Co., Ripon	11.16		

June 17	Wm. E. Pratt, Black River Falls	Wm. E. Pratt, Black River Falls	10.43		
June 24	Sam Christianson, Ridgeland	Rice Lake Cry. Co., Rice Lake	11.83		
June 30	Menominee Dairy Co., Menominee	Menominee Dairy Co., Menominee	11.23		
June 30	Princess Conf., Sheboygan	Sheboygan Dairy Prod. Co., Sheboygan	10.83		
July 22	H. J. Gaerke, Athens	Peter Malheisen, Edgar	11.93		
Aug. 19	Ralph J. Baker, Marshfield	Ralph J. Baker, Marshfield	10.40	34.17	
Sept. 30	J. C. Worle, River Falls	Redman Cry. Co., Hudson	11.71	37.12	
Oct. 6	Clyde Yeoman's Grocery, Durand	Redman Cry. Co., Hudson	11.82	36.18	
1928					
May 18	Peter Mastones, Park Falls	Bridgeman-Russell Co., Duluth	11.16		

MILK—NOT STANDARD

Delivered to Cheese Factories, Creameries or Condenseries

Date	Insp. No.	Delivered by	Delivered to	Composition					Remarks
				Sp. G. 15.5°	Per cent Milk Fat	Per cent Total Solids	Per cent Solids Not Fat	I. R. of Whey	
1926									
July 2	581 ARV	Carl Sweet, Plymouth	Highland Ch. Fcty., Plymouth	1.0266	3.1	10.28	7.18	37.70	19.5 pts. water, 100 pts. milk.
July 2	20 PHM	H. Effinger, Highland	Red Oak Ch. Fcty.		2.85				
July 6	15 WER	A. Schachtner, Reeseville	Portland Ch. Fcty.	1.0281	3.25	10.84	7.59	38.90	10 pts. water, 100 pts. milk
July 9	586 ARV	E. Janke, Adell	Spring Valley Ch. Fcty., Adell	1.0302	2.9	11.01	8.11	41.05	delivered as produced
July 9	587 ARV	Alb. Vorpegel, Adell	Spring Valley Ch. Fcty., Adell	1.0325	2.5	11.08	8.58	41.45	delivered as produced
July 12	19 WER	J. Stangler, Watertown	Hancock Ch. Fcty., Watertown	1.0269	2.85	10.29	7.44	37.20	14 pts. water, 100 pts. milk
July 13	590 ARV	Mrs. L. Steenwaldt, Adell	Spring Valley Ch. Fcty., Adell	1.0301	2.7	10.90	8.20	40.80	
July 16	156 WJC	Emil Gernick, Merrimac	Caledonia Ch. Fcty., Merrimac	1.0279	3.1	10.60	7.50	39.50	11.4 pts. water, 100 pts. milk
July 22	23 PHM	C. A. Kratchewell, Muscoda	Orth Ch. Fcty., Muscoda	1.0307	2.7	11.20	8.50	41.55	Skimmed
July 22	24 PHM	Ed. Laufenberg, Muscoda	Orth Ch. Fcty., Muscoda	1.0309	2.7	11.12	8.42	41.60	
July 23	257 AJR	Joe Walport, Birchwood	Wilson Valley Ch. Fcty., Birchwood	1.0266	3.5	10.90	7.40	37.80	16.5 pts. water, 100 pts. milk
July 29	755 GHS	Emil Possum, Pulaski	Angelica Ch. Fcty., Pulaski	1.0299	2.90	11.14	8.24	41.15	Skimmed
July 29	757 GHS	Frank Janahowski, Pulaski	Angelica Ch. Fcty., Pulaski	1.0295	3.0	11.04	8.04	39.90	
July 29	759 GHS	Felix Wleczyk, Pulaski	Angelica Ch. Fcty., Pulaski	1.0310	3.1	11.49	8.39	40.15	delivered as produced
July 29	27 PHM	Walter Naegel, Edmund	Edmund Cry. Co., Edmund	1.0205	2.4	7.78	5.38	30.35	68 pts. water, 100 pts. milk
July 29	28 PHM	Walter Naegel, Edmund	Edmund Cry. Co., Edmund	1.0252	3.12	10.06	6.94	35.15	24 pts. water, 100 pts. milk
Aug. 3	30 PHM	Walter Naegel, Edmund	Edmund Cry. Co., Edmund	1.0197	2.25	7.72	5.47	30.75	58.3 pts. water, 100 pts. milk
Aug. 3	31 PHM	Walter Naegel, Edmund	Edmund Cry. Co., Edmund	1.0258	3.35	10.42	7.07	35.65	22.4 pts. water, 100 pts. milk
Aug. 3	32 PHM	G. E. Gilbertson & Son, Edmund	Edmund Cry. Co., Edmund	1.0298	2.70	10.69	7.99	39.35	
Aug. 3	607 JL	Otto Hein, Juda	Maple Gr. Ch. Fcty., Juda	1.0268	2.80	10.09	7.29	38.45	12 pts. water, 100 pts. milk
Aug. 6	38 PHM	Mrs. F. Holtzbor, Highland	Rocky Point Ch. Fcty., Highland	1.0306	3.70	11.95	8.25	40.70	
Aug. 6	39 PHM	Wengel Marash, Highland	Rocky Point Ch. Fcty., Highland	1.0288	3.70	11.70	8.00	39.50	
Aug. 6	22 WER	B. Becker, Belleville	New Central Coop.Ch.Fcty.	1.0269	2.80	10.25	7.45	38.20	9 pts. water to 100 pts. milk
Aug. 17	40 PHM	E. Rossing, Highland	High Point Ch. Fcty., Highland	1.0298	2.85	10.83	7.98	38.60	9 pts. water to 100 pts. milk

Aug. 17	41 PHM	Wm. Shea, Highland	High Point Ch. Fcty., Highland	1.0322	2.75	11.39	8.64	40.50	
Aug. 17	42 PHM	John Shea, Highland	High Point Ch. Fcty., Highland	1.0323	3.00	11.38	8.38	39.50	
Aug. 17	43 PHM	Ben Rager, Highland	High Point Ch. Fcty., Highland	1.0272	2.50	9.66	7.16	35.80	19.4 pts. water, 100 pts. milk
Aug. 17	44 PHM	Joe Novak, Highland	High Point Ch. Fcty., Highland	1.0323	2.90	11.35	8.45	39.90	
Aug. 18	45 PHM	Mrs. H. Richards, Dodgeville	Union Pr. Ch., Dodgeville	1.0328	2.90	11.67	8.77	40.85	
Aug. 18	46 PHM	Mrs. H. Richards, Dodgeville	Union Pr. Ch., Dodgeville	1.0312	3.30	11.61	8.31	39.80	
Aug. 18	47 PHM	Mrs. H. Richards, Dodgeville	Union Pr. Ch., Dodgeville	1.0322	3.65	12.00	8.35	40.15	
Aug. 18	572 JJW	Mrs. Anna Falask, Oconto Falls	Spruce Ch. Fcty.	1.0208	2.50	8.06	5.56	31.95	
Aug. 18	573 JJW	E. Kuplic, Oconto Falls	Spruce Ch. Fcty.	1.0281	3.30	10.77	7.40	39.10	10.6 pts. water, 100 pts. milk
Aug. 18	575 JJW	Mrs. J. Desseinski, Oconto Falls	Spruce Ch. Fcty.	1.0280	3.20	10.85	7.65	39.05	12.4 pts. water, 100 pts. milk
Aug. 19	48 PHM	Ed. Cline, Cazenovia	Upper Big Willow Ch. Fcty., Cazenovia	1.0297	3.15	10.99	7.84	38.65	
Aug. 19	49 PHM	Oscar Mercer, Cazenovia	Upper Big Willow Ch. Fcty., Cazenovia	1.0282	2.70	10.01	7.31	36.30	20 pts. water, 100 pts. milk
Aug. 19	50 PHM	Oscar Mercer, Cazenovia	Upper Big Willow Ch. Fcty., Cazenovia	1.0286	2.85	10.23	7.38	35.15	
Aug. 24	53 PHM	Walter Naegel, Edmund	Edmund Cry. Co., Edmund	1.0227	3.15	9.38	6.23	34.20	
Aug. 24	54 PHM	Walter Naegel, Edmund	Edmund Cry. Co., Edmund	1.0209	3.25	9.13	5.88	33.25	
Aug. 24	55 PHM	G. E. Gilbertson & Son, Edmund	Edmund Cry. Co., Edmund	1.0298	3.2	11.35	8.15	40.10	
Aug. 24	56 PHM	Del Johnson, Edmund	Edmund Cry. Co., Edmund	1.0314	3.4	11.40	8.00	37.85	
Aug. 24	57 PHM	Del Johnson, Edmund	Edmund Cry. Co., Edmund	1.0309	3.1	11.19	8.09	38.70	
Aug. 25	577 JJW	John Lee, Denmark	Stack Ch. Fcty., Denmark					38.40	10 pts. water, 100 pts. milk
Aug. 25	579 JJW	Jos. Lee, Denmark	Stack Ch. Fcty., Denmark	1.0287	2.6	10.23	7.63	36.50	
Aug. 25	581 JJW	Edward Kieser, Maribel	Stack Ch. Fcty.	1.0257	3.0	10.14	7.14	36.80	22 pts. water, 100 pts. milk
Aug. 25	585 JJW	Wm. Reedy, Maribel	Stack Ch. Fcty.	1.0300	3.7	12.08	8.38	40.75	
Aug. 25	587 JJW	Norbert Morgan, Denmark	Stack Ch. Fcty., Denmark	1.0279	3.6	11.27	7.67	38.90	
Aug. 30	609 JL	John Barth, Darlington	Vinegar Br. Ch. Fcty., Darlington	1.0291	2.6	10.55	7.95	39.20	delivered as produced
Aug. 30	610 JL	Will Butry, Darlington	Vinegar Br. Ch. Facty., Darlington	1.0295	2.45	10.47	8.02	39.80	Skimmed
Aug. 30	611 JL	Alvin Burke, Darlington	Vinegar Br. Ch. Fcty., Darlington	1.0258	2.65	9.86	7.21	37.35	14.4 pts. water, 100 pts. milk
Aug. 30	612 JL	Aug. Carlson, Darlington	Vinegar Br. Ch. Fcty., Darlington	1.0298	2.7	10.83	8.13	40.20	Delivered as produced
Sept. 1	61 PHM	S. S. Anderson, Muscoda	Lewis Ch. Fcty., Muscoda		2.9				

MILK—NOT STANDARD—Continued

Date	Insp. No.	Delivered by	Delivered to	Composition					Remarks
				Sp. G. 15.5°	Per cent Milk Fat	Per cent Total Solids	Per cent Solids Not Fat	I. R. of Whey	
1926									
Sept. 1	64 PHM	L. Trainor, Blue Mounds	Brunner Ch. Fcty., Blue Mounds	1.0296	3.5	11.92	8.42	40.70	
Sept. 1	65 PHM	Geo. Burns, Blue Mounds	Brunner Ch. Fcty., Blue Mounds	1.0256	3.0	10.02	7.02	36.35	16 pts. water, 100 pts. milk
Sept. 1	66 PHM	O. Olson, Blue Mounds	Brunner Ch. Fcty., Blue Mounds	1.0300	2.9	11.15	8.25	39.75	Delivered as produced
Sept. 1	67 PHM	Roy Moyor, Blue Mounds	Brunner Ch. Fcty., Blue Mounds	1.0292	3.5	11.68	8.18	39.90	
Sept. 7	72 PHM	Anderson Bros., Avoca	Oak Lawn Ch. Fcty.	1.0304	3.5	11.89	8.37	41.10	
Sept. 7	75 PHM	Charlie Bell, Avoca	Oak Lawn Ch. Fcty.	1.0314	3.7	12.07	8.37	40.75	
Sept. 7	76 PHM	Ed. Smith, Avoca	Oak Lawn Ch. Fcty.	1.0285	3.55	11.42	7.87	39.00	10 pts. water, 100 pts. milk
Sept. 7	77 PHM	Tom Griffiths, Avoca	Oak Lawn Ch. Fcty.	1.0292	3.25	11.36	8.11	40.45	
Sept. 7	79 PHM	John Crook, Avoca	Oak Lawn Ch. Fcty.	1.0305	2.65	11.03	8.38	40.35	Skimmed
Sept. 10	760 GHS	Gust Buss, Norrie	Lake View Ch. Fcty., Norrie	1.0231	2.8	9.50	6.70	34.60	32 pts. water, 100 pts. milk
Oct. 5	592 JJW	Ed. Welke, Underhill	Underhill Ch. Fcty., Underhill	1.0263	3.2	10.66	7.46	35.90	20.5 pts. water, 100 pts. water
Oct. 5	594 JJW	Wm. Mosher, Underhill	Underhill Ch. Fcty., Underhill	1.0284	3.05	10.96	7.71	37.95	13.5 pts. water, 100 pts. milk
Oct. 5	596 JJW	Julius Klott, Underhill	Underhill Ch. Fcty., Underhill	1.0268	3.1	10.32	7.22	36.10	17 pts. water, 100 pts. milk
Oct. 6	598 JJW	Julius Laugerene, Brussels	Red Riv. Union Ch. Fcty., Brussels	1.0270	3.6	11.24	7.64	37.10	20.7 pts. water, 100 pts. milk
Oct. 6	600 JJW	Vic. Laugerene, Luxemburg	Red River Union Ch. Fcty.	1.0283	3.2	11.06	7.86	37.25	13.3 pts. water, 100 pts. milk
Oct. 6	617 JL	Holver Breistad, Blanchardville	York Center Ch. Fcty., Blanchardville	1.0261	3.0	10.52	7.52	37.40	14.4 pts. water, 10 pts. milk
Oct. 6	618 JL	Alb. Hang, Blanchardville	York Center Ch. Fcty., Blanchardville	1.0273	3.6	11.51	7.91	39.00	6 pts. water, 100 pts. milk
Oct. 22	621 JL	Ed. Stauffacher, Monroe	First Swiss Ch. Fcty., Monroe	1.0308	2.75	11.31	8.56	41.50	Delivered as produced
Oct. 26	96 PHM	Pete Walker, Highland	Big Spring Ch. Fcty.	1.0263	3.19	10.38	7.28	36.40	28.8 pts. water, 100 pts. milk
Nov. 18	171 WFC	Edward Winger, Ixonia	Green Valley B. & C. Fcty., Ixonia	1.0261	3.15	10.20	7.05	36.35	21 pts. water, 100 pts. milk
Nov. 30	625 JL	John Krebs, Brownstown	Scott Hill Ch. Fcty.	1.0289	3.3	11.27	7.97	38.70	Watered

1927									
Jan. 6	86 WER	H. Lentz, Juneau	Red Oak Ch. Fcty., Juneau	1.0313	2.7	10.96	8.26	39.95	Delivered as produced
Jan. 19	311 AJR	Geo. Maskal, Clayton	Advance Ch. Fcty., Clayton	1.0252	2.9	9.48	6.58	33.0	30 pts. water, 100 pts. milk
Jan. 19	312 AJR	Mrs. Emma Butler, Clayton	Advance Ch. Fcty., Clayton	1.0227	4.05	10.54	6.49	34.25	Badly watered
Jan. 27	674 ARV	Rich. Oestreich, Manitowoc	Manitowoc Far. Coop. Co., Manitowoc	1.0263	3.0	10.04	7.04	35.60	22 pts. water, 100 pts. milk
Jan. 29	676 ARV	Rich. Oestreich, Manitowoc	Manitowoc Far. Coop. Co., Manitowoc	1.0264	3.2	10.33	7.13	36.80	20.9 pts. water, 100 pts. milk
Feb. 9	16 PHM	Harold Fleming, Boaz	Boaz Ch. Fcty., Boaz	1.0226	2.5	8.79	6.29	33.55	32.0 pts. water, 100 pts. milk
Feb. 11	18 PHM	Ed. Rust, Boscobel	Sanitary Cry. Co., Boscobel	1.0313	3.5	11.81	8.31	41.75	
Feb. 14	642 JJW	Pete Pennenberg, W. De Pere	S. Lawrence B. & Ch. Fcty., West De Pere	1.0315	2.7	11.18	8.47	41.10	Skimmed
Feb. 22	445 RBS	John Huber, Vesper	Altdorf Ch. Fcty., Pittsville	1.0223	2.4	8.45	6.05	33.40	
Feb. 22	446 RBS	John Huber, Vesper	Altdorf Ch. Fcty., Pittsville	1.0231	2.4	8.50	6.10	33.70	
Feb. 23	646 JJW	Pete Gerrits, Wrightstown	Wrightstwon B. & C. Fcty., Wrightstown	1.0292	2.5	10.40	7.90	39.15	6.3 pts. water, 100 pts. milk
Feb. 23	648 JJW	Mrs. Ed. Meulenmans, Wrightstown	Wrightstown B. & C. Fcty., Wrightstown	1.0317	2.4	10.74	8.34	39.90	Skimmed
Feb. 23	650 JJW	Anton Nelson, Wrightstown	Wrightstown B. & C. Fcty., Wrightstown	1.0319	2.6	11.22	8.62	41.60	Skimmed
Feb. 26	687 ARV	Ed. Gallagher, Manitowoc	English Lake Ch. Fcty., Manitowoc	1.0313	2.8	10.96	8.16	40.65	
Feb. 26	693 ARV	Ed. Gallagher, Manitowoc	English Lake Ch. Fcty., Manitowoc	1.0308	3.0	11.05	8.05	40.55	
Feb. 28	661 JJW	Philip Grohwski, De Pere	Glenmore Ch. Fcty., De Pere	1.0301	2.85	10.77	7.92	39.95	Delivered as produced by cows
Mar. 2	635 JL	Geo. Ott, Monroe	Phenix Ch. Corp., Monroe	1.0297	2.6	10.46	7.86	39.45	Skimmed
Mar. 4	343 RLR	Harry Krueger	Allenville Ch. Fcty., Allenville	1.0281	3.15	10.69	7.54	37.9	13.8 pts. water, 100 pts. milk
Mar. 4	328 AJR	C. A. Smith, Rice Lake	Cloverdale Ch. Fcty., Barron	1.0227	1.7	7.74	6.04	33.15	42 pts. water, 100 pts. milk
Mar. 9	316 WAS	Gus Mohs, Union Grove	Racine Pure Milk Co.	1.0304	3.1	11.39	8.29	40.90	Delivered as produced
Mar. 10	703 ARV	J. Stamper, New Holstein	Valley Ch. Fcty., New Holstein	1.0306	2.8	10.80	8.00	39.8	Delivered as produced
Mar. 11	705 ARV	Wm. Ruser, New Holstein	St. Anna Ch. Fcty., New Holstein	1.0316	2.75	11.15	8.40	40.6	Skimmed
Mar. 11	706 ARV	Ant. Morgen, New Holstein	St. Anna Ch. Fcty., New Holstein	1.0257	2.40	9.19	6.79	35.2	18 pts. water, 100 pts. milk
Mar. 15	101 WER	Frank Rahn, Horicon	Horicon Dry. Co. Ch. Fcty., Horicon	1.0249	2.8	9.44	6.64	35.25	20 pts. water, 100 pts. milk
Mar. 15	102 WER	Raddatz, Horicon	Horicon Dry. Co. Ch. Fcty., Horicon	1.0278	3.0	10.31	7.31	38.28	13 pts. water, 100 pts. milk
Mar. 15	668 JJW	Wm. Peters, Green Bay	East River Dairy	1.0250	3.75	10.67	6.92	36.15	33 pts. water, 100 pts. milk
Mar. 15	671 JJW	Henry Kreaser, Green Bay	East River Dairy	1.0281	2.95	10.62	7.67	38.60	7.2 pts. water, 100 pts. milk

MILK—NOT STANDARD—Continued

Date	Insp. No.	Delivered by	Delivered to	Composition					Remarks
				Sp. G. 15.5°	Per cent Milk Fat	Per cent Total Solids	Per cent Solids Not Fat	I. R. of Whey	
1927									
Mar. 16	669 JJW	Wm. Peters	East River Dairy	1.0266	3.4	10.76	7.36	37.20	Badly watered
Mar. 16	672 JJW	Henry Breaser, Green Bay	East River Dairy	1.0290	2.8	10.41	7.61	38.60	8 pts. water, 100 pts. milk
Mar. 22	711 ARV	Oscar Wolf, Sherwood	Sherwood Ch. Fcty., Sherwood	1.0280	2.8	10.26	7.46	38.75	11.1 pts. water, 100 pts. milk
April 1	107 WER	Mrs. M. Krapfl, Mayville	Farmersville Ch. Fcty.	1.0281	2.45	9.88	7.43	38.6	Skimmed
April 1	108 WER	Oscar Bentz, Mayville	Farmersville Ch. Fcty.	1.0235	2.5	8.66	6.16	34.3	27.4 pts. water, 100 pts. milk
April 8	114 WER	Henry Bergman, Juneau	Carey Ch. Fcty.	1.0206	2.9	10.38	7.48	39.35	11.4 pts. water, 100 pts. milk
April 14	348 RLR	B. Davison, Fremont	Fremont Ch. Fcty., Fremont	1.0296	2.6	10.31	7.71	38.70	8.6 pts. water, 100 pts. milk
April 20	715 ARV	O. Holtzmann, Glenbeulah	W. Greenbush Ch. Fcty.	1.0304	2.8	10.81	8.01	40.40	Skimmed
April 22	116 WER	Wm. Moldenhauer, I. Ridge	Spring Ch. Fcty., I. Ridge	1.0283	3.0	10.5	7.5	38.20	14 pts. water, 100 pts. milk
April 22	117 WER	W. Moldenhauer, I. Ridge	Spring Ch. Fcty., I. Ridge	1.0304	2.95	11.13	8.18	39.60	5 pts. water, 100 pts. milk
April 22	719 ARV	C. Rosenthal, Glenbeulah	Liberty Ch. Fcty., Glen beulah	1.0309	2.9	11.01	8.11	41.55	
April 22	720 ARV	Julius Schieber, Glenbeulah	Liberty Ch. Fcty., Glen-beulah	1.0308	2.7	10.81	8.11	41.50	Delivered as produced
April 22	721 ARV	Frank Berenz, Glenbeulah	Liberty Ch. Fcty., Glen-beulah	1.0300	3.05	11.09	8.04	3.10	Delivered as produced
April 27	119 WER	R. Lake, Fox Lake	Prairie View Ch. Fcty., Fox Lake	1.0308	2.9	11.20	8.30	40.20	Delivered as produced
April 27	120 WER	Wm. Schraeder, Fox Lake	Prairie View Ch. Fcty.	1.0225	2.5	8.57	6.07	33.40	41 pts. water, 100 pts. milk
April 27	121 WER	W. T. Wabig, Fox Lake	Prairie View Ch. Fcty., Fox Lake	1.0301	2.9	11.05	8.15	40.45	Delivered as produced
April 28	29 PHM	H. Ferrell, Mineral Point	Waldwick Ch. Co., Fcty.	1.0295	2.5	10.56	8.06	38.90	9 pts. water, 100 pts. milk
April 28	30 PHM	Fred Ross, Mineral Point	Waldwick Ch. Co. Fcty.	1.0316	2.4	10.72	8.32	40.85	Skimmed
May 3	733 ARV	Jack Doolen, Reedsville	Maple Gr. Ch. Fcty., Reedsville	1.0306	2.8	11.12	8.32	40.20	Skimmed
May 3	734 ARV	A. Ohearn, Reedsville	Maple Grove Ch. Fcty., Reedsville	1.0318	3.1	11.42	8.32	41.30	Delivered as produced
May 6	33 PHM	Bert Hagel, Mifflin	Mifflin Dairy Co., Mifflin	1.0310	3.2	11.55	8.35	40.1	Delivered as produced
May 10	739 ARV	Peter Brown, Brillion	Nestles Fd. Co., Brillion	1.0320	2.9	11.34	8.44	40.60	
May 10	740 ARV	John Buboltz, Reedsville	Nestles Food Co.	1.0310	2.8	10.89	8.09	39.40	
May 11	34 PHM	Joe Dochord	Schroeders Cry. & Ch. Fcty., Dodgeville	1.0285	3.0	10.57	7.57	37.0	13.5 pts. water, 100 pts. milk
May 17	790 GHS	Vinc. Palubicki, Seymour	Lessor-Maple Gr. Ch. Fcty., Seymour	1.0283	3.1	10.77	7.67	37.90	13 pts. water, 100 pts. milk

May 18	37 PHM	John Ferrell, Mineral Point	Ferrell Ch. Fcty., Mineral Point	1.0310	2.8	11.17	8.37	40.60	Delivered as produced
May 20	125 WER	Henry Rohloff, Horicon	Union Ch. Fcty.	1.0313	2.9	11.03	8.13	40.95	Delivered as produced
May 26	342 AJR	Wm. Wilen, Star Prairie	Star Pr. Ch. Fcty., Star Prairie	1.0315	2.8	11.36	8.56	41.80	Delivered as produced
June 2	41 PHM	O. Johnson, Rewey	Davis Dairy Co. & Ch. Fcty.	1.0330	2.85	11.79	8.94	42.25	Skimmed
June 7	749 ARV	Ernest Wagner, Manitowoc	Manitowoc Farmers Coop. D. Co., Manitowoc	1.0332	2.8	11.57	8.77	41.75	Heavily skimmed
June 21	47 PHM	Steve Connors, Highland	Red Oak Ch. Fcty., Highland	1.0282	2.5	10.10	7.50	38.55	
June 21	48 PHM	Wm. Drager, Highland	Red Oak Ch. Fcty., Highland	1.0271	2.7	10.10	7.40	37.00	
June 21	49 PHM	Joe Polan, Highland	Red Oak Ch. Fcty., Highland	1.0298	3.0	11.02	8.02	39.90	
June 21	50 PHM	Dick Edwards, Highland	Red Oak Ch. Fcty., Highland	1.0283	2.6	10.19	7.59	38.30	
June 21	51 PHM	John Witish, Highland	Red Oak Ch. Fcty., Highland	1.0341	2.7	11.63	8.93	42.15	
June 21	52 PHM	Ed. Kitsemble, Highland	Red Oak Ch. Fcty., Highland	1.0312	3.0	11.43	8.43	40.35	
July 6	422 WAS	W. Fredrick, Hartford	Rufener Ch. Fcty., Hartford	1.0284	3.1	11.05	7.95	40.10	10 pts. water, 100 pts. milk
July 6	426 WAS	Frank Koppner, Hartford	Rufener Ch. Fcty., Hartford	1.0301	3.3	11.44	8.14	40.55	Delivered as produced
July 6	251 ATB	B. Hahlnagel, Randolph	Courtland Ch. Fcty., Randolph	1.0303	2.4	10.43	8.03	40.10	Delivered as produced
July 7	424 WAS	Dave Mountain, Hartford	West Side Ch. Fcty., Hartford	1.0303	2.9	11.03	8.13	41.05	Delivered as produced
July 26	70 PHM	Jim Kelly, Hollandale	Durkin Ch. Fcty., Hollandale	1.0278	2.75	10.32	7.57	38.25	Skimmed
July 26	71 PHM	Louis Bockholtz, Hollandale	Durkin Ch. Fcty., Hollandale	1.0304	2.2	10.41	8.21	40.00	Skimmed
July 27	638 JL	John Grove, Gratiot	Wiota B. & Ch. Co.	1.0292	2.35	10.47	8.12	39.60	Skimmed
July 27	639 JL	Ole Johnson, Gratiot	Wiota B. & Ch. Co.	1.0327	2.8	11.75	8.95	41.45	Skimmed
July 28	640 JL	Carl Blomgwist, Argyle	Bean Ridge Ch. Co., Argyle	1.0296	2.2	10.07	7.87	38.85	Skimmed—some water added
Aug. 4	802 GHS	Oscar Franson, Wausau	Glandon Ch. Fcty.	1.0249	2.9	9.68	6.78	34.65	
Aug. 9	644 JL	Mr. Wiss, Monroe	Green Valley Ch. Fcty., Monroe	1.0310	2.75	10.95	8.20	39.6	Skimmed
Aug. 9	645 JL	Mr. Ensler, Monroe	Green Valley Ch. Fcty., Monroe	1.0285	3.65	11.48	7.83	38.5	
Aug. 10	267 ATB	C. J. Britz	Stevens Point D. Prod. Cry. Co.	1.0322	2.9	11.53	8.63		
Aug. 10	268 ATB	H. J. Ianis	Stevens Point D. Prod. Cry. Co.	1.0290	3.05	10.91	7.86		
Aug. 10	269 ATB	H. J. Ianis	Stevens Point D. Prod. Cry. Co.	1.0277	4.0	11.73	7.73		

MILK—NOT STANDARD—Continued

Date	Insp. No.	Delivered by	Delivered to	Composition					Remarks
				Sp. G. 15.5°	Per cent Milk Fat	Per cent Total Solids	Per cent Solids Not Fat	I. R. of Whey	
1927									
Aug. 11	270 ATB	H. J. Ianis	Stevens Point D. Prod. Cry. Co.	1.0300	3.2	11.03	7.83	38.90	4 pts. water, 100 pts. milk
Aug. 11	271 ATB	H. J. Ianis	Stevens Point D. Prod. Cry. Co.	1.0284	3.6	11.51	7.91	39.40	
Aug. 11	76 PHM	L. Boch, Fennimore	Ideal Cry. Co. & Ch. Fcty., Fennimore	1.0276	3.2	10.60	7.40	36.50	15.5 pts. water, 100 pts. milk
Aug. 15	356 RLR	Chas. Richter, Larsen	Bay Boom Ch. Fcty., Larsen	1.0284	4.15	12.04	7.89	38.85	
Aug. 16	79 PHM	E. Argall, Mineral Point	Square Deal Ch. Fcty.	1.0264	3.1	10.29	7.19	37.40	12.8 pts. water, 100 pts. milk
Aug. 16	80 PHM	E. Argall, Mineral Point	Square Deal Ch. Fcty.	1.0276	3.25	10.89	7.64	38.50	6.2 pts. water, 100 pts. milk
Aug. 23	142 WER	Henry Fox, Reeseville	Pleasant View Ch. Fcty., Reeseville	1.0296	2.55	10.49	7.94	39.60	Delivered as produced
Aug. 24	647 JL	John Mayer, Monroe	F. Stauffacher Ch. Fcty., Monroe	1.0271	3.05	10.46	7.41	37.60	13.3 pts. water, 100 pts. milk
Aug. 25	751 ARV	H. Bergeline, Denmark	Zauders Farmers D. Ass'n., Denmark	1.0273	2.65	10.03	7.38	37.70	17.1 pts. water, 100 pts. milk
Aug. 25	753 ARV	Mrs. J. Graycuck, Denmark	Zauders Farmers D. Ass'n., Denmark	1.0274	3.3	10.81	7.51	38.50	7.1 pts. water, 100 pts. milk
Aug. 26	648 JL	Mrs. J. O'Brien, Darlington	Swiss Ch. Co.	1.0202	1.85	7.42	5.57	31.40	50.8 pts. water, 100 pts. milk
Aug. 26	345 AJR	Phillip Taylor, Cumberland	Star Ch. Fcty., Cumberland	1.0230	2.75	8.66	5.91	32.65	48.9 pts. water, 100 pts. milk
Aug. 30	755 ARV	Mil Dushek, Maribel	Melnick Ch. Fcty., Maribel	1.0255	2.9	9.9	7.00	35.55	20.7 pts. water, 100 pts. milk
Sept. 14	653 JL	F. Schroeder, Monroe	Tschudy Ch. Fcty., Monroe	1.0286	3.35	10.96	7.61	39.25	Delivered as produced
Sept. 17	655 JL	F. Zangz, Darlington	Fraternal Ch. Fcty., Darlington	1.0285	3.2	10.95	7.75	40.35	10 pts. water, 100 pts. milk
Sept. 29	758 ARV	Brickbaur Bros., Plymouth	Phenix Ch. Corp., Plymouth	1.0238	2.4	8.91	6.51	34.10	26.1 pts. water, 100 pts. milk
Oct. 21	657 JL	John Rohde, Winslow, Ill.	Augsburger Ch. Fcty., Winslow, Ill.	1.0286	2.9	11.49	7.59	38.20	9.1 pts. water, 100 pts. milk
Oct. 26	5 JMT	Dr. B. L. Cleary, Edgerton	Armours & Co., Stoughton	1.0290	5.3	13.73	8.43	40.85	Delivered as produced
Oct. 29	661 JL	E. Catterman, Monroe	Wittwyler & Burgy. Ch. Fcty.	1.0289	2.85	10.58	7.73	40.40	
Oct. 29	662 JL	Mrs. Julia Stauffacher, Monticello	Wittwyler & Burgy, Monticello	1.0295	2.9	10.78	7.88	40.30	
Nov. 16	703 JJW	Frank Matick, Forestville	Vigner Ch. Fcty.	1.0258	3.2	10.29	7.09	36.15	27.2 pts. water, 100 pts. milk
Nov. 26	766 ARV	Anton Marshek, Maribel	Rosecrans D. Co., Maribel	1.0248	3.6	10.40	6.80	34.60	28 pts. water, 100 pts. milk

1928 Jan. 23	705 JJW	H. Penterman, Kaukauna	White Clover Cry. & Ch. Fcty., Kaukauna	1.0300	3.0	11.03	8.03	39.20	
Feb. 8	90 JMT	Ray Morthey, Palmyra	Oak Hill Coop. Cry. Co.	1.0300	3.0	11.13	8.13	39.90	Delivered as produced
Feb. 8	91 JMT	J. Morthey, Palymra	Oak Hill Coop. Cry. Co.	1.0310	3.1	11.46	8.36	40.5	
Feb. 14	447 WAS	E. Zastrow, Oconomowoc	Summit Valley Ch. Fcty., Oconomowoc	1.0308	3.15	11.39	8.24	41.30	
Feb. 14	448 WAS	John Zastrow, Oconomowoc	Summit Valley Ch. Fcty., Oconomowoc	1.0310	3.1	11.37	8.27	41.60	
Feb. 14	451 WAS	Gust Steinke, Sullivan	Summit Valley Ch. Fcty., Oconomowoc	1.0295	3.4	11.21	7.81	39.30	
Mar. 30	834 GHS	Jacob Heinzle, Aniwa	Birnamwood Cry. Co., Birnamwood	1.0300	2.80	10.63	7.83	40.0	
Mar. 30	835 GHS	W. Tautges, Birnamwood	Birnamwood Cry. Co., Birnamwood	1.0290	3.0	10.64	7.64	38.5	
Mar. 30	836 GHS	Fred Wolf, Birnamwood	Birnamwood Cry. Co., Birnamwood	1.0301	2.95	10.90	7.95	40.0	
April 12	106 JMT	H. Potterville, Baraboo	Gem City Dy., Baraboo	1.0305	3.95	12.35	8.40	41.2	
April 12	107 JMT	H. Potterville, Baraboo	Gem City Dy., Baraboo	1.0260	3.30	10.36	7.06	37.0	22.9 pts. water, 100 pts. milk
April 16	378 RLR	John Neft, Appleton	Center Valley Ch. Fcty., Appleton	1.0181	2.7	7.56	4.86	29.7	72.2 pts. water, 100 pts. milk
April 18	838 GHS	John Buhr, Schofield	Maple Gr. Ch. Fcty.	1.0307	3.45	11.60	8.15	40.7	
April 26	839 GHS	John Bonczak, Antigo	Kraft Ch. Co., Antigo	1.0310	2.90	10.88	7.98	40.0	
April 26	840 GHS	Anton Peters, Antigo	Kraft Ch. Co., Antigo	1.0317	3.07	11.32	8.25	40.3	
April 26	841 GHS	Alma Bernarde, Mattoon	Kraft Ch. Co., Antigo	1.0307	3.80	12.10	8.30	40.7	
May 3	109 JMT	Alois Beck, Plain	Clover Hill Ch. Fcty., Plain	1.0310	3.20	11.55	8.35	41.2	
May 3	111 JMT	Roy Weitzel, Spring Green	Clover Hill Ch. Fcty., Plain	1.0302	3.0	11.18	8.18	40.4	
May 3	112 JMT	Chris. Hutter, Spring Green	Clover Hill Ch. Fcty., Plain	1.0303	3.07	11.18	8.11	40.4	
May 3	113 JMT	Joe Dischler, Plain	Clover Hill Ch. Fcty., Plain	1.0318	2.85	11.25	8.40	42.0	
May 12	124 JMT	H. Olson, Ixonia	Green Valley Ch. Fcty., Ixonia	1.0292	3.35	11.23	7.88	39.90	
May 12	125 JMT	Karl Lillgl, Ixonia	Green Valley Ch. Fcty., Ixonia	1.0300	3.40	11.72	8.32	40.6	
May 12	126 JMT	Art Neitzel, Ixonia	Green Valley Ch. Fcty., Ixonia	1.0308	3.15	11.44	8.29	41.1	
May 14	777 ARV	Albert Wettstein, Sherwood	Sherwood Ch. Fcty., Sherwood	1.0308	3.30	11.48	8.18	40.2	
May 14	778 ARV	John Tennesseu, Sherwood	Sherwood Ch. Fcty., Sherwood	1.0310	3.05	11.21	8.16	40.4	
May 14	779 ARV	Oscar Wolf, Sherwood	Sherwood Ch. Fcty., Sherwood	1.0308	3.60	11.90	8.30	40.4	
May 18	686 JL	E. Garbel, Darlington	Dublin Ch. Fcty., Darlington	1.0302	3.2	11.25	8.05	40.55	
June 1	141 PHM	L. A. Milfred, Cazenovia	Germantown Ch. Fcty., Cazenovia	1.0216	3.10	9.26	6.16	33.5	Badly watered

MILK—NOT STANDARD—Continued

Date	Insp. No.	Delivered by	Delivered to	Composition					Remarks
				Sp. G. 15.5°	Per cent Milk Fat	Per cent Total Solids	Per cent Solids Not Fat	I. R. of Whey	
1928									
June 1	142 PHM	L. A. Milfred, Cazenovia	Germantown Ch. Fcty., Cazenovia	1.0245	2.67	9.42	6.75	35.1	Badly watered
June 1	143 PHM	L. A. Milfred, Cazenovia	Germantown Ch. Fcty., Cazenovia	1.0242	2.20	8.84	6.64	35.0	Badly watered
June 1	144 PHM	L. A. Milfred, Cazenovia	Germantown Ch. Fcty., Cazenovia	1.0233	2.50	8.88	6.38	33.4	Badly watered
June 1	145 PHM	L. A. Milfred, Cazenovia	Germantown Ch. Fcty., Cazenovia	1.0265	2.65	9.88	7.23	36.3	Badly watered
June 1	146 PHM	L. A. Milfred, Cazenovia	Germantown Ch. Fcty., Cazenovia	1.0246	2.15	8.84	6.70	34.7	Badly watered
June 1	147 PHM	L. A. Milfred, Cazenovia	Germantown Ch. Fcty., Cazenovia	1.0257	2.75	9.87	7.12	36.0	Badly watered
June 4	724 JJW	John Bouska, Denmark	Stark Ch. Fcty., Denmark		2.80				
June 8	692 JL	Geo. Legler, Monroe	Keen's Labal Ch. Fcty.	1.0308	3.0	11.38	8.38	40.4	
June 8	693 JL	Ralph Seely, Monroe	Keen's Labal Ch. Fcty.	1.0312	2.90	11.30	8.40	40.0	
June 28	419 ATB	Pat Zuime, Blanchardville	Connelly Ch. Fcty., Blanchardville	1.0300	2.90	11.08	8.18	40.5	Not standard
June 28	418 ATB	M. J. Gobel, Blanchardville	Connelly Ch. Fcty., Blanchardville	1.0311	3.15	11.39	8.24	40.0	Not standard
June 28	422 ATB	J. A. Connelly, Blanchardville	Connelly Ch. Fcty., Blanchardville	1.0300	3.0	11.29	8.29	39.4	Not standard

CITY MILK—NOT STANDARD

Date	Insp. No.	Sold by	Composition					Remarks
			Sp. G. 15.5°	Per cent Fat	Per cent Total Solids	Per cent Solids Not Fat	I. R. of Whey	
1926								
July 23	405 RBS	Al Lamour, Marshfield	1.0314	2.80	11.46	8.66	41.45	Appears to be skimmed
Sept. 27	175 WFC	Frank Mulleun, Watertown	1.0294	4.20	12.41	8.19	39.50	5 pts. water to 100 pts. milk
Sept. 27	176 WFC	W. F. Fredricks, Watertown	1.0311	2.90	11.43	8.53	39.40	Appears to be skimmed
Nov. 20	413 RBS	James Bulukcris, Marshfield	1.0352	2.80	12.12	9.38	44.10	Appears to be skimmed
Nov. 20	414 RBS	Wm. Behnke, Marshfield	1.0341	1.60	10.64	9.04	42.90	Skimmed
Nov. 20	415 RBS	Frank Harrison, Marshfield	1.0343	2.30	11.33	9.03	43.20	Skimmed
Nov. 20	416 RBS	Joe Hulchan, Marshfield	1.0319	2.10	10.43	8.33	41.60	Skimmed
Nov. 20	417 RBS	Peter Guiss, Marshfield	1.0350	1.20	10.31	9.11	43.70	Skimmed
Nov. 20	418 RBS	Chas. Harlow, Marshfield	1.0253	11.25	19.44	8.19	41.50	A mixture of milk and cream below standard in solids not fat
Nov. 20	419 RBS	Richard Knauf, Marshfield	1.0328	1.35	9.86	8.51	41.00	Skimmed
Nov. 20	420 RBS	John Wallock, Wisconsin Rapids	1.0327	2.60	11.47	8.87	41.20	Skimmed
Nov. 20	421 RBS	Mrs. J. T. Herron, Wisconsin Rapids	1.0334	2.10	11.06	8.96	40.90	Skimmed
Nov. 20	422 RBS	Wm. P. Cummings, Wisconsin Rapids	1.0344	1.50	10.42	8.92	41.70	Skimmed
Nov. 30	672 ARV	Henry Erickson, Valders	1.0303	2.83	10.86	8.03	39.90	Appears to be watered and skimmed
Dec. 2	292 AJR	Senses Grocery, Bayfield	1.0250	3.35	10.28	6.93	34.90	22 pts. water, to 100 pts. milk
Dec. 2	293 AJR	Senses Grocery, Bayfield	1.0260	3.80	10.77	6.97	35.95	22 pts. water, to 100 pts. milk
Dec. 7	182 WFC	H. O. Jenks, Lake Mills	1.0292	3.10	10.91	7.81	39.25	Appears to be watered
1927								
Jan. 4	1 PHM	C. W. Mulrooney, Bloomington	1.0358	1.95	11.26	9.31	43.90	Skimmilk sold for milk
Jan. 6	305 AJR	Horen Hotel Cafe, Hawkins	1.0352	2.5	11.96	9.46	42.50	Skimmilk sold for milk
Jan. 6	629 JL	C. S. Pierce, Brodhead	1.0312	2.65	10.80	8.15	40.50	Appears to be skimmed
Jan. 7	631 JL	Clark Bros., Brodhead	1.0316	2.1	10.32	8.22	40.50	Appears to be skimmed
Jan. 7	632 JL	Clark Bros., Brodhead	1.0302	2.5	10.61	8.11	40.70	Appears to be skimmed
Jan. 7	633 JL	Clark Bros., Brodhead	1.0284	4.1	11.89	7.79	40.65	Cream added to milk
Feb. 1	677 ARV	Henry Mandel, Two Rivers	1.0310	3.0	11.12	8.12	40.50	Below standard in solids not fat

CITY MILK—NOT STANDARD—Continued

Date	Insp. No.	Sold by	Composition					Remarks
			Sp. G. 15.5°	Per cent Milk Fat	Per cent Total Solids	Per cent Solids Not Fat	I. R. of Whey	
1927								
Feb. 8	639 JJW	Twin Hill, Green Bay	1.0316	2.9	10.92	8.02	41.20	
Feb. 9	640 JJW	East River Dairy, Green Bay	1.0284	3.35	11.47	8.12	39.10	
Feb. 17	322 AJR	Commercial Hotel Cafe, Hudson	1.0357	1.25	10.41	9.16	42.50	Skimmilk sold for milk
Feb. 17	324 AJR	Corcorans Trail Cafe, Hudson	1.0354	1.4	10.63	9.23	43.60	Skimmilk sold for milk
Feb. 17	325 AJR	Candy Box Cafe, Hudson	1.0341	2.9	11.95	9.05	43.25	Skimmilk sold for milk
Feb. 17	326 AJR	Yellowstone Cafe, Hudson	1.0344	2.45	11.55	9.11	42.80	Skimmilk sold for milk
Mar. 1	789 GHS	Aug. Goeman, Antigo	1.0306	2.8	10.91	8.11	39.85	Low in fat
Mar. 11	707 ARV	Wm. Reiser, St. Anna	1.0322	2.50	10.92	8.42	40.70	Low in fat
Mar. 11	666 JJW	Hayes, Oconto	1.0324	2.75	11.30	8.55	41.20	Low in fat
Mar. 11	667 JJW	Belleview Dairy, Oconto	1.0296	3.0	10.93	7.93	40.25	Low in solids not fat
Mar. 29	345 RLR	Stephen King, St. Point	1.0286	2.95	10.53	7.58	38.45	14 pts. water to 100 pts. milk
June 3	136 WER	Walter Schellpfeffer, Mayville		2.7				
June 22	795 GHS	Peter Nelson, Hurley	1.0299	2.6	10.53	7.93	39.00	Low in fat and solids not fat
June 22	798 GHS	Little Brook Dairy, Hurley	1.0310	2.8	11.33	8.53	40.20	Appears to be skimmed
July 28	801 GHS	Mrs. E. Niermann, Wabeno	1.0284	2.6	10.19	7.50	37.25	Badly watered
Oct. 27	10 JMT	Cloverglow Dairy, Fort Atkinson		2.85			37.50	Badly watered
Nov. 30	367 AJR	Tom Paulson, Superior	1.0316	2.8	11.15	8.35	41.35	
Dec. 8	372 AJR	Leonard Boe, Frederic	1.0323	2.9	11.50	8.60	40.90	
1928								
Jan. 5	379 AJR	Commercial Hotel Cafe, Hudson	1.0320	1.7	10.09	8.39	39.15	Skimmilk sold as milk
Jan. 5	380 AJR	Corcorans Trail Cafe, Hudson	1.0362	1.7	11.26	9.56	43.75	Skimmilk sold as milk
Feb. 14	111 PHM	Hotel Pfiester, Muscoda	1.0345	0.8	9.69	8.89	41.45	Skimmilk sold as milk
Mar. 9	131 PHM	Greenwich Lunch, Richland Center	1.0354	1.4	10.45	9.05	42.35	Skimmilk sold as milk
Mar. 15	133 PHM	Mrs. Blanche Allen, Fennimore	1.0360	1.4	10.54	9.14	42.95	Skimmilk sold as milk
Mar. 15	135 PHM	Central House, Boscobel	1.0298	2.7	10.49	7.79	39.60	Skimmilk sold as milk
April 18	137 PHM	Hotel Royal, Mineral Point	1.0267	4.65	12.26	7.61	38.90	Watered

MISCELLANEOUS DAIRY PRODUCTS

Date	Sample of	Bought of or Submitted by	Analysis	Remarks
Nov. 10, 1927	Dairy Butter	Mrs. Hermann, St. Point	Foam test very poor. Melts not clear. Reichert Meisel N. 6.9. Microscopical field mottled with play of colors showing use of melted fat. Artificial color present.	Not butter. Is a mixture of butter and oleomargarine colored in semblance yellow butter and is oleomargarine a violation of Sec. 352.36
Nov. 15, 1927	Creamery butter	Elizabeth Young, Appleton	Foam test fair. Melted clear. Reichert Meisel No. 27.42. Microscopical field is that of pure butter.	Does not contain foreign fat.
May 3, 1927	Kraft's Processed Brick Cheese	H. F. Miller, Kenosha	Very gritty; contains glistening particles which can be removed mechanically. Particles are of regular crystalline form. Tartaric acid identified in these crystals by: 1. Resorcin test. 2. Pyrogallol test.	Flame test: positive for calcium. Calcium also shown by a oxalate test.
Aug. 4, 1926	Process cheese	Wis. Cheese Prod. Federation Plymouth	Moisture 48.72; Fat 23.66%; Solids 51.28%; Ratio Fat to Solids 46.13%	Contains more than permitted amount of moisture and less than the minimum required % of fat in moisture free substance. Adulterated.
May 23, 1928	Whey cream	Bert Ruetten, Hill Point	33.04 Fat	Tested at the request of cheese maker to check his test.
Mar. 2, 1927	Whey cream	Rach Ch. Fcty., Auburndale	Fat 25.25%	Tested to determine amount of fat removed from milk in the whey.
Dec. 3, 1926	Whey cream	Spring Valley Ch. Fcty.	Fat 24.88%	Tested to determine amount of fat removed from milk in the whey.
Mar. 26, 1928	Milk	James Suihanda, Oconto		Milk sour on arrival and could not be tested. From examination of bottle No. 1 had slight amount of dirt in bottom while 6 and 7 had no perceptible amount.
Dec. 10, 1927	Milk	Mrs. Chas. Malich, S. Point		Free from chemical preservatives.
Dec. 10, 1927	Milk	J. A. Roberts, St. Point		Free from chemical preservatives.
Aug. 12, 1927	Milk	Dr. A. M. Murphy, La Crosse		Z. I. RR. 20 °z—37.65

MISCELLANEOUS DAIRY PRODUCTS—Continued

Date	Sample of	Bought of or Submitted by	Analysis	Remarks
Mar. 22, 1927	Milk	Deerfield Cry. Co., Deerfield		Bacterial count 200,000 per cu. cc.
Feb. 1, 1927	Milk	A. R. Vallesky	Sp. G. 1.046; Fat 1.92%	Chocolate milk product. Sold as milk. Not standard.
Feb. 1, 1927	Milk-chocolate	W. A. Stewart	Fat 4.07. Bacterial count Bottle 1, 1:100-,000, 37-39—3,800,000 Bottle 2, 1:150,000 35-33—3,400,000	Bacterial content entirely too high.
Feb. 1, 1927	Milk (Raw)	W. A. Stewart	Bacterial count 3,700,000 col/cc.	
Feb. 1, 1927	Milk	W. A. Stewart	Sp. G. 1.0327; Fat 3.6% Bacterial count 1,800,000 col/cc.	
Feb. 1, 1927	Milk	W. A. Stewart	Sp. G. 1.0327; Fat 3.6% Bacterial count 1,600,000 col/cc.	
Feb. 1, 1927	Milk	W. A. Stewart	Sp. G. 1.0327; Fat 3.6 % Bacterial count Bottle 1—4,200,000 2—3,200,000	
Feb. 1, 1927	Milk	W. A. Stewart	Sp. G. 1.0329; Fat 3.5% Bacterial count Bottle 1—1,600,000 col/cc. 2—1,700,000 col/cc.	
Oct. 11, 1926	Milk	A. M. Murphy, La Crosse	Ash 0.74%	Suspected of containing added alkali neutralizer—none found.
Mar. 27, 1928	Dried b'milk No. 1	Farmers Coop. Cry., Black River Falls	Moisture 4.64%; Fat 7.58%	No evidence of adulteration.
Mar. 27, 1928	B'milk powder No. 2	Farmers Coop. Cry., Black River Falls	Moisture 4.39%; Fat 9.47%	No evidence of adulteration.
Mar. 27, 1928	B'milk powder No. 3	Farmers Coop. Cry., Black River Falls	Moisture 4.79%; Fat 7.59%	No evidence of adulteration.

Nov. 16, 1927	Dried skim milk powder	Harry Klueter	Mositure 4.67%; Ash 8.10% Protein 35.36; Fat 1.00; Lactose 51.61	Analysis used to show composition of skim milk powder on market.
Mar. 27, 1928	Skim milk powder	Farmers Coop. Cry., Black River Falls	Moisture 4.52; Fat 2.38	No evidence of adulteration.
Mar. 30, 1928	Powdered skim milk	Rice Lake Cry. Co., Rice Lake	Moisture 4.52; Fat 0.95	
Mar. 15, 1928	Buttermilk	West Salem Coop. Cry., West Salem	Total solids 9.07; Fat .67.	
Oct. 18, 1926	Dried buttermilk	A-G Creamery, Arcadia	Moisture 4.00; Fat 7.97 (8.30); Ash 11.22 (11.58); Sol. Ash 5.10 (5.31); Insol. Ash 6.02 (6.27); CaO 1.69 (1.75); Alk. Sol. Ash 4.31 cc n/10 gm. (4.48); Alk. Insol. Ash 9.09 cc n/10 gm. (9.46); Protein 33.04 (34.41)	15.19% of ash—CaO No adulteration found.
April 30, 1928	Separated whey	John Anderegg, Juda	Fat— .06%	Tested to determine fat loss in whey.
Feb. 9, 1927	Whey	Anton Schiller's C. F., New Holstein	Fat— .45%	
Mar. 2, 1927	Whey	Rach Ch. Fcty., Auburndale	Fat—0.31%	
Mar. 2, 1927	Whey	Rach Ch. Fcty., Auburndale	Fat—0.28%	
Mar. 1, 1927	Whey	Wm. A. Wichman, Hewitt	Fat—0.42%	
Nov. 13, 1926	Whey	David Wegner, R. 1, Van Dyne	Acidity (as Lactic) 1.06% SO_3 .088 gm/100 cc sample	Normal SO_3 content of milk—.027% according to Babcock.

FLAVORING AND FLAVORING EXTRACTS

Date	Kind	Bought of	Manufacturer or Jobber	Remarks
1926				
April 21	Vanilla	Peters Ice Cream Co., Mineral Pt.	Eddy, St. Louis	Contains little or no vanilla.
Sept. 17	Extract of lemon	S. B. Jones, Dallas	W. T. Rawleigh Co., Freeport, Ill.	Not standard. Colored with tumeric.
Sept. 17	Extract of orange	S. B. Jones, Dallas	W. T. Rawleigh Co., Freeport, Ill.	Not standard, deficient in orange oil and artificially colored.
Sept. 29	Imitation of vanilla	Equity Far. Coop., Grantsburg	Dr. Ward's Medical Co., Winona	Not standard. Contains artificial color.
1927				
April 18	Vanilla	M. E. Keefe & Sons, New Richmond	Federal Pure Food Co., Chicago	Artificially colored. Adulterated and misbranded.
April 13	Vanilla	Mrs. A. Eggebrecht, Alma	McConnon & Co., Winona, Minn.	An adulterated, colored compound sold as vanilla.
April 26	Extract of vanilla	Blair Drug Co., Blair	H. W. Barker, Sparta	Misbranded, alcoholic. Contents misstated.
June 3	Vanilla Compound	F. Sroda & Sons, Amherst Jct.	Blackstone Mfg. Co., Newark, N. J.	Misbranded. Not a vanilla compound. Contains coumarin.
June 16	Bruhnilla	Piper Bros., Madison	Robert J. Bruhn, Edgerton	Not standard, artificially colored with caramel.
Oct. 6	Vanilla	Farmers Cash Store, Maiden Rock	Wunderlich, Fountain City	Adulterated. Composed of approximately 50% vanilla and 50% solution of coumarin.
1928				
Feb. 9	Imitation vanilla	H. A. Turner, Highland	J. R. Watkins Co., Winona, Minn.	Adulterated, colored with caramel to imitate vanilla.

MEAT AND MEAT PRODUCTS—NOT STANDARD

Date	Kind	Bought of or Collected at	Manufacturer or Jobber	Moisture %	Protein %	Ash %	Fat %	Added Water %	Starch %	Artificial Color in		Feder Value	Chemical Preservatives
										Meat	Casing		
1927													
Feb. 15	Hamburger	Pub. Prov. Co., Hudson	Pub. Prov. Co., Hudson										0.018% Sod. sul.
May 25	Hamburger	F. Sayler, Elmwood	F. Sayler, Elmwood										tr. sod. sulphite
June 17	Wieners	E. M. Christen, Alma Center	Cudahy Pkg. Co.						0.80	none	none		
July 1	Wieners	Erity Mkt, EauClaire	Cudahy Pkg. Co.						0.62	present	present		
Aug. 12	Bologna	Piper Bros., Madison	M. Esser, Madison							none	none		
Aug. 12	Sm. Liv. Saus.	Piper Bros., Madison	Frank & Co., Milw.							present	present		
Aug. 12	Bologna	Buehler Bros., Madison	Buehler Bros., Chicago							present	present		
Aug. 12	Franf'ts saus.	Buehler Br., Madison	Buehler Br., Chicago							present	present		
Aug. 12	Bologna	W. Bluteau, Madison	Wingra Meat Mkt., Madison							none	none		
Aug. 12	Smoked liv. sau.	W. Bluteau, Madison	Reimer, Milwaukee							none	none		
Aug. 12	Liver	W. Bluteau, Madison								present	present		
Aug. 12	Frankf't saus.	W. Bluteau, Madison	Reimer, Milwaukee										
Aug. 16	Bologna	Tittle Bros., Madison	J. R. Biersdorf & Bros., Chicago	58.52					3.94	none	present		
Aug. 16	Frankforts	Tittle Bros., Madison	J. R. Biersdorf & Bros., Chicago	55.84					0.58	present	present		
Aug. 18	Bologna	C. L. Clark, Madison	C. L. Clark, Madison	67.88					1.04	present	present		
Aug. 18	Frankforts	Service Meat Mkt., Madison	Service Meat Mkt., Madison	61.54						present	present		
Aug. 18	Bologna	Service Meat Mkt., Madison	Service Meat Mkt., Madison	60.28						present	present		
Aug. 18	Frankforts	R. K. Johnson, Madison	O. Mayer Pkg. Co., Madison							present	present		
Aug. 18	Bologna	Oscar Mazursky, Madison	Madison Pkg. Co., Madison	65.42					2.49	present	present		

MEAT AND MEAT PRODUCTS—NOT STANDARD—Continued

Date	Kind	Bought of or Collected at	Manufacturer or Jobber	Moisture %	Protein %	Ash %	Fat %	Added Water %	Starch %	Artificial Color in Meat	Artificial Color in Casing	Feder Value	Chemical Preservatives
1927													
Aug. 18	Bologna	Madison Pkg. Co., Madison	Madison Pkg. Co., Madison	58.86	------	------	------	------	------	present	present	------	----------
Aug. 18	Frankforts	Madison Pkg. Co., Madison	Madison Pkg. Co., Madison	65.33	------	------	------	------	2.88	present	present	------	----------
Oct. 6	Chopped	Hallada Mkt., G. Bay	Hallada Mkt., G. Bay	------	------	------	------	------	------	--------	--------	------	0.059% sod. sul.
Oct. 13	Weiners	Madison Pkg. Co., Madison	Madison Pkg. Co., Madison	71.18	13.02	2.81	9.55	19.10	3.01	none	present	5.46	----------
Oct. 13	Bologna	Madison Pkg. Co., Madison	Madison Pkg. Co., Madison	65.71	14.00	3.01	14.32	9.71	2.84	present	none	4.69	----------
Oct. 14	Weiners	Bluteau Mkt. & Groc., Madison	Reimer Co., Milw.	70.84	13.54	4.42	10.93	16.68	0.60	present	present	5.23	----------
Oct. 14	Bologna	Madison Ch. Co., Madison	Reimer Co., Milw.	68.77	13.44	2.51	14.51	15.01	0.87	present	present	5.11	----------
Oct. 14	Bologna	Madison Ch. Co., Madison	T. Gilbert	63.72	16.48	3.31	14.72	none	1.17	none	present	3.86	----------
Oct. 14	Bologna	Cardinal Pkg. Co., Madison	Reimer Co., Milw.	70.96	15.18	2.83	9.55	10.24	1.69	present	present	4.67	----------
Oct. 14	Wieners	Cardinal Pkg. Co., Madison	Reimer Co., Milw.	68.45	13.99	3.86	13.23	12.49	1.02	present	present	4.89	----------
Oct. 14	Smoked liv. sau.	Cardinal Pkg. Co., Madison	Reimer Co., Milw.	50.44	16.99	2.93	26.53	none	2.70	none	none	2.96	----------
Oct. 14	Fresh liv. saus.	Tittle Bros., Madison	J. R. Beiersdorf & Bros., Chicago	59.53	20.52	4.43	14.27	none	1.20	none	none	2.90	----------
Oct. 14	Frankforts	Tittle Bros., Madison	J. R. Beiersdorf & Bros., Chicago	65.90	16.37	3.45	14.68	none	none	present	present	4.02	----------
Oct. 14	Smoked liv. sau.	Tittle Bros., Madison	J. R. Beiersdorf & Bros., Chicago	53.00	15.96	4.31	23.54	none	3.09	none	present	3.32	----------
Oct. 14	Bologna	Tittle Bros., Madison	Esser's City Mkt., Madison	73.59	13.62	3.40	8.92	19.11	0.32	present	present	5.40	----------
Nov. 2	Bologna	Oscar Mayer Co., Madison	Oscar Mayer Co., Madison	60.59	14.58	3.26	19.11	2.27	2.46	present	present	4.15	----------

Nov. 2	Big bologna	Oscar Mayer Co., Madison	Oscar Mayer Co., Madison	61.24	14.11	2.47	19.35	4.8	2.83	present	present	4.34	
Nov. 2	Frankforts	Oscar Mayer Co., Madison	Oscar Mayer Co., Madison	60.52	12.57	2.48	21.85	10.24	2.58	present	present	4.81	
Nov. 2	Bologna	Copps Mkt., Madison	Copps Mkt., Madison	62.80	12.92	2.66	21.21	11.12	0.41	present	present	4.86	
Nov. 2	Frankforts	Wm. Pope, Madison	Plankinton Pkg. Co., Milwaukee	67.60	14.77	2.75	13.66	8.52	1.22	none	none	4.57	
Nov. 7	Bologna	Gross Fd. Prod., Inc., Milwaukee	Gross Fd. Prod. Inc., Milwaukee	64.40	13.76	2.94	17.15	9.36	1.75	present	present	4.68	
Nov. 7	Big bologna	Gross Fd. Prod., Inc., Milwaukee	Gross Fd. Prod., Inc., Milwaukee	67.66	13.88	2.93	13.16	12.14	2.37	present	present	4.87	
Nov. 7	Big bologna	Chas. Hess, Milw.	Chas. Hess, Milw.	70.97	15.27	2.69	10.73	9.89	0.40	-------	present	4.64	
Nov. 7	Bologna	Chas. Hess, Milw.	Chas. Hess, Milw.	59.08	13.31	2.35	24.40	5.84	0.86	present	present	4.43	
Nov. 7	Bologna	Chas. Hess, Milw.	Chas. Hess, Milw.	57.50	12.45	2.56	26.55	6.70	0.94	none	none	4.61	
Nov. 7	Bologna	Chas. Hess, Milw.	Chas. Hess, Milw.	59.59	13.90	2.28	23.88	3.99	0.35	none	none	4.28	
Nov. 7	Bologna	D&F Mkt. No. 1, Milwaukee	Reimer Co., Milw.[1]	67.72	13.98	2.56	14.91	14.32	none	present	present	4.84	
Nov. 7	Wieners	D & F Mkt., No. 1, Milwaukee	Reimer Co., Milw.[2]	66.98	14.94	2.49	15.05	8.86	none	present	present	4.48	
Nov. 8	Hamburger	Tittle Bros., Madison	Tittle Bros., Madison	------	------	------	------	------	------	-------	-------	------	0.08% sodium sulphite
Nov. 8	Pork sausage	Tittle Bros., Madison	Tittle Bros., Madison	48.31	7.84	2.61	39.70	16.95	1.54	none	none	6.16	
Nov. 8	Bologna	Rowley Pkg. Co.	Rowley Pkg. Co., Racine	63.07	16.21	3.18	15.17	none	2.37	none	present	3.89	
Nov. 8	Met. sausage	Tittle Bros., Madison	Oscar Mayer Co., Madison	33.85	12.03	3.13	50.64	none	.35	present	present	2.81	
Nov. 19	Wieners	Gimbel Bros., Milw.	Armour & Co., Chicago	68.79	14.25	2.85	12.08	11.79	2.03	present	present	4.82	
Dec. 5	Bologna	Miller's Mt. Mkt., Wausau	Miller's Mt. Mkt., Wausau	67.17	13.11	2.60	17.12	14.73	none	present	present	5.12	
Dec. 5	Wieners	Riverview Market, Milwaukee	Reimer, Milwaukee	71.56	14.53	2.68	10.76	13.44	0.47	present	present	4.92	
Dec. 5	Bologna	Riverview Market, Milwaukee	Reimer, Milwaukee	70.07	14.80	2.23	12.91	10.86	none	none	present	4.73	
Dec. 5	Bologna	Piggly Wiggly, Milw.	Armour & Co., Milwaukee	58.14	14.90	3.96	19.83	none	3.17	none	present	3.90	
Dec. 5	Wieners	Piggly Wiggly, Milw.	Armour & Co., Milwaukee	66.77	13.16	2.53	17.01	14.13	0.53	none	present	5.07	

[1] Dried skim milk 1.61%.
[2] Dried skim milk 1.04%.