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Annual report of the Dairy and Food Commissioner of Wisconsin. For the period ending June 30, 1916. 1916

State Dairy and Food Commissioner
Madison, Wisconsin: Cantwell Printing Company, State Printer,
1916

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ANNUAL REPORT
OF THE
DAIRY AND FOOD COMMISSIONER
OF WISCONSIN

For the Period Ending June 30, 1916

GEO. J. WEIGLE
Dairy and Food Commissioner
Ex Officio
State Superintendent of Weights and Measures



MADISON, WIS.
Cantwell Printing Company, State Printer
1916

DAIRY AND FOOD COMMISSIONERS OF WISCONSIN

H. C. THOM.....	May 29, 1889, to May 28, 1891
D. L. HARKNESS.....	May 28, 1891, to June 11, 1894
THOMAS LUCHSINGER.....	June 27, 1894, to Feb. 7, 1895
H. C. ADAMS.....	Feb. 7, 1895, to May 1, 1902
J. Q. EMERY.....	Dec. 24, 1902, to Feb. 10, 1915
GEO. J. WEIGLE.....	Feb. 10, 1915, to.....

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ORGANIZATION OF THE COMMISSION

GEORGE J. WEIGLE, Dairy and Food Commissioner, *ex officio* State Superintendent of Weights and Measures.

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

E. L. ADERHOLD, Assistant Commissioner.

C. E. LEE, Assistant Commissioner and Dairy Specialist.

HARRY KLUETER, Ph. G., Chemist.

FRED P. DOWNING, A. B., Chief Inspector of Weights and Measures.

FLORENCE Q. NORTON, Secretary.

ETHEL D. THOMAS, Stenographer, Office of Weights and Measures.

M. LORAIN WALTER, Stenographer and Confidential Clerk.

RUTH NERDRUM, Stenographer (from Dec. 15, 1915).

IOLA ROTHNICK, Stenographer (from March 1 to June 1, 1916).

SOHNIE SINAICO, Filing Clerk (from June 19, 1915).

WM. A. BRANNON, M. A., Assistant Chemist.

IRVING R. HOWLETT, B. S., Assistant Chemist.

CARL GEIDEL, M. S., Bacteriological Chemist.

F. M. BUZZELL, Chief Food Inspector (to Nov. 1, 1915).

GEORGE H. EIGENBERGER, Food Inspector.

J. D. CANNON.

R. B. SOUTHARD.

J. B. LINZMEYER.

JACOB LEHNHERR.

FRED MARTY.

WILLIAM WINDER (resigned July 17, 1915).

JAMES VAN DUSER.

S. J. DUFNER.

S. B. COOK.

*Dairy and Food Inspectors.

J. E. BOETTCHER.

H. L. BORNHEIMER.

GEORGE WARNER.

W. J. KRAMER.

B. A. HASS.

WM. P. STERNS.

CHAUNCEY BECKWITH.

W. A. VOIGT.

**Sealers of Weights and Measures.

4 *Report of Wisconsin Dairy and Food Commissioner.*

LEO BRENNAN (from Sept. 9, 1915).

EMPHY BENWAY (to Sept. 14, 1915).

HARRY H. KOSS (to Sept. 4, 1915).

Junior Sealers of Weights and Measures.

*Sealers of Weights and Measures for creameries and cheese factories.

**Inspectors of food and sanitary conditions at places where weights and measures work is done.

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LETTER OF TRANSMITTAL

His Excellency, EMANUEL L. PHILIPP,

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 annual period ending June 30, 1916.

GEO. J. WEIGLE,

Dairy and Food Commissioner.

Ex Officio State Superintendent of Weights and Measures.

REPORT OF COMMISSIONER

The work of the dairy and food commission is being carried on as effectively and efficiently as it ever was in the past. Much good has been accomplished in protecting the public against the sale of adulterated and misbranded foods, in the improvement of sanitary conditions, and in the prevention of fraud and misrepresentation of all kinds.

During my short experience as commissioner many obstacles have been encountered, most of which I have been able to overcome while others are still in the way. The greatest difficulty in the enforcement of food and drug laws is the lack of uniformity between the laws of the state and the federal government. While it would be a great advantage to the manufacturers and producers of foods and drugs to have uniformity of state and national laws, it should not come about by weakening the state law in order to comply with the federal. It has taken years to place upon the statute books of the state food laws which are more effective than the federal laws are at the present time, and the department shall insist that the state laws be strengthened and not weakened. It would be unwise to make any changes in our state laws simply to secure uniformity. The trade has adapted itself to their requirements and the public has learned their provisions.

During the past year friendly and helpful relations have been established between this department and the United States Department of Agriculture which will help this department in reaching parties beyond state lines whom it otherwise could not reach.

Publicity is a great help in the enforcement of food, drug, and dairy laws. During the past year the press has been used frequently to reach the people. It is not only a great educator in spreading information as to the food and drug laws, but is one of the greatest factors in the prevention and extermination of frauds and adulterations. However, it should be used with a great deal of care and judgment as it might jeopardize worthy industries.

Manufacturers, jobbers, retailers and consumers are cooperating with the department for the betterment and enforcement of the food and drug laws.

LICENSE LAW.

New dairy and food laws were enacted by the legislature during the session of 1915. The most important one was that of licensing operators of cheese factories and creameries, and cheese makers and butter makers. More progress has been made to better conditions of cheese factories and creameries under the licensing law. This law marked the beginning of a new era in the dairy industry of Wisconsin. It is constructive and is

vital in building up this great industry. The operators and makers became better acquainted with the dairy laws of the state, and it was an education to them. It brought the department into closer touch with every factory operator and maker in the state.

On my inspection trip through a part of the state, I was pleased to see that old shacks and dilapidated buildings had been replaced by new and up to date structures which are a credit to the **community** and to the state as well. The licensing law created no hardship; all it required was ability and cleanliness. And I want to say, without fear of contradiction, that Wisconsin today has cleaner cheese factories and creameries than any other state in the union.

Another law of interest to the state and to individuals, marking the progress of the industry, was the one requiring the compiling of statistics at least once in every two years, giving complete information as to the amount of butter, cheese and other dairy products produced.

WORK OF THE DEPARTMENT.

Dairy: I wish to call your attention to the more detailed reports of the dairy work done during the past year as given by C. E. Lee and E. L. Aderhold, assistant commissioners, showing the work performed by the dairy and food department in connection with the enforcement of the dairy laws. Considerable attention has been given to the educational part of the dairy work, and along these lines of work addresses have been delivered at annual meetings as well as at county meetings of the dairy associations of the state; also in assisting in planning new cheese factories, creameries, dairy barns, milk houses, etc.

Food and Drugs: During the past year the work of the food and drug inspection has been carried forward with aggressiveness. Special attention was paid to sanitary conditions in grocery stores, meat markets and all places where foods for human consumption were manufactured, stored and sold. Improvement in conditions has been brought about largely by the coöperation of the manufacturers, jobbers, and retailers' associations with the department. Considerable work has been done among the retail drug stores in this state. A great deal of attention was paid to the accuracy of their preparations and analyses made to determine their standard. The standards for these preparations were the standards laid down in the eighth decennial revision of the United States Pharmacopeia. The food and drug work is under the direct charge of Mr. Harry Klueter whose conscientious and painstaking work has done much to raise the standard of food products and drugs sold in the state. An interesting review of the work done by Mr. Klueter and his assistants is found elsewhere in this report.

Weights and Measures: Another branch of work done by the commission is that conducted by the weights and measures department of which Mr. Fred P. Downing is in charge. Through his efforts the department has become one of the foremost of its kind in the United States. I respectfully refer you to Mr. Downing's report which is a comprehensive account of the work carried on during the past year.

EGGS.

A conservative estimate made by this department shows that the annual loss in eggs to the farmers and merchants of Wisconsin amounts to millions of dollars, caused by improper care in handling and storing. This loss can be prevented. There can be no justifiable excuse or reason for the sale of rotten eggs. Considerable work was done by this department to educate the producers in the care of eggs. Posters were distributed throughout the state by our men in the field acquainting the people with our laws. I desire to suggest and recommend to the next legislature the enactment of a specific law governing the sale of eggs.

CONCLUSIONS.

The dairy as well as the weights and measures inspectors are obliged to travel a great deal by livery. Owing to excessive charges made by liverymen I recommend that the inspectors be provided with automobiles. The use of automobiles would be the means of saving time and money and it would greatly increase the efficiency of this department. The use of automobiles in other states has proved a success and is no longer an experiment.

After a thorough investigation of track scales in Wisconsin it was found that 75 per cent of the scales were inaccurate. Consequently the losses to the buyer and seller have been enormous. It is most essential that the state of Wisconsin own its own test car, the description and purpose of which is fully outlined in Mr. Downing's report. I therefore recommend that the next legislature make the necessary appropriation for the purchase of this car, the operation of which can be made self-sustaining by the charge of a nominal fee.

The clerical work in the department has been greatly increased during the past year owing to the licensing law and the law requiring the gathering of statistics. Approximately 8,000 accounts have been opened and this has entailed an enormous amount of clerical work. It has necessitated the employment of two additional stenographers and one additional clerk, and for this reason an additional appropriation was asked for to carry on the work in the office.

I desire at this time to express my appreciation of the enthusiastic support of the people in the department to whose intelligent and hearty cooperation due acknowledgment is made herewith.

CONVICTIONS

Date	Defendant	Cause of Action	Trial Judge	Fine or Forfeiture
1915				
July 15	Clemens Hilt, Malone	Maintaining cheese factory premises in an unsanitary condition	J. W. Justen, Fond du Lac	\$35 and costs.
Aug. 9	David Freidig, Fond du Lac	Maintaining cheese factory premises and utensils in an unsanitary condition	R. C. Fairbanks, Fond du Lac	\$25 and costs.
Aug. 11	Fred Beyer, Fox Lake	Maintaining cheese factory premises in an unsanitary condition	E. S. Mason, Beaver Dam	\$25 and costs.
Aug. 20	Jacob Stamm, Fox Lake	Maintaining cheese factory utensils in an unsanitary condition	E. S. Mason, Beaver Dam	\$25 and costs.
Aug. 20	John Kuenzi, Fox Lake	Maintaining cheese factory premises in an unsanitary condition	J. L. Miltgen, Beaver Dam	\$25 and costs.
Aug. 21	Robert Thompson, Beaver Dam	Offering for sale unsanitary milk	J. L. Miltgen, Beaver Dam	\$25 and costs.
Aug. 21	R. Pissikowski, Fox Lake	Offering for sale unsanitary milk	J. D. Lyons, Beaver Dam	\$25 and costs.
Aug. 31	John Baer, Monroe	Maintaining cheese factory utensils in an unsanitary condition	W. T. Saucerman, Monroe	\$25 and costs.
Aug. 31	Paul Holzhausen, Sheboygan	Selling unsanitary milk	Adam Trester, Sheboygan	\$30.
Oct. 4	Wm. Koenigs, Malone	Maintaining creamery premises and utensils in an unsanitary condition	R. C. Fairbanks, Fond du Lac	\$25 and costs.
Oct. 20	Otto Zimmerman, Merrill	Maintaining creamery in an unsanitary condition	L. Marchetti, Wausau	\$25 and costs.
Oct. 26	A. G. Reuter, Madison	Selling less than the quantity represented	J. C. Fehlandt, Madison	\$25 and costs.
Oct. 27	H. C. Sauer, Cambria	Selling adulterated milk to a cheese factory	F. W. Kiefer, Portage	\$25 and costs.
Oct. 29	Henry Peterson, North Lake	Using a false weight	A. G. Dersey, Oconomowoc	\$50 and costs.
Nov. 1	F. H. Metzgi, Neenah	Maintaining cheese factory premises and utensils in an unsanitary condition	Nels Jensen, Neenah	\$25 and costs.
Nov. 16	E. Schumacher, Oconto	Maintaining unsanitary meat market	J. A. Donlevy, Oconto	\$25 and costs.
Nov. 16	Joseph Heller, Oconto	Maintaining unsanitary meat market	J. A. Donlevy, Oconto	\$25 and costs.
Nov. 16	Chas. Trudeau, Oconto	Maintaining unsanitary meat market	J. A. Donlevy, Oconto	\$25 and costs.
Nov. 18	Swanson & Johnson, Florence	Maintaining unsanitary meat market	F. Warring, Florence	\$25 and costs.
Nov. 24	John Furrer, Monroe	Producing whey cream with filthy, unclean utensils	W. T. Saucerman, Monroe	\$25 and costs.
Nov. 25	James Anderson, Withee	Delivering adulterated milk to a creamery	W. A. Campman, Neillsville	\$25 and costs.
Dec. 2	L. M. Young, Oconto	Selling tincture of iodine below standard	J. A. Donlevy, Oconto	\$25 and costs.
Dec. 2	Mike Alt, Edgar	Delivering adulterated milk to a cheese factory	L. Marchetti, Wausau	\$25 and costs.
Dec. 4	Wendal Petri, Campbellsport	Maintaining unclean apparatus at a cheese factory	Wm. M. Colvin, West Bend	\$25 and costs.
Dec. 7	J. C. Jensen, Elroy	Selling adulterated cream	H. H. Dunn, Elroy	\$25 and costs. Fine suspended on payment of costs.
Dec. 8	H. J. Schigley, Unity	Delivering adulterated milk to a cheese factory	R. F. Kountz, Neillsville	\$25 and costs.
Dec. 13	Joseph Luder, Hudson	Having in possession with intent to sell unsanitary cream	Otto M. Arnquist, Hudson	\$25 and costs.
Dec. 13	Henry Duellman, Marshfield	Selling adulterated milk	Hugo Wegener, Marshfield	\$25.

Dec. 17	A. Kubasiak, West Allis	Maintaining unsanitary meat market	Geo. C. Page, Milwaukee	\$25 and costs.
Dec. 17	A. Bodenberger, West Allis	Maintaining unsanitary meat market	Geo. C. Page, Milwaukee	\$25 and costs.
1916				
Jan. 5	C. Budilasky & Son, West Allis	Maintaining unsanitary meat market	Geo. C. Page, Milwaukee	\$10 and costs.
Jan. 14	Elmer A. Kenyon, Gilmanton	Using a false measure	H. J. Niehaus, Alma	\$25 and costs.
Jan. 19	Adam Piatkiewicz, West Allis	Maintaining unsanitary meat market	Geo. C. Page, Milwaukee	\$25 and costs.
Jan. 25	August Pozionebka, Neillsville	Delivering adulterated milk to a cheese factory	R. F. Kountz, Neillsville	Sentence suspended on payment of costs.
Jan. 27	Blazer Bros., Beloit	Maintaining unsanitary meat market	J. B. Clark, Beloit	\$10 and costs.
Feb. 3	John C. Dees, Cedar Grove	Maintaining unsanitary meat market	A. Trester, Sheboygan	\$25 and costs.
Feb. 6	Geo. Gross, Hales Corners	Selling unsanitary butter	Geo. C. Page, Milwaukee	\$25 and costs.
Feb. 7	K. F. Stupp, Beloit	Selling chopped meats containing sulphites	J. B. Clark, Beloit	\$25 and costs.
Feb. 14	Thomas McGavock, Beloit	Selling chopped meats containing preservative	J. B. Clark, Beloit	\$25 and costs.
Feb. 14	B. F. Holbrook, Cameron	Delivering coal without such delivery being accompanied by a delivering ticket	J. W. Soderberg, Barron	\$1 and costs.
Feb. 16	R. Else & Son, Janesville	Selling adulterated butter	Harry J. Maxfield, Janesville	\$25 and costs. Plead <i>nolo contendere</i> .
Mar. 7	John J. Waber (Mgr. Cudahy Meat Market)	Selling veal in quantity less than represented	Henry Casson, Madison	\$25 and costs.
Mar. 16	Sylvester Powlawski, Stevens Point	Delivering adulterated milk to a cheese factory	G. L. Park, Stevens Point	\$25 and costs.
Mar. 16	Lawrence Kamenski, Stevens Point	Delivering adulterated milk to a cheese factory	G. L. Park, Stevens Point	\$25 and costs.
Mar. 17	A. Eliason, Luck	Maintaining dairy premises and utensils in an unsanitary condition	J. J. Tuttle, Balsam Lake	\$25 and costs.
Mar. 20	A. H. Johnson, Menomonie	Selling unsanitary cream	F. B. Clarke, Menomonie	\$25 and costs.
Mar. 20	Ferdinand Wolf, Menomonie	Selling unsanitary cream	F. B. Clarke, Menomonie	\$25 and costs.
Mar. 24	Ripon Produce Co., Ripon	False manipulation and making false determination by the Babcock test	Roy E. Reed, Ripon	\$25 and costs. Fine remitted on payment of costs.
Mar. 24	Arthur Mallien, Lena	Making false determination by the Babcock test	James A. Donlevy, Oconto	\$25 and costs.
Mar. 26	D. W. Emerson, Ashland	Selling unsanitary milk	John Garvin, Ashland	\$25 and costs.
Mar. 27	F. C. Eagan, Muscoda	Selling pop containing saccharin	F. F. Wheeler, Muscoda	\$25 and costs.
Mar. 31	Otto Retzlloff, Forest Jet	Selling milk below legal standard	Geo. G. Breed, Chilton	Fine remitted on payment of costs.
Apr. 3	John Herr, Sheboygan (North Side Drug Store)	Selling adulterated tincture of iodine	O. A. Bassuener, Sheboygan	\$25 and costs.
Apr. 4	Fred Mattoon (F. Geele Hdw. Co.), Sheboygan	Selling adulterated turpentine	O. A. Bassuener, Sheboygan	\$25 and costs.
Apr. 7	A. Henschel & Son, Kiel	Selling pop containing saccharin	Albert H. Schmidt, Manitowoc	Fine remitted on payment of costs.
Apr. 10	E. A. Breitenfelt (Central Drug Store), Hartford	Selling adulterated tincture of iodine	H. J. Thoma, Hartford	\$25 and costs.
Apr. 11	Thomas Parsons, Berlin	Selling unsanitary milk	Fred Engelbracht, Berlin	\$25 and costs.
Apr. 11	Emrich Hoefft, Juneau	Manufacturing for sale sausage from putrid and rotten meat and maintaining unsanitary meat market	M. W. Clifford, Juneau	\$25 and costs. \$15 of fine remitted.
Apr. 12	Bump & Parrish, Baraboo	Maintaining meat market in an unsanitary condition	Adolph Andro, Baraboo	\$25 and costs.
Apr. 13	W. G. Correll, Spring Green	Selling adulterated tincture of iodine	H. G. Purdy, Spring Green	\$25 and costs.
Apr. 19	Gutsch Brewing Co., Sheboygan	Selling bottle beer misbranded as to net contents	O. A. Bassuener, Sheboygan	\$25 and costs.
Apr. 28	F. J. Taylor, Boscobel	Maintaining meat market in an unsanitary condition	D. B. Richardson, Boscobel	\$25 and costs.

CONVICTIONS—Continued

Date	Defendant	Cause of Action	Trial Judge	Fine or Forfeiture
May 1	Hagemeister Brewing Co., Green Bay.....	Selling misbranded bottle beer.....	Henry Graass, Green Bay.....	\$25 and costs.
May 2	Harry Zentner and Vol Hoffmann, Green Bay.....	Selling chopped meat containing sulphites.....	N. J. Monahan, Green Bay.....	\$50 and costs.
May 4	F. E. Settergren, Baraboo.....	Maintaining meat market in an unsanitary condition.....	H. L. Halsted, Baraboo.....	\$50 and costs.
May 4	Paul Friederich, Wausau.....	Selling adulterated turpentine.....	Louis Marchetti, Wausau.....	\$25 and costs.
May 6	Saul Sinaiko, Mt. Vernon.....	Selling adulterated boiled linseed oil.....	J. Fehlandt, Madison.....	\$25 and costs.
May 7	Butler-Ditzler Hdw. Co., Kaukauna.....	Selling adulterated turpentine.....	A. M. Spencer, Appleton.....	\$25 and costs.
May 10	A. J. Anderson, Viola.....	Maintaining meat market in an unsanitary condition and preparing for sale decomposed meats.....	James M. Cushman, Viola.....	\$25 and costs.
May 23	Chas. Geisler, Wausau.....	Manufacturing for sale decomposed meats into sausage under unsanitary conditions.....	Louis Marchetti, Wausau.....	\$50 and costs.
May 23	Geo. Jung, Wausau.....	Selling chopped meats containing sulphites.....	Louis Marchetti, Wausau.....	\$25 and costs.
May 23	O. C. Callies, Wausau.....	Selling adulterated turpentine.....	Louis Marchetti, Wausau.....	\$25 and costs.
May 23	Henry Grantman, Lomira.....	Using a false weight.....	Ed Saurhering, Mayville.....	\$25 and costs.
May 25	E. E. Ramsdell, Marion.....	Selling misbranded food.....	M. B. Scott, Waupaca.....	\$25 and costs.
June 5	F. G. Kessler, Baraboo.....	Selling misbranded bottle of soda.....	Adolph Andro, Baraboo.....	\$25 and costs.
June 9	A. J. Kitzman, Eau Claire.....	Manufacturing for sale decomposed meats into sausage under unsanitary conditions.....	J. H. McBain, Eau Claire.....	\$25 and costs.
June 14	Adam Ritcher, Crean.....	Selling and exposing for sale food not protected from filth and dust.....	H. J. Niehaus, Alma.....	\$25 and costs.
June 15	N. O. Risberg, Loraine.....	Selling adulterated boiled linseed oil.....	E. C. Baer.....	\$25.
June 30	Joseph Heller, Oconto.....	Selling lard in quantity less than represented.....	James Donlevy, Oconto.....	\$25 and costs. Pledged <i>nolo contendere</i> .

DISBURSEMENTS

For year Ending June 30, 1916

Weigle, Geo. J., commissioner, sal. and exp.....	\$3,067.35
Aderhold, E. L., asst. commissioner, sal. and exp.....	2,840.42
Lee, C. E., asst. commissioner and dairy specialist, sal. and exp.....	2,587.08
Norton, F. Q., secretary.....	1,312.50
Beckwith, Chauncey, inspector, sal. and exp.....	2,301.73
Boettcher, J. E., inspector, sal. and exp.....	2,573.74
Bornheimer, H. L., inspector, sal. and exp.....	1,866.56
Brannon, W. A., assistant chemist.....	1,700.00
Buzzell, F. M., inspector, sal. and exp.....	783.89
Benway, Emphy, junior sealer of weights and measures.....	123.32
Brennan, Leo, junior sealer of weights and measures.....	486.66
Cannon, J. D., inspector, sal. and exp.....	2,264.56
Cook, S. B., inspector, sal. and exp.....	2,347.79
Downing, F. P., chief inspector of weights and measures, sal. and exp.....	2,245.00
Dufner, inspector, sal. and exp.....	2,583.79
Eigenberger, Geo., inspector, sal. and exp.....	2,535.00
Fischer, Richard, consulting director chemical laboratory, sal.....	600.00
Geidel, Carl, bacteriological chemist.....	1,200.00
Hass, B. A., inspector, sal. and exp.....	2,457.93
Howlett, I. R., assistant chemist.....	1,400.00
Klueter, Harry, chemist, sal. and exp.....	2,244.48
Koss, Harry, junior sealer of weights and measures.....	106.67
Kramer, W. J., inspector, sal. and exp.....	2,183.26
Lehnherr, Jacob, inspector, sal. and exp.....	2,619.37
Linzmeyer, J. B., inspector, sal. and exp.....	2,425.67
Marty, Fred, inspector, sal. and exp.....	2,131.85
Nerdrum, Ruth, stenographer.....	496.14
Rothnick, Iola, stenographer.....	100.00
Sinaiko, Sohnle, filing clerk.....	20.00
Southard, R. B., inspector, sal. and exp.....	2,638.92
Sterns, W. P., inspector, sal. and exp.....	2,518.86
Thomas, E. D., stenographer.....	1,200.00
Van Duser, James, inspector, sal. and exp.....	2,496.07
Voigt, W. A., inspector, sal. and exp.....	2,643.99
Walter, M. L., stenographer.....	1,200.00
Warner, George, inspector, sal. and exp.....	2,279.09
Winder, William, inspector, sal. and exp.....	243.90
Cantwell Printing Co., printing.....	486.89
Democrat Printing Co., printing.....	255.65
Gugler Lithographing Co., certificates.....	135.42
Insurance.....	10.26
Printing Board, paper.....	259.26
Superintendent of Public Property, postage, supplies, etc....	1,875.51
Superintendent of Public Property, new apparatus.....	105.89
Streissguth-Petran Engraving Co., zinc.....	.45
Total.....	\$67,954.92

REPORT OF HARRY KLEUTER, CHEMIST

HON. GEO. J. WEIGLE,
Dairy and Food Commissioner.

Dear Sir:—I hereby submit a report of the work done for the year ending June 30, 1916. Having charge of the field work of food and drug inspection, necessarily much time has been devoted to that work and I shall try to bring out what has been accomplished in this phase of the work. To keep in touch with new conditions and new kinds of foods as they arise, it is necessary that some time be given to the correspondence with food manufacturers and dealers. New conditions and new food products have to be considered almost daily and consultation on these matters is required. Therefore a certain amount of time is necessarily spent at the office.

During February of this year the weights and measures inspectors, eight in number, were called in from the field and given instruction in food and drug inspection work. Since that time these men have rendered valuable service to the state in this line of work as well as in their own line. With this change some relief from lack of help in food and drug inspection was had. These eight weights and measures and food inspectors work only in cities of less than five thousand inhabitants. Because of the nature of weights and measures inspection work these men cannot cover their respective territory more than once a year, if that often. To do food inspection it is, many times, necessary for the purpose of reinspection to make several visits to a city or village in the course of a year. There may be sanitary inspection or reinspection called for but the weights and measures inspector, following a fixed route, is apt to overlook or underestimate the importance of this and go into new territory. Aside from this, proper sanitary inspection work calls for frequent inspections at unexpected times. By one visit a year we cannot know that this grocery store or meat market is kept clean and sanitary. It may be clean at the time of inspection, for inspection may have been just after an annual house cleaning or the place of business may be new with new equipment and for that reason be clean. Conditions two months later may be very insanitary. It therefore seems to me circumstances and facts warrant the addition of one or two more food and drug inspectors to do this line of work only. The work is there to be done and the public wants and is entitled to this service. A few well trained men specially fitted for and having a real interest in this work, could do much to spur on the local dairy and food inspectors. Much good would be accomplished if our inspectors were in a position to come more frequently in touch with city dairy and food inspectors. No doubt many cities now doing little or nothing for themselves would take up this work and in a measure relieve the state of this work. There is an opportunity right now to work out a plan of coöperation along these lines and accomplish much good.

During the past year 5,790 sanitary inspections were made of grocery stores, meat markets and other places where foods are manufactured, stored or sold. Many of these were reinspections called for by a previous inspection. In most cases on reinspection we have found greatly improved conditions but in some instances it was found necessary to bring prosecution. Little or no attention had been paid to the written notice from this department. In all such cases we feel that prosecution is called for. During the year the inspectors have been able to visit certain cities only once. I believe sanitary inspections should be made more frequently, not necessarily at regular intervals but better, perhaps, at unexpected times and every place should be inspected for sanitary conditions at least two or three times a year. On reinspection in many cases we found that the place of business had been sold and that a new man was in charge. The new man knew nothing of our criticisms on sanitary conditions found on our previous inspection and consequently the place continued to run in an unsanitary condition. Such a state of affairs should not exist.

Special attention has been given during the last year to soda water, soft drink and pop manufacturing establishments. The inspectors have given particular attention to the methods of washing the containers, have done a certain amount of educational work with respect to the proper washing of containers and we believe much good has been accomplished by this work. We found at some establishments that the help washing bottles had no conception whatever of the proper methods of washing food containers. We found in many cases that the alkaline solution in the bottle soaking tanks or vats was not changed as frequently as it should have been. Many times these tanks were never emptied and thoroughly cleaned but new solution was added from time to time. After leaving the soaking tanks we found that the bottles were not properly rinsed and in many cases were not allowed to drain. No attempt was being made to remove the rust found on the neck of the bottles and there was much evidence of lack of proper handling of food products.

Owing to the change of conditions from time to time in connection with foods and the process of manufacture certain new legislation or a change in certain laws seems to be called for. Among the most important of these changes are the following:

Some legislation authorizing the seizure of food products offered for sale when such food products are unfit for food seems necessary. Occasionally an inspector finds a barrel of salted or pickled meat in a state of partial decay. He calls the attention of the merchant to the condition of his product and is informed that the same will be destroyed. We have reason to believe that in some cases the product was not entirely destroyed but after considerable trimming, soaking and washing, portions of the meat were used for sausage. I believe if the inspector had had the power to confiscate that product then and there and denaturize the same by the use of kerosene or some other suitable denaturizing substance that we might have in some cases prevented its use as an article of food.

I believe that a change in our present law relating to the sale of sausage with cereal is called for. At the time our present law was enacted it was similar to the federal regulations governing the sale of sausage with cereal issued by the bureau of animal industry, department of agriculture

at Washington, but since that time that department has changed its ruling. We now permit the sale of sausage with cereal if the percentage of cereal does not exceed four per cent and if there has not been added to the sausage more than ten per cent of water. The percentage of cereal permitted by our law is too large. I believe this should be reduced to two per cent of cereal and three per cent of water, to be in harmony with the federal regulation governing this product.

Other new legislation which seems called for at the present time is legislation regarding the sale of eggs. While the general law on food adulteration gives us considerable authority to regulate the sale of bad eggs, still I believe the matter is of sufficient importance to merit a special law. By the enactment of a special law we could more clearly state to the producers and sellers of eggs the conditions regulating the sale of this product. For instance, the general law says nothing concerning the sale of eggs known as stuck yolk or heavy blood rings and various other forms of spoiled eggs, and therefore in some cases the man dealing in this product is not as careful to keep out these forms of spoiled eggs as he should be. I also believe in connection with this law we should have the power to condemn for the purpose of seizure, thereby enabling us to more efficiently control the sale of eggs. I also believe that after the court has passed upon the question whether or not the eggs in question are adulterated, some provision should be made whereby this product is denaturized. We can bring a prosecution for the sale of bad eggs but we have no power to further control this product unless we can prove that it is offered for sale. I feel that we are in need of more authority than is given by our present law to deal efficiently with the egg situation.

During the last month of this period, that is, in the month of June, two of the inspectors of this department were equipped with egg candling outfits. Neither of these inspectors had had any previous training in this work and it was therefore necessary for these men to spend considerable time in training themselves with what help they were able to get at the laboratory for this work. The work did not appear difficult but before these two inspectors had gone far in the work, both realized that it would be necessary to better fit themselves for the work. Whenever these men came in contact with experienced egg candlers and it was possible for them to do so, they were instructed to spend some time in fitting themselves for the work. We also had numerous samples of the various forms of bad eggs shipped to the laboratory and considerable time was spent at the laboratory on this subject. The time given to this work in this period was so short that no attempt will be made to show in numbers the extent of the work. The work was in fact of an educational nature on the part of the inspectors as well as the storekeepers. Nevertheless, sufficient work was done to show the necessity of extending the activities of our department to this line of work. I believe, if possible, every food inspector in the department should be equipped with egg candling outfits and that he should be taught how to candle eggs. I also feel that a campaign of education on the production of eggs is called for. The production of eggs on the farm today is treated as a side issue. Too little attention is given the subject of egg production. Our campaign should include educational work showing the possibilities of egg production

and the benefits to be derived by proper methods of handling and caring for this product.

The annual loss in spoiled eggs in the state of Wisconsin alone is large and something should be done to avoid this loss. I hope it will be possible for us to enlarge very much on this part of our work during the coming year.

In connection with the report on foods, drugs, white lead, zinc white and turpentine, it is to be remembered that the samples purchased and submitted by inspectors were either new products, those known to be adulterated, or those which the inspectors had good reason to believe were adulterated or misbranded. Many reliable brands of food products are to be found on the Wisconsin market in bulk and in package form, as well as pure drugs, pure white lead, pure zinc oxide, linseed oils, and the true condition of the Wisconsin market with regard to these products is not represented by the samples reported, as purity rather than adulteration would be the rule if the samples were collected indiscriminately.

BEVERAGES.

Eighty-two samples of beverages were analysed. Thirty-seven of these samples were held to be unlawful. Many of the samples were found to be preserved with benzoate of soda and some of the samples were found to contain saccharin. The use of a preservative in a beverage usually indicates unclean conditions at the factory at which it is manufactured. There are, of course, some exceptions. Investigation has shown that occasionally some dealers buy flavoring extracts which were preserved with sodium benzoate and in this way an adulterated product is produced.

The use of saccharin has been nearly stamped out but undoubtedly due to the abnormal price of sugar during this year, a few of the manufacturers of beverages such as pop and soda, were tempted to use saccharin. Saccharin is about five hundred and fifty times as sweet as sugar. One pound of saccharin serves the purpose of 550 pounds of sugar. Consequently there would be a larger saving by the use of saccharin, but our food laws forbid the use of saccharin on the ground that saccharin is deleterious to health and that its use in a product of this kind in place of sugar is fraudulent. Saccharin has no food value and therefore robs the product to which it is added of that food value supplied by sugar. In several samples submitted we found evidence showing that the containers had not been properly washed. In one case in particular we found lemon soda in which there were several flies. This would seem to indicate that that container had not been washed but had been used by the bottler from the case in which it had come back from his customer.

Several cases of misbranding of beverages were found. In some instances these products were sold in package form and were not labeled in compliance with law on that subject.

Quite recently several brands of white grape juice, mainly Catawba, have come on the market. In almost all cases these grape juices were found to be preserved with sulphur dioxide. The use of sulphur dioxide in connection with this product serves two purposes. It not only preserves

the product to which it is added but it has the property of bleaching out the product and its use to some extent clarifies the product. The sale of grape juice preserved with sulphur dioxide is contrary to our food laws. In some instances the amount of sulphur dioxide present was so large that the flavor of the grape juice had practically been destroyed.

CANNED VEGETABLES.

Twenty-one samples of canned vegetables were collected and analysed. Six of these samples were artificially colored by the use of a copper salt. Five of the samples were misbranded because of the fact that the net weight was either not stated or improperly stated.

In connection with canned vegetables I wish to comment on the inspection of the pea canning factories of the state made during the month of June. Thirty-three factories were visited and a thorough sanitary inspection made. At a few of the factories we found questionable practices. One of the main complaints that can be made concerning the factories is the lack of provision for caring for the juice of the crushed pea vines from silos and the manner in which the wash water is disposed of. We found a big difference in opinion of managers of these factories concerning the method of washing the peas and the method of keeping clean the bins, hoppers and picking tables. Many of the factories were scrupulously clean but at others we found men in charge whose standard of sanitation and cleanliness was much lower. At one place in particular the person having charge of the picking department declared to us during our inspection that he had thoroughly washed the bins and hoppers at twelve o'clock. We made our inspection at about three o'clock and found in those bins and hoppers accumulated filth that must have been there for several days. This factory I understand lost a greater part of the pack of the previous year and from the conditions we found at the factory it is not to be wondered at.

Some provision should be made for making a general inspection of these factories just previous to the beginning of the season and suggesting to them certain improvements in machinery and conditions which we think are necessary. I think this should be done for the reason that when the season once opens a delay of a few hours may mean thousands of dollars loss to the factory. The operators of these factories are aware of this and I feel reasonably sure that if we were in a position to make this inspection and suggest needed changes, we might expect good results from this work. For inspection work of this kind, of course, we should have an inspector who has had practical experience in the canning of foods.

DAIRY PRODUCTS.

Two hundred and twenty-seven samples of dairy products consisting of butter, cream, milk, evaporated milk and ice cream were analyzed. Ten of these samples were samples of butter upon which a complete analysis was made and all of these samples were found to be below the legal standard in butter fat. By referring to the tabulated report of samples analyzed you will see that some of the samples contained as

little as 71.92 per cent butter fat. Another sample contained 74 per cent butter fat and another 76 per cent butter fat. This low percentage of butter fat was due to the incorporation of excessive moisture in butter. A thorough investigation was made of this condition and as a result prosecutions were started against the offenders. These prosecutions resulted in the payment of heavy fines and no doubt this will serve as a warning to many other manufacturers of butter who have been tempted to crowd moisture into their products. Many submitted samples of butter were tested in the laboratory to determine the presence or absence of foreign fat.

Twenty-two samples of cream were collected by the inspectors at various parts of the state for the purpose of checking up determinations of fat made on these samples by the operators of the Babcock test at creameries or cream buying stations. This work was done because of complaints received at the office concerning the tests given on cream delivered. In some cases we found that the patrons of creameries or cream buying stations were getting correct tests but there still seems to be necessity for the continual checking up of the testing of cream by the Babcock method. No doubt much good would result from educational work on the use of the Babcock test. I feel that each of the creamery inspectors could do much good if on visiting creameries and cream buying stations he were to spend some time with the operator of the Babcock test. Too few of the people using this test realize the importance of the care with which this test must be made. The testing of cream by the Babcock method is quite a different matter from the testing of milk. This is a very accurate and rapid test for the percentage of fat in milk but when used in connection with cream much more care and time is necessary. We find that many people are not paying enough attention to the temperature at which the fat column is read and in some cases the fat column is read as the samples are taken from the centrifuge. No attention whatever is paid to the temperature. I believe that much good could be done if our men were instructed to give more time to this subject in the field.

Only five samples of city cream were submitted by inspectors to the laboratory. Four of these five samples were found to be below the legal standard. One sample was found to be in compliance with the standard. This in a way indicates that the cream offered for sale in the various cities of the state is of good quality and in compliance with the standard. Many samples of cream were tested by the dairy inspectors during the year but it was found necessary to submit only five of these samples to the laboratory.

Forty-one samples of milk were collected by the inspectors while inspecting the milk supplied to creameries and cheese factories throughout the state. Thirty-five of these samples were found to differ from the legal standard for milk. The usual forms of adulteration were practiced, that is skimming and watering.

Eight samples of milk delivered to the cities were collected by the inspectors and submitted to the laboratory for analysis. Five of the eight samples were found to be adulterated by the addition of water. The inspectors in their work on city milk for chemical preservatives did

not find it necessary to submit any samples. Because of the vigorous campaign against the use of chemical preservatives in food products made several years ago, we rarely find the use of chemical preservatives in connection with milk. Each of the inspectors is equipped to test the city milk while doing the city milk inspection, for the presence of such preservatives as boric acid and formaldehyde. These were the preservatives most commonly used.

While doing city milk work the inspectors also make sediment tests on the milk delivered. In a number of cases the sediment obtained by passing a pint of the milk through the disc was not a credit to that dealer. It is to be remembered in this connection that a negative test for dirt, that is a clean disc, does not necessarily signify clean milk. The milk might have become very filthy during the milking but by efficient straining or the use of a clarifier the insoluble dirt could have been removed. These methods, however, do not remove the soluble portion of the filths which were found in the milk. I believe that a general campaign on city milks should be made and that this campaign should consist of bacteriological work in connection with the chemical work now done. We need additional bacteriological apparatus for this work and I feel that this apparatus should be obtained as soon as the financial condition of the commission will permit.

DRIED FRUITS.

Seventeen samples of dried fruits were collected by inspectors, submitted to the laboratory and analyzed. Eleven of these samples were bought for bleached raisins and three samples were bought for raisins. All of these samples upon analysis in the laboratory were found to have been bleached with sulphur dioxide. All of these samples contained sulphurous acid and their sale was therefore in violation of the food laws of our state. Three samples of California figs were collected and analyzed. All were found to contain sulphur dioxide and one sample was found to be very moldy. Two of the three samples were found to be misbranded because they were short weight. None of the samples of dried fruits are known as cut dried fruits but were the whole fruit dried, and little if any excuse can be found for the sulphuring of whole fruits. In the case of cut fruits such as apricots, apples and peaches, the sulphur dioxide kills the oxidase present in the fruit and prevents blackening. This, however, is not true with fruit products such as raisins and there can be no good reason why raisins should be treated with the fumes of burning sulphur. The product may be slightly improved in appearance but its value as a food product has been destroyed.

DRUGS.

During the year, 750 samples of drugs were analyzed. The samples consisted of alcohol, aspirin, witch hazel, lime water, spirit of camphor, tincture of iodine and a few miscellaneous samples. Of the 750 samples analyzed, 298 samples were spirit of camphor and 340 samples were tincture of iodine. Of the 298 samples of spirit of camphor, 74 samples

were found to be in compliance with the standard for that drug. One hundred and thirty-three samples were deficient in camphor, 38 deficient in camphor and contained added water and 6 samples were found to be above standard in camphor but contained added water.

Of the 340 samples of tincture of iodine, 121 were found to be standard, 28 samples were found to be deficient in iodine, 28 samples were found to be deficient in potassium iodide, while 75 samples were found to be deficient in iodine and potassium iodide.

Particular attention was paid to the collection of these two drugs with a view to collecting these drugs in portions of the state in which they had not been previously collected. With the exception of one or two large cities, the state was practically covered during the last two years. Since the close of this period samples have been taken in the remainder of the cities and the state has now been completely covered on these two drugs. The character and composition of these drugs, that is spirit of camphor and tincture of iodine, should give us a fairly good idea of the general practice of the druggist for the reason that these preparations are usually prepared by the druggist himself and are therefore an indication of the work done by him. Their preparation is very simple and little excuse can exist for the large percentage of not standard samples of spirit of camphor and tincture of iodine found in the state. It is evident that either much carelessness exists or there is wilful adulteration for the purpose of bigger profits.

Many letters of warning, as you know, have been written and in many cases we have been able to make reinspection. A number of prosecutions have been found necessary on reinspection. A large number of samples purchased on reinspection showed a decided improvement in these products. From now on the druggist found selling adulterated spirit of camphor or tincture of iodine should expect nothing but prosecution. The state has been covered, the druggists have been given letters of warning and surely no excuse for adulteration in these drugs can be found.

Eleven samples of aspirin or aceto salicylic acid were collected. One of the samples, a sample of aspirin tablets purchased at Wausau was found to be adulterated with acetanilid and salicylic acid. Another sample sold as five grain aceto salicylic acid tablets was found to be practically thirty per cent short of the claimed strength. Another sample purchased as five grain capsules of aspirin was found to be practically twenty per cent short of the claimed strength. Seven samples were found to be free from adulteration. Considerable work has also been done on this drug by the federal government and the various states have collected and analyzed numerous samples. As a result of this work I feel that the supply of aspirin tablets at the present time is free from adulteration.

Nine samples of alcohol were collected and analyzed. None of the nine samples collected were found to be in compliance with the standard for that drug. Three of the samples approach that standard. A number of these samples were not purchased from druggists but from wholesale liquor dealers. There seems to have been a general misunderstanding on the part of wholesale liquor dealers of the state as well as the druggists, concerning the standard strength of alcohol. Few druggists in ordering

alcohol specify in their order alcohol of pharmacopoeial strength. The wholesale dealers in this product were therefore sending out alcohol of various strengths. Some of the samples collected were found to be as low as seventy-five per cent of alcohol by volume when the standard for this drug requires 94.9 per cent of absolute alcohol by volume. This information has been given to the druggists and undoubtedly an improvement of the quality of alcohol offered for sale in the state will result.

Much good drug inspection work could be carried on in the field if we had a registered pharmacist doing drug inspection. This inspector could also do work for the state board of pharmacy in gathering certain necessary data for that board. In many drug stores an examination of some of the drugs could be made and undoubtedly much information given the druggist concerning the quality of the various drug products. I believe the appointment of an inspector of this kind to work not only for our commission but also for the state board of pharmacy would result in much good. He might also do work in weights and measures, that is, testing of prescription balances and prescription glassware. We could keep in closer touch with the drugs and the druggists of the state but it appears to me that this man should be a registered pharmacist and a man having had considerable experience in conducting a drug store.

FOOD PRESERVATIVES.

Forty-three samples of food preservatives were collected and analyzed. By referring to the tabulated report of the analyses of these products you will see that the greater majority of the samples collected were Mrs. Price's Canning Compound. This compound is composed largely of boric acid with the addition of a small percentage of common salt and benzoic acid or a salt thereof, sodium benzoate. A general campaign of education has been carried on in connection with this product. The information has been very generally imparted to the merchants of the state that the sale of this product is in violation of our food laws. A few prosecutions I feel will put an end to the continued sale of this product. Some of the other samples of food preservatives were found to be solutions of benzoate of soda, one a sample of lime sulphite and a few samples of freeze-em pickle. The freeze-em pickle was found to be free from sulphites, boric acid and benzoic acid. It was composed essentially of common salt and saltpetre.

LINSEED OILS.

One hundred and twenty-four samples of linseed oil were analyzed. Sixty-six samples of boiled linseed oil were collected and submitted by the inspectors. Forty-six of these sixty-six samples were found to be adulterated. Sixteen samples of raw linseed oil were collected and eight of these were found to be adulterated. The usual form of adulteration was practiced, that is, the addition of mineral oil or machine oil. Every dealer in linseed oil in the state can obtain valuable information by a study of the tabulated report on this product. By an examination of that table the merchant could be able to reliably inform himself of the character of

the products of a number of large dealers. The names of two companies stand out very prominent in this tabulation. I also believe that much good would result by publishing in pamphlet form the work on linseed oil and by distributing this pamphlet to the dealers. In this way they might protect themselves in the purchase of this product and as a result of this protection to the merchants we could expect a big improvement in the quality of linseed oil offered for sale in the state. A good deal of attention has been paid to linseed oil inspections and analyses and undoubtedly a big improvement has been brought about in the market conditions of this product.

MAPLE SUGARS AND SYRUPS.

Twenty-eight samples of maple sugar and syrup were collected and analyzed. Eighteen samples of maple syrup were found to be below the legal standard for that product. These were syrups produced by farmers of this state and the usual form of adulteration was found to be due to the fact that the syrups had not been sufficiently concentrated. In other words the producers of these syrups had not boiled down the syrup to the proper concentration.

This is the first time that a general investigation has been made on the maple syrups produced within the state. From the results of the investigation and from information obtained from dealers throughout the state, it appears that a considerable quantity of maple syrup is produced in this state. It appears that here is an opportunity to take hold of a growing industry and accomplish much good. There are to the best of my information several thousands of gallons of maple syrup produced annually by farmers in the state and undoubtedly if some attention were paid to this industry the output could be materially increased. If, during the next run of maple syrup, which comes in the spring, we could get the inspectors of the department in touch with the farmers producing maple syrup, I believe that the quantity and quality of this product could be very much improved. A great many of the samples collected were of exceptionally good flavor indicating to me that maple syrup of good quality can be produced in this state. Not many years ago it was almost impossible to get pure maple syrup on the markets of the state but since improved methods of analyses and additional information concerning maple syrup have come to light, we have been able to stamp out the more common forms of adulteration and as a result the consumers of the state are practically sure of getting maple syrup instead of brown sugar syrup as in the past. This industry which is in its infancy, I feel merits special attention and I feel that the benefits which could be derived by working with the producers of maple syrup in the state would more than offset the expense of such work.

MISBRANDING OF FOODS.

Many cases of misbranded foods are handled in the field by the inspectors, it being unnecessary to purchase and submit the samples to the laboratory. In many cases where the food product is purchased by

the inspector, because he has reason to believe it is adulterated, we find that the food is misbranded, as well as adulterated. There has been a mistaken idea that the misbranding law relates only to food in package form. This is not true. The first subsection of section 4601aa deals with food, as defined in section 4600, irrespective of whether it is in package form or not. If this were not so, we would find ourselves helpless in trying to stamp out some of the worst forms of misbranding. It is impossible to report here in numbers the cases of misbranding found, but it can be safely said that much good has come from the enforcement of this law.

SAMPLES SUBMITTED BY AND ANALYZED FOR THE STATE BOARD
OF CONTROL AND THE UNIVERSITY OF WISCONSIN.

Considerable analytical work has been done in the laboratory for the state board of control during the past year. Fifty-three samples consisting of laundry soap and similar products, wool blankets and white lead have been analyzed. This work was done on the samples submitted in connection with bids let for these products. This kind of work is a step in the right direction by the state board of control and every state department purchasing materials should as far as possible avail itself of the information to be gained by chemical analysis. At the same time, the expense of this work should be borne by each department. Some system of accounting should be devised to take care of this matter.

We have also been called upon to analyze a few products for the purchasing department of the University of Wisconsin. The results of the analysis obtained on soap, washing powder, etc., were also furnished the purchasing department of the University of Wisconsin and the purchasing agent for the state board of normal regents. These officials expressed a desire to be informed on the results of the analyses of laundry soap, soap chips, etc., which were obtained by the work done for the state board of control. In this way they feel they can keep in touch with the character of the products offered for sale by the various companies selling these products. This work has taken considerable time of the chemists of the department and I feel that while the practice is strictly in the interest of the people of the state, nevertheless some provision should be made whereby the various departments of the state pay to our department the cost of this work.

TURPENTINE.

Seventy-two samples of turpentine were analyzed. Seven of these samples were submitted by dealers who had good reason to believe that the samples were not pure. Of the 72 samples collected, 27 were found to be standard, 34 were not standard and 4 were misbranded. The usual form of adulteration was practiced, that is, the addition of a mineral oil product of the nature of kerosene. In some cases we found the adulteration to be as high as sixty-six per cent and in fact in one case the sample was found to be pure mineral oil containing no turpentine whatever. By publishing in pamphlet form for the benefit of the trade the

analyses of samples of linseed oil together with turpentine, I believe much could be done to inform the merchants of the state on the character of these products. Many purchases of linseed oil and turpentine have been made by merchants because of the fact that special inducements in the way of lower prices were made and in almost all of these cases adulterated linseed oil and turpentine were furnished. If we can impart this knowledge to the merchant I believe that they will make a special effort to avoid purchasing these adulterated products. If, in this way, we can keep them off the markets, we have accomplished at small expense what can only be accomplished by collection and analyses of a number of samples. I believe that publicity along these lines will yield good returns for the investment and as a matter of fact I believe that more publicity with the work done by this department is called for.

SUMMARY ANALYSES

1644 Samples.

	No. of Samples		
BEVERAGES			82
Unlawful	37		
Free from benzoic acid, salicylic acid and saccharin, and not misbranded	26		
Cider and grape juice	19		
CANNED VEGETABLES			21
CHERRIES FOR DECORATIVE PURPOSES			18
DAIRY PRODUCTS			227
BUTTER		23	
Standard	4		
Tested for foreign fat, none found	1		
Not standard	10		
Tested for per cent of moisture	8		
CREAM		27	
Tested for per cent of butter fat to determine overreading or underreading of the Babcock test	22		
City cream, standard	1		
City cream, not standard	4		
MILK		73	
Delivered to cheese factories or creameries, standard	6		
Delivered to cheese factories or creameries, not standard	35		
Herd samples	24		
City milk, not standard	8		
BUTTER, EVAPORATED MILK and ICE CREAM		14	
SUBMITTED SAMPLES		90	
DRIED FRUITS			17
DRUGS			750
ALCOHOL, not standard			9
ASPIRIN and ACETO SALICYLIC ACID			11
HAMAMELIS WATER			10
Standard	9		
Not standard	1		
LIME WATER			42
Standard	38		
Not standard	4		
SPIRIT OF CAMPHOR			298
Standard	74		
Not standard, above standard	47		
Not standard, deficient in camphor and contains added water	38		
Not standard, deficient in camphor	133		
Not standard, standard or above in camphor but contains added water	6		
TINCTURE OF IODINE			340
Standard	121		
Not standard, deficient in iodine	28		
Not standard, deficient in potassium iodide	28		
Not standard, deficient in iodine and potassium iodide	75		
Not standard, above standard in iodine or potassium iodide or both	87		
Not standard, prepared with alcohol of less than standard strength	1		
MISCELLANEOUS			16
SUBMITTED SAMPLES			24
FISH AND OYSTERS			8
FLAVORS AND FLAVORING EXTRACTS			57
VANILLA EXTRACT, not standard or misbranded		15	
LEMON EXTRACT		30	
Standard	2		
Not standard or misbranded	28		
EXTRACT OF VANILLA and TONKA; COMPOUND EXTRACT OF VANILLA, misbranded			2
MISCELLANEOUS			10
FOOD PRESERVATIVES			43

SUMMARY ANALYSIS—Continued

	No. of Samples	
LINSEED OILS.....		124
BOILED.....		66
Standard.....	20	
Not standard.....	46	
RAW.....		16
Not standard.....	8	
Standard.....	8	
STANDARD, but not labeled in compliance with law		13
COMPOUNDS, not labeled in compliance with law		8
SUBMITTED SAMPLES.....		21
MEAT PRODUCTS.....		30
MEATS, CHOPPED MEATS and SAUSAGES, tested for sulphites, boric acid and borates, none found.....	20	
CHOPPED MEATS AND SAUSAGE, found to contain sulphites.....	5	
SAUSAGE and SAUSAGE WITH CEREAL.....	5	
MISCELLANEOUS FOODS.....		14
SACCHARIN PRODUCTS.....		28
MAPLE SUGARS and SYRUP, standard.....	10	
MAPLE SYRUP, not standard.....	18	
SAMPLES SUBMITTED BY AND ANALYSED FOR THE STATE BOARD OF CONTROL.....		53
BATH SOAP.....	7	
LAUNDRY SOAP.....	9	
SAL SODA.....	4	
SOAP CHIPS.....	11	
TAR SOAP.....	3	
TOILET SOAP.....	3	
WASHING POWDER.....	11	
WHITE LEAD.....	1	
WOOL BLANKETS.....	4	
SAMPLES SUBMITTED BY AND ANALYSED FOR THE DEPARTMENT OF WEIGHTS AND MEASURES AND FOR THE UNIVERSITY OF WISCONSIN.....		13
SUBMITTED SAMPLES.....		76
TURPENTINE.....		72
Standard.....	27	
Not standard.....	32	
Misbranded.....	4	
Wood turpentine, not standard.....	2	
Submitted samples.....	7	
WHITE LEAD.....		11

BEVERAGES.

Unlawful.

Date	Bought for	Labeled	Bought of	Manufacturer or Jobber	Remarks
1915					
July 16	Raspberry soda.....	Raspberry soda.....	Albert Larsen, Ringle, R. 1.....	Wausau Bottling Works, Wausau.....	Contains benzoate of soda.
July 16	Grape Nectar.....	Grape Nectar. Artificially colored and flavored.....	Rommel Bros., Wausau.....	Rommel Bros., Wausau.....	Contains benzoate of soda.
July 16	Grape soda.....	Grape.....	Wausau Bottling Works, Wausau.....	Wausau Bottling Works, Wausau.....	Contains benzoic acid or a salt thereof.
July 16	Wild cherry soda.....	Wild Cherry. Artificially colored and flavored.....	Wausau Bottling Works, Wausau.....	Wausau Bottling Works, Wausau.....	Contains benzoic acid or a salt thereof.
July 16	Grape soda.....	Grape. Artificial flavor and color.....	Albert Larsen, Ringle, R. 1.....	Wausau Bottling Works, Wausau.....	Contains benzoate of soda.
1916					
Feb. 1	Cherry cheer soda.....	Cherry-Cheer. 1/24 of 1% benzoate of soda.....	Boerner-Kuether Co., Cedarburg.....	Geo. Ritter, Cedarburg.....	Contains dirt and sedi- ment.
Feb. 23	Orangeade.....	Artificial Orangeade. Certified color added.....	Stiensland & Mason, Blanchardville.....	Cincinnati Extract Works, Cincinnati.....	An artificial preparation sold as orangeade.
Mar. 2	Ginger ale.....	Ginger Ale. Artificial color and flavor.....	Wm. Robbins, Richland Center.....	Wm. Robbins, Richland Center.....	Contains saccharin.
Mar. 2	Lemon sour.....	Lemon Sour. Artificial color and flavor.....	Wm. Robbins, Richland Center.....	Wm. Robbins, Richland Center.....	Contains saccharin.
Mar. 3	Lemon soda.....	Lemon Soda.....	F. G. Eagan, Muscoda.....	F. G. Eagan, Muscoda.....	Contains saccharin.
Mar. 3	Orange soda.....	Orange.....	F. G. Eagan, Muscoda.....	F. G. Eagan, Muscoda.....	Contains benzoate of soda.
Mar. 10	Pop.....		A. Heuschel Bottling Works, Kiel.....		Contains saccharin. Mis- branded in that the net contents was not stated.
Mar. 10	Pop.....		A. Heuschel Bottling Works, Kiel.....		Contains saccharin.
Mar. 20	Strawberry soda.....	Strawberry, 7½ fluid oz.....	Axie Jones, Lone Rock.....	Elysian Mineral Water Co., Prairie du Chien.....	Misbranded in that net contents was not cor- rectly stated.
Mar. 20	Soda.....		R. W. Minett, Richland Center.....	Wm. Robbins, Richland Center.....	Misbranded in that net contents was not stated.
Mar. 20	Soda.....	Soda, 7½ fluid oz.....	C. B. Helt, Muscoda.....	F. G. Eagan, Muscoda.....	Contains saccharin.
Mar. 20	Lemon soda.....	Lemon Soda.....	Geo. W. Pfister, Muscoda.....	F. G. Eagan, Muscoda.....	Contains saccharin.
Mar. 20	Lemon soda.....	Lemon Soda.....	Ed. Flemming, Muscoda.....	F. G. Eagan, Muscoda.....	Contains saccharin.
Mar. 20	Lemon soda.....	Lemon Soda.....	John Rohovez, Muscoda.....	F. G. Eagan, Muscoda.....	Contains saccharin.
Mar. 20	Pop.....		F. G. Eagan, Muscoda.....	F. G. Eagan, Muscoda.....	Contains saccharin.
Mar. 20	Strawberry pop.....	Strawberry.....	Joe Siefert, Muscoda.....		Contains saccharin.

Mar. 24	Orange cider (artificial).....	Orange Cider. (artificial).....	Haarman & Buduhn, Louis Corners.....	A. Heuschel & Son, Kiel.....	Contains benzoic acid or salt thereof.
Mar. 24	Pop.....		H. W. Schmidt, Rockville.....	A. Hueschel & Son, Kiel.....	Contains saccharin. Misbranded in that net contents was not stated.
Mar. 24	Pop.....		H. W. Schmidt, Rockville.....	A. Heuschel & Son, Kiel.....	Contains saccharin. Misbranded in that net contents was not stated.
Mar. 24	Ginger ale.....	Ginger Ale.....	Haarman & Buduhn, Louis Corners.....	A. Heuschel & Son, Kiel.....	Contains saccharin.
Mar. 24	Pop.....		Haarman & Buduhn, Louis Corners.....	A. Heuschel & Son, Kiel.....	Misbranded in that net contents was not stated.
Mar. 24	Pop.....		Haarman & Buduhn, Louis Corners.....	A. Heuschel & Son, Kiel.....	Misbranded in that net contents was not stated.
Mar. 29	Orange soda.....	Orange.....	Platteville Bottling Works, Platteville..	Platteville Bottling Works, Platteville..	Contains benzoic acid or a salt thereof.
Apr. 20	Pop.....		J. Kushwa, Seymour.....	Seymour Bottling Works, Seymour.....	Misbranded in that net contents was not stated.
Apr. 26	Pop.....		Robt. W. Mimette, Richland Center.....	Wm. Robbins, Richland Center.....	Misbranded in that net contents was not stated; also in that the label did not bear the name of the manufacturer, packer, and dealer.
Apr. 28	Pop.....	Pop.....	Boscobel Bottling Works, Boscobel.....	Boscobel Bottling Works, Boscobel.....	Contains benzoic acid or a salt thereof.
May 9	Pop.....	Orange.....	McDaniel Bros., Soldiers Grove.....	McDaniel Bros., Soldiers Grove.....	Contains benzoic acid or a salt thereof.
May 9	Pop.....	Wild Cherry.....	McDaniel Bros., Soldiers Grove.....	McDaniel Bros., Soldiers Grove.....	Contains benzoic acid or a salt thereof.
June 5	Ginger ale.....	Armour's Concentrated Fountain Syrup. Ginger Ale Top Notch Brand Contains added sugar color.....	N. A. Leibreich, Centuria.....	Armour & Co., St. Paul.....	Contains benzoic acid or a salt thereof.
June 6	Root beer.....	Armour's Concentrated Fountain Syrup Root Beer Top Notch Brand. Contains added sugar color.....	Prosper Young, Centuria.....	Armour & Co., St. Paul.....	Contains benzoic acid or a salt thereof.
June 13	Grape nectar.....		Wittenberg Bottling Works, Wittenberg.....	Wittenberg Bottling Works, Wittenberg.....	Misbranded in that net contents was not stated.
June 21	Pear soda.....	Pear.....	Barcher & Tollaksen, Kilbourn.....	Oscar Altpeter, Baraboo.....	Misbranded in that net contents was not correctly stated.

BEVERAGES—Continued.

Free from Benzoic Acid, Salicylic Acid and Saccharin and not Misbranded

Date	Purchased for	Purchased of	Manufacturer or Jobber
1915			
July 30	Pear phosphate.....	E. H. Gordan, Wyoceua.....	Crown Cider Co., St. Louis.
Nov. 4	Orange Julep.....	A. J. Greenkorn, Oshkosh.....	Southern Fruit Julep Co., Chicago.
Nov. 4	Raspberry soda.....	A. J. Greenkorn, Oshkosh.....	.....
Dec. 13	Appleade.....	Endres & Buser, Madison.....	Heibel Bottling Co., Madison
Dec. 13	Appleade.....	J. Feldman Grocery Co., Madison.....	Heibel Bottling Co., Madison
Dec. 13	Grape Tango.....	J. Feldman Grocery Co., Madison.....	Crown Cider Co., St. Louis.
1916			
Mar. 8	Soda.....	Thompson & Robb, Blanchardville.....	Argyle Pop Factory, Argyle
Mar. 8	Soda.....	Thompson & Robb, Blanchardville.....	Argyle Pop Factory, Argyle.
Mar. 9	Soda.....	Palmer Skaugstad, Argyle.....	Chas. R. Einbeck, Monroe.
Mar. 9	Soda.....	Thompson & Robb, Blanchardville.....	Argyle Pop Factory, Argyle.
Mar. 10	Pop.....	A. W. Alexander, Shullsburg.....	Charles Lee, Shullsburg.
Mar. 15	Pop.....	J. H. Paulus, Highland.....	.....
Mar. 15	Pop.....	J. H. Paulus, Highland.....	.....
Mar. 20	Birch beer.....	Wm. Robbins, Richland Center.....	Wm. Robbins, Richland Center.
Mar. 20	Lemon soda.....	Wm. Robbins, Richland Center.....	Wm. Robbins, Richland Center.
Mar. 20	Raspberry soda.....	Wm. Robbins, Richland Center.....	Wm. Robbins, Richland Center.
Mar. 20	Raspberry soda.....	Geo. Fries, Lone Rock.....	Boscobel Bottling Works, Boscobel.
Mar. 20	Raspberry soda.....	Geo. Barry, Richland Center.....	Wm. Robbins, Richland Center.
Mar. 20	Soda.....	Geo. Barry, Richland Center.....	Wm. Robbins, Richland Center.
Mar. 20	Raspberry soda.....	R. W. Minett, Richland Center.....	Wm. Robbins, Richland Center.
Mar. 20	Pear soda.....	Wm. Robbins, Richland Center.....	Wm. Robbins, Richland Center.
Mar. 20	Birch beer.....	R. W. Minett, Richland Center.....	Wm. Robbins, Richland Center.
Mar. 20	Raspberry soda.....	Mrs. T. Kaiser, Muscoda.....	F. C. Eagan, Muscoda.
Mar. 28	Pop.....	Ferrand & Holmes, Lancaster.....	Lancaster Bottling Works, Lancaster.
Apr. 20	Strawberry pop.....	Chas. Lee, Shullsburg.....	.....
May 25	Pop.....	Stebbins Hotel, Algoma.....	Algoma Bottling Works, Algoma.

Cider and Grape Juice

Date	Bought for	Labeled	Bought of	Remarks
1915				
July 14	Concord grape.....	Concord Grape Carbonated—1-10 of 1% Benzoate of soda.....	R. Haase, Stratford.....	Not standard. Contains benzoic acid or a salt thereof.
July 16	Orange cider.....	Orange Cider.....	Wausau Bottling Works, Wausau.....	Not standard. Contains benzoic acid or a salt thereof.
July 27	Blood of the grape.....	Blood of the Grape.....	Fall River Mercantile Co., Fall River.....	Misbranded in that the net contents was not stated.
Oct. 6	Grape juice.....	Grape Juice. Unfermented. Sulphured.....	O. J. Scholar, Kenosha.....	Not standard. Contains benzoic acid or a salt thereof.
Dec. 7	Grape juice.....	Haines' Grape Juice. Contains added sulphur dioxide.....	Shimmel, the Grocer, Sturgeon Bay.....	Not standard. Contains sulphur dioxide.
Dec. 13	Apple cider.....	Premium Brand Cider.....	J. Feldman Grocery Co., Madison.....	Not standard. Contains benzoic acid or a salt thereof.
Dec. 13	Sweet cider.....	.....	Piper Bros., Madison.....	Free from chemical preservatives.
Dec. 13	Sweet cider.....	Sweet Cider.....	M. L. Nelson, Madison.....	Free from chemical preservatives.
Dec. 14	Sweet cider.....	.....	Sheldon & Leonard, West Allis.....	Free from chemical preservatives.
Dec. 15	Cider, sweet.....	.....	Wagner & Gohre, West Allis.....	Free from chemical preservatives.
1916				
Jan. 10	Apple cider.....	Apple Cider. Artificial color and flavor.....	Gem City Bottling Works, Baraboo.....	Not standard. An imitation. Contains benzoic acid or a salt thereof.
Mar. 28	Orange cider.....	Orange Cider.....	H. W. Schmidt, Rockville.....	Not standard. Contains benzoic acid.
Mar. 24	Grape juice.....	Grape Juice. Unfermented. 4 oz. .035 of 1% sulphur dioxide.....	Elzie Dohson, Lancaster.....	Not standard. Contains sulphur dioxide.
May 4	Grape juice.....	Grape Juice. Preserved with sulphur dioxide.....	Geo. F. Rick, Wausau.....	Not standard. Contains sulphur dioxide.
May 25	Cherry cider.....	Artificial Cherry. Colored and flavored.....	Edger Bottling Works, Edger.....	An artificially flavored and colored imitation, sold for cherry cider, a fruit juice product.
June 5	Apple cider.....	Apple Cider.....	Sparta Bottling Works, Sparta.....	Adulterated. Not an apple cider. Misbranded in that the net contents was not stated.
June 7	Grape juice.....	Duroy Grape Juice.....	The Marathon, Wausau.....	Not standard. Contains sulphur dioxide.
June 8	Grape juice.....	Unfermented Catawba. Preserved with sulphur dioxide.....	Northern Mercantile Co., Menomonie.....	Not standard. Contains sulphur dioxide.
June 13	Cherry cider.....	Cherry. Artificial flavor and color.....	Wittenberg Bottling Works, Wittenberg.....	An artificially flavored and colored imitation sold for cherry cider, a fruit juice product.

CANNED VEGETABLES.

Date	Bought for	Labeled	Bought of	Manufacturer or Jobber	Remarks
1915 Sept. 7	French peas, canned.....	French Peas Colored with sulphate of copper.	H. L. Radebaugh, Walworth.....		Not standard. Contains a copper compound, a deleterious substance. Passed.
Sept. 8	French canned peas.....	Imported Extra Fine Peas. Packed in France. 14 3-4 oz. net.	Granzow & Peterson, Williams Bay.....		Passed.
Sept. 21	French peas.....	Extra Fine French Peas. Net wt. 14 oz.	B. A. Fessler Co., Sheboygan.....		Not standard. Contains a copper compound, a deleterious substance.
Oct. 19	French peas.....	French Peas 3-4 grain copper sulphate..	Bluff St. Grocery, Janesville.....		
1916 Jan. 4	Imported peas.....	Imported Peas. Fins. Natural. Packed in Italy.	J. E. Bass, Hartland.....		Misbranded in that the net contents was not stated.
Jan. 4	Imported peas.....	Imported Fine Peas. Belgium. Colored with sulphate of copper.	A. Johnson Co., Oconomowoc.....		Not standard. Contains a copper compound, a deleterious substance. Misbranded in that the net contents was not stated.
Jan. 11	Imported peas.....	Extra Fine Peas. 15 oz. net.....	A. M. Rodems & Co., Baraboo.....		Passed.
Feb. 23	French peas.....	Small French Peas. Colored with sulphate of copper.	Stephenson & Pile, Dodgeville.....		Not standard. Contains a copper compound, a deleterious substance. Misbranded in that the net contents was not stated.
Mar. 30	Brussels Sprouts.....	Brussels Sprouts. 15 oz. net.....	Ferndell Grocery, Platteville.....		Passed.
Apr. 6	French peas.....	Petits' Pois Fins. Colored with copper sulphate.	Lauerman Bros. Co., Marinette.....		Not standard. Contains a copper compound, a deleterious substance. Misbranded in that the net contents was not stated.
Apr. 6	Imported beans.....	Van Dyke Frères.....	Lauerman Bros. Co., Marinette.....		Not standard. Contains a copper compound, a deleterious substance.

May 23	Sweet corn.....	Silver Buckle Brand Sweet Corn. Contents about 20 oz.	Warnke Bros., Pardeeville.....	E. R. Godfrey & Sons Co., Milwaukee..	Misbranded. A statement of net contents as about 20 oz. does not meet the requirements of the misbranding law.
June 7	Pork and beans.....	Pork and Beans. Contents 1 lb. 15 oz.	S. B. Bostwick, Eau Claire.....	Sycamore Preserve Works, Sycamore, Ill.	16% were spotted or decomposed, mushy and soft. Few whole beans.
June 7	Pork and beans.....	Pork and Beans. Tomato Sauce. Contents 2 lbs.	Allen Hanson, Eau Claire.....	H. T. Lange Co., Eau Claire.....	Not standard. Contains 38% of diseased or partly decomposed beans
June 13	Imported peas.....	Extra Fine Peas. Packed in Italy 14 oz. net contents.	F. W. Hanzlik, Chippewa Falls.....		Passed.
June 13	Baked beans with sauce.....	Baked Beans with Sauce. 30 oz. net....	F. W. Hanzlik, Chippewa Falls.....	Reber Preserving Co., Eola, Ill.....	Not standard. 30% spotted.
June 15	Peas.....	Le Soleil Malines.....	The Success Store Co., Chippewa Falls.....		Passed.
June 15	Beans.....	Frisco Brand. Contents 1 lb. 15 oz. Luncheon Beans in Tomato Sauce	Dodge & McDonald, Chippewa Falls.....	Rossville Canning Co., Rossville, Ill....	Not standard. Contains 36% of diseased or partly decomposed beans.
June 16	Luncheon beans in tomato sauce.....	Luncheon Beans in Tomato Sauce. 1 lb. 15 oz. net.	A. Hovland, Colfax.....	Chippewa Valley Merc. Co., Chippewa Falls.	Not standard. Contains 44% of diseased or partly decomposed beans.
June 22	Peas.....	Peerless Rose Peas Fancy Tiny. Contents 1 lb. 4 oz.	George Post, Barron.....	Northern Wisconsin Canning Co., Clear Lake, Ladysmith and Cumberland	Passed.
June 26	Beans.....	Frisco. Contents 1 lb. 15 oz. Luncheon Beans in Tomato Sauce.	Northern Merc. Co., Dallas.....	Rossville Canning Co., Rossville, Ill....	Not standard. Contains 48% of diseased or partly decomposed beans.

CHERRIES FOR DECORATIVE PURPOSES.

Date	Bought for	Labeled	Bought of	Manufacturer or Jobber	Remarks
1915					
July 12	Maraschino cherries.....	Maraschino Cherries. Contains harmless color and harmless preservative.	A. J. Webster, Brule.....		Passed.
July 12	Maraschino assorted fruits	Maraschino Assorted Fruits. 1-10 of 1% benzoate of soda.	A. J. Webster, Brule.....		Not standard. Contains benzoic acid or salt thereof. Misbranded in that net contents was not stated.
Aug. 16	Canned cherries.....	Cherries. Artificially colored and flavored.	H. F. Bergmann, So. Milwaukee.....	Foote & Jenks, Jackson, Mich.....	Misbranded. Not canned cherries.
Sept. 7	Cherries in glass.....	Cherries.....	H. L. Radebaugh, Walworth.....	McNeil & Higgins Co., Chicago.....	Misbranded in that net contents was not stated.
Sept. 8	Cherries in glass.....	Cherries.....	Cranzow & Peterson, Williams Bay.....	Steele-Wedeles Co., Chicago.....	Misbranded as to net contents.....
Sept. 9	Cherries in glass.....	Cherries. Artificially colored and flavored. Contains 1-10 of 1% benzoate of soda.	Henry Carter, Darien.....	Rockford Wholesale Grocery Co., Rockford, Ill.	Contains benzoic acid or salt thereof.
Oct. 4	Maraschino cherries.....	Maraschino Cherries.....	Nevin Grocery Co., Racine.....	M. Wolf & Sons, Chicago.....	Misbranded. Not maraschino cherries. Net contents not stated.
Oct. 18	Cherries in glass.....	Cherries. Artificially colored and flavored	Dedrick Bros., Janesville.....	Skelly-Chapman Co., Chicago.....	Misbranded. Not maraschino cherries. Label is misleading.
Oct. 18	Cherries in glass.....	Cherries. 4 fluid oz. contains 1-10 of 1% benzoate of soda.	Dedrick Bros., Janesville.....	Reid, Murdock & Co., Chicago.....	Not standard. Contains benzoic acid or a salt thereof.
Oct. 19	Cherries in glass.....	Preserved Cherries. 3 oz. net.....	Conway & Dawson, Janesville.....	M. Wolf & Sons, Chicago.....	Misbranded. Not preserved cherries.
Oct. 26	Cherries in glass.....	Cherries. Artificially colored and flavored.	L. Lund & Son, Winneconne.....	Manufacturers & Retailers Co., Chicago.....	Passed.
Nov. 5	Cherries in glass.....	Cherries. Artificially colored. 4 fluid oz.	H. F. Breaker, Oshkosh.....	Steele-Wedeles Co., Chicago.....	Passed.
1916					
Jan. 12	Cherries in glass.....	Cherries. Artificially colored and flavored. Contains 1-10 of 1% benzoate of soda. 4 fluid oz.	F. A. Nehs, Baraboo.....	Reid, Murdoch & Co., Chicago.....	Contains benzoic acid or a salt thereof.
Feb. 15	Maraschino cherries.....	Maraschino Cherries.....	Carroll Bros., Monroe.....	Steele-Wedeles Co., Chicago.....	Misbranded. Not maraschino cherries. Net contents not stated.
Apr. 19	Maraschino cherries.....	Maraschino Style Cherries.....	W. W. Winegard, Green Bay.....	Franklin MacVeagh & Co., Chicago.....	Not standard and misbranded. Not maraschino cherries. Net contents not stated.
June 7	Cherries in glass.....	Bigarreux Cherries. Alcohol approx. 1 1/2%. Artificially colored and flavored. 5 oz. avoird. net. True maraschino flavor.	Allen Hanson, Eau Claire.....	R. L. Meader Candy Co., Eau Claire.....	Passed.
June 7	Cherries in glass.....	Bigarreux A'la Menthe 7 oz. net.....	C. B. Everson, Eau Claire.....		Passed.
June 20	Maraschino cherries.....	Maraschino Cherries. Whole, in syrup. Imitation flavor.	D. S. Crocker, Almena.....	Noyes Bros & Cutler, St. Paul.....	Misbranded. Not maraschino cherries. Not properly marked as to net weight.

DAIRY PRODUCTS.
Butter—Standard.

Date	Bought of
1915	
Sept. 28	Nolan Bros., Janesville.
Sept. 28	C. L. Gums, Janesville.
Nov. 16	Colfax Cry. Co., Colfax.
Nov. 30	G. J. Murphy, Waukesha, R. 4.

Butter, Tested for Foreign Fat—None found.

Date	Bought of
1916	
Feb. 19	G. M. Zeratzke, Marinette.

DAIRY PRODUCTS—Continued.**Butter—Not Standard.**

Date	Bought of	Manufacturer or Jobber	Per Cent of Butter Fat
1915			
Sept. 28	W. N. Futter, Janesville.....	Robert Else & Son, Janesville.....	76.54
Sept. 28	Wm. Lenz, Janesville.....	Robert Else & Son, Janesville.....	80.88
Sept. 28	Mrs. C. B. Roherty, Janesville.....	Shurtleff Company, Janesville.....	81.47
Sept. 28	Mrs. Futter, Janesville.....	R. Else & Son, Janesville.....	71.92
Oct. 22	C. & R. McCann, Janesville.....	R. Else & Son, Janesville.....	74.13
Oct. 22	Colfax Creamery Co., Colfax.....	.....	80.43
Nov. 16	Colfax Creamery Co., Colfax.....	.....	79.76
1916			
Feb. 11	Colfax Creamery Co., Colfax.....	.....	81.22
Mar. 14	W. M. Brady Co., Madison.....	Sheboygan Dairy Products Co., Madison.....	79.99
Mar. 28	Zilisch Pure Milk Co., Madison.....	R. Else & Son, Janesville.....	80.99

Butter—Tested for Per Cent of Moisture.

Date	Bought of	Manufacturer or Jobber	Per Cent Moisture
1915			
Oct. 27	Colfax Creamery Co., Colfax.....	.....	15.64
Oct. 29	Colfax Creamery Co., Colfax.....	.....	16.41
Nov. 27	Colfax Creamery Co., Colfax.....	.....	14.85
Nov. 27	Colfax Creamery Co., Colfax.....	.....	16.0
Nov. 27	Colfax Creamery Co., Colfax.....	.....	15.73
Nov. 27	Colfax Creamery Co., Colfax.....	.....	14.02
Dec. 18	Purner Creamery Co., Marshfield.....	.....	.....
1916			
Jan. 12	Baumann, Janesville.....	R. Else & Son, Janesville.....	14.54
Jan. 12	Harry W. Robins, Janesville.....	R. Else & Son, Janesville.....	14.73

Cream Samples Tested for Per Cent of Butter Fat to Determine Overreading or Underreading of Babcock Test.

During the period covered by this report, twenty-two samples of cream were collected by members of the commission with the view of determining whether or not overreading or underreading of the Babcock test was being practiced by the purchasers of cream who were paying for the same on the basis of the butter fat contained therein as determined by the Babcock test. The percentage of fat in these samples was determined in the laboratory.

Cream from City Supply—Standard.

Date	Bought of	Per Cent Milk Fat
1915 Dec. 2	Robert Martin, Blair.....	18.0

Cream from City Supply—Not Standard.

Date	Bought of	Per Cent Milk Fat
1915 Nov. 8	Bert Geschel, Marshfield.....	14.4
Nov. 19	Wm. Weber, Alma.....	17.5
Dec. 2	Robert Martin, Blair.....	16.0
1916		
Apr. 14	Emil Dickert, Manitowoc.....	10.0

DAIRY PRODUCTS—Continued.
Milk Delivered at Cheese Factories or Creameries—Standard.

Date	Sold or Delivered by	Delivered to
1915		
Aug. 18	G. Gorst, Mt. Horeb.....	Elm Grove Cheese Factory, Mt. Horeb.....
Aug. 19	Thomas Argue, Mt. Horeb.....	Elm Grove Cheese Factory, Mt. Horeb.....
Aug. 25	A. Larson, Oconomowoc.....	Four Town Cheese Factory, Oconomowoc.....
Oct. 27	Joe Stachura, Krakow.....	A. Nilka Cheese Factory, Krakow.....
Nov. 5	Phil Vanderplas, New Franken.....	New Century Creamery, New Franken.....
Nov. 5	Anton Klauss, Green Bay, R. 2.....	New Century Creamery, New Franken.....

Milk—Not Standard. Delivered to Cheese Factories or Creameries.

Date	Sold or Delivered by	Sold or Delivered to	Sp. G. 15.5°	Per cent milk fat	Per cent total solids	Per cent solids not fat	I. R. of whey 20° C.	Remarks
1915								
July 12	Mrs. F. Motl, Juneau.....	North Clyman Cheese Factory.....	1.0325	2.8	11.17	8.37		
July 12	Emil Oruant, Juneau.....	North Clyman Cheese Factory.....	1.0312	2.9	11.14	8.24		
July 15	P. Dushack, Sun Prairie.....	Golden Rod Cheese Factory.....	1.0273	3.4	11.02	7.62	37.8	Watered.
July 15	S. Dushack, Sun Prairie.....	Golden Rod Cheese Factory.....	1.0231	3.0	9.48	6.48	34.2	Watered.
Aug. 10	Rudolph Dushack, Sun Prairie.....	Sun Prairie Creamery.....	1.0263	2.7	9.52	6.82	36.9	Watered.
Aug. 18	Victor Uberretzky, Mt. Horeb.....	Elm Grove Cheese Factory.....	1.0254	2.3	9.03	6.73	34.4	Watered.
Aug. 25	John Dalton, Oconomowoc.....	Four Town Cheese Factory.....	1.0260	3.1	10.18	7.08	36.4	Watered.
Sept. 2	M. Bath, Theresa.....	Five Corner Cheese Factory.....	1.0339	3.15	12.16	9.01		Skimmed.
Sept. 2	Wm. Oestreich, Theresa.....	Five Corner Cheese Factory.....	1.0305	3.35	11.62	8.27		
Oct. 1	H. C. Sauer, Cambria.....	Mohr Cheese Factory.....	1.0218	2.6	8.37	5.77	32.1	Watered.
Nov. 5	Phil Vanderplas, New Franken.....	New Century Creamery.....	1.0304	3.3	11.50	8.20	39.3	Night's milk.
Nov. 5	Jacob Vanderbush, New Franken.....	New Century Creamery.....	1.0300	4.65	12.97	8.32	41.0	Morning's milk.
Nov. 5	Jacob Vanderbush, New Franken.....	New Century Creamery.....	1.0293	2.25	9.77	7.52	38.0	Night's milk.
Nov. 5	John Kriescher, Green Bay.....	New Century Creamery.....	1.0322	3.0	11.45	8.40	39.4	Night's milk.
Nov. 5	John Kriescher, Green Bay.....	New Century Creamery.....	1.0312	3.8	12.09	8.29	39.2	Morning's milk.
Nov. 5	Peter Rickel, Green Bay.....	New Century Creamery.....	1.0283	3.2	11.04	7.84	39.6	
Nov. 5	Paul Vanderplas, New Franken.....	New Century Creamery.....	1.0264	3.4	10.61	7.21	37.9	Watered.
Nov. 5	Peter Drace, Green Bay.....	New Century Creamery.....	1.0285	3.4	11.21	7.81	40.6	
Nov. 10	Mike Alt, Edgar.....	Edgar Combined Factory.....	1.0353	2.5	11.87	9.37		Skimmed.
Nov. 10	Mike Alt, Edgar.....	Edgar Combined Factory.....	1.0339	3.1	12.10	9.00		Skimmed.
Nov. 10	Mike Alt, Edgar.....	Edgar Combined Factory.....	1.0364	1.9	11.28	9.38		Skimmed.
Nov. 10	Mike Alt, Edgar.....	Edgar Combined Factory.....	1.0335	3.35	12.50	9.15		Skimmed.
Nov. 17	H. J. Schigley, Unity.....	Maple Grove Cheese Factory.....	1.0206	2.2	7.37	5.17	28.9	Watered.
Nov. 17	H. J. Schigley, Unity.....	Maple Grove Cheese Factory.....	1.0192	2.4	7.39	4.90	29.0	Watered.
Dec. 1	Phil J. Jung, Kewaskum.....	St. Bridget Cheese Factory.....	1.0278	3.7	11.36	7.66	37.7	Watered.
Dec. 1	Will Brassman, Kewaskum.....	St. Bridget Cheese Factory.....	1.0293	3.5	11.54	8.04	38.9	
1916								
Jan. 4	Carl Kupka, Neillsville.....	County Farm Cheese Factory.....	1.0321	2.65	11.01	8.34	41.6	
Jan. 4	Aug. Pozionebka, Neillsville.....	County Farm Cheese Factory.....	1.0266	3.35	10.57	7.22	36.8	Watered.
Feb. 24	Lawrence Kamenski, Portage.....	Mill Creek Cheese Factory.....	1.0248	3.30	10.02	6.72	36.3	Watered.
Feb. 24	Sylvester Pawlowski, Stevens Point.....	Mill Creek Cheese Factory.....	1.0321	2.60	11.02	8.41	41.4	
Feb. 25	Otto Retzloff, Hilbert.....	Brandes Cheese Factory.....	1.0286	3.45	11.31	7.86	39.4	Watered.
Mar. 1	Fred Pankow, Belle Plaine.....	Belle Plaine Cheese and Butter Factory.....	1.0334	2.9	11.37	8.47		
Mar. 9	Arthur Leighton, Sheboygan Falls.....	Sheboygan Produce Company's Factory.....	1.0258	2.7	9.40	6.70	35.9	Watered.
Mar. 15	B. H. Prah, Cecil.....	White Clay Lake Cheese Factory.....	1.0317	2.25	10.34	8.09		
Apr. 13	A. Melius, Oconomowoc.....	Brown Street Cheese Factory.....	1.0287	3.7	11.77	8.07	40.0	

DAIRY PRODUCTS—Continued.
City Milk—Not Standard.

Date	Delivered by	Delivered to	City	Sp. G. 15.5°	Per cent milk fat	Per cent total solids	Per cent solids not fat	I. R. of whey at 20° C.	Remarks
1915									
Oct. 20	Wilson Lomer, Stoughton.....	Model Dairy.....	Stoughton.....	1.0284	3.4	11.20	7.80	.....
Nov. 22	Henry Duellman, Marshfield.....	Marshfield Sanitary Dairy....	Marshfield.....	1.0264	2.9	10.21	7.31	36.10	Watered.
Nov. 23	Henry Duellman, Marshfield.....	Marshfield Sanitary Dairy....	Marshfield.....	1.0269	3.1	9.94	6.84	35.3	Watered.
Nov. 23	Henry Duellman, Marshfield.....	Marshfield Sanitary Dairy....	Marshfield.....	1.0296	3.30	11.03	7.73	38.0	Watered.
1916									
Jan. 31	Charles Palmer, Honey Creek.....	Honey Creek Milk Plant.....	Honey Creek.....	1.0305	3.5	11.5	8.00	39.7	
Jan. 31	Chas. Bucholtz, Honey Creek.....	Honey Creek Milk Plant.....	Honey Creek.....	1.0313	3.4	11.5	8.10	.....
Feb. 29	John Rasseck, Palmyra.....	.....	Palmyra.....	1.0286	3.45	11.15	7.7	38.2	Watered.
Apr. 14	Rose Jagodsinsky, Manitowoc.....	.....	Manitowoc.....	1.0242	2.7	9.01	6.31	34.4	Watered.

Herd Samples Collected by Inspectors in Connection with Samples Taken at Cheese Factories, Creameries, and City Milk Supplies, Sent to Laboratory for Analysis.

Date	From Herd of	Sp. G. 15.5°	Per cent milk fat	Per cent total solids	Per cent solids not fat	I. R. of whey at 20° C.	Remarks
1915							
Oct. 11	H. C. Sauer, Cambria.....	1.0295	3.90	12.03	8.13	39.75	Night's milk.
Oct. 12	H. C. Sauer, Cambria.....	1.0295	4.00	12.17	8.17	40.0	Night's milk.
Oct. 21	Wilson Lomer, Stoughton.....	1.0316	4.7	13.75	9.05	42.25	Night's milk.
Oct. 22	Wilson Lomer, Stoughton.....	1.0312	4.9	13.72	8.82	42.0	Morning's milk.
Oct. 29	Joe Stachura, Krakow.....	1.0309	4.5	13.11	8.63	.....	Night's milk.
Nov. 6	Jacob Vanderbush, New Franken.....	1.0301	3.9	12.35	8.45	40.9	Night's milk.
Nov. 6	Philip Vanderplas, New Franken.....	1.0302	3.2	11.31	8.11	39.2	Night's milk.
Nov. 8	Anton Klaus, Green Bay, R. 2.....	1.0314	4.45	13.03	8.55	41.8	Night's milk.
Nov. 11	Mike Alt, Edgar.....	1.0324	4.65	13.66	9.01	.....	Night's milk.
Nov. 11	Mike Alt, Edgar.....	1.0326	5.1	14.55	9.40	.....	Morning's milk.
Nov. 23	Henry Duellman, Marshfield.....	1.0333	3.55	12.49	8.94	41.25	Night's milk.
Nov. 24	Henry Duellman, Marshfield.....	1.0338	3.1	11.84	8.74	41.3	Morning's milk.
1916							
Jan. 4	Aug. Pozionebka, Neillsville.....	1.0308	3.85	12.54	8.69	40.8	Night's milk.
Jan. 5	Carl Kupka, Neillsville.....	1.0321	3.5	11.90	8.50	41.6	Night's milk.
Jan. 6	Carl Kupka, Neillsville.....	1.0321	3.35	11.88	8.53	42.0	Morning's milk.
Feb. 1	Chas. J. Bucholtz, Honey Creek.....	1.0318	3.5	12.00	8.50	.....	Night's milk.
Feb. 2	Chas. J. Bucholtz, Honey Creek.....	1.0323	3.5	12.00	8.50	.....	Morning's milk.
Feb. 24	Lawrence Kameuski, Stevens Point.....	1.0307	3.75	12.05	8.30	40.9	.....
Feb. 25	Otto Retzlaff, Hilbert, R. 2.....	1.0316	3.4	11.93	8.53	41.0	.....
Feb. 25	Sylvester Pawlawski, Stevens Point.....	1.0330	3.4	12.01	8.61	42.0	Morning's milk.
Mar. 1	Fred Paukow, Belle Plaine.....	1.0325	3.4	11.99	8.59	.....	.....
Mar. 9	Arthur Leighton, Sheboygan Falls.....	1.0306	3.7	11.90	8.20	40.7	.....
Mar. 15	B. H. Prah, Cecil, R. 1.....	1.0307	3.25	11.32	8.07	.....	.....
Apr. 14	Rose Jagodsinsky, Manitowoc.....	1.0305	4.35	12.88	8.53	40.6	.....

DAIRY PRODUCTS—Continued.
Butter, Evaporated Milk and Ice Cream.

Date	Bought for	Labeled	Bought of	Manufacturer or Jobber	Remarks
1915 July 8	Butter.....		Racine House, Racine.....		Not butter. Oleomargarine served for butter without notice.
Dec. 18	Butter.....		Zilisch Pure Milk Co., Madison.....	R. Else & Son, Janesville.....	Not standard.
Dec. 18	Butter.....		Zilisch Pure Milk Co., Madison.....	R. Else & Son, Janesville.....	Not standard.
1916 Mar. 9	Ice cream.....		Palmer Skangstad, Argyle.....	Freeport Dairy Produce Co., Freeport, Ill.....	Below standard in fat. 9.1% fat.
Mar. 9	Ice cream.....		John Wahler, Argyle.....	Burt M. Allen, Rockford, Ill.....	Below standard in fat. 11.0% fat.
Mar. 9	Ice cream.....		Fred Bohren, Argyle.....	C. H. Straub, Freeport, Ill.....	Below standard in fat. 12.0% fat.
Mar. 27	Butter.....		Pfeister Hotel, Muscoda.....		No foreign fat found.
Mar. 31	Evaporated milk.....	Evaporated milk. Net wt. 6 oz.....	W. Marshall, Cuba City.....	Delavan Condensed Milk Co., Delavan.....	Passed.
Apr. 14	Butter.....	Process butter.....	Wm. Pammesberger, Madison.....	Morris & Co., Chicago.....	Not standard. Renovated butter sold as butter.
May 20	Dairy butter.....		G. H. Munroe & Co., Grand Rapids.....	J. Shearland, Grand Rapids.....	Below standard in fat.
May 26	Evaporated milk.....	Evaporated milk. 7.8 butter fat. 25.5 solids. 33.3% total. Contents 6 oz.....	Lind & Co., Eau Claire.....	American Milk Co., Chicago.....	Below standard in fat.
June 16	Evaporated milk.....	Unsweetened Sterilized Evaporated Milk.....	Terry-Johnson Dept. Co., Brodhead.....	Indiana Condensed Milk Co., Sheridan, Ind.....	Passed.
June 16	Evaporated milk.....	Evaporated milk.....	Terry-Johnson Dept. Co., Brodhead.....	Niana Pure Food Co., Waukesha.....	Below standard in fat.
June 16	Evaporated milk.....	Evaporated milk.....	Terry-Johnson Dept. Co., Brodhead.....	E. R. Godfrey & Sons, Milwaukee.....	Passed.

DAIRY PRODUCTS—Submitted Samples

Forty-three samples of cream, 41 samples of milk, 3 samples of skimmed milk, 2 samples of ice cream, and 1 sample of sweetened evaporated milk were submitted either for the purpose of checking up Babcock determinations which had been made by factorymen on these samples, or to detect adulteration.

DRIED FRUITS.

Not Standard or Misbranded.

Date	Bought for	Labeled	Bought of	Manufacturer or Jobber	Remarks
1916					
Mar. 20	Raisins.....	Pansy Brand California Raisins Thompson's Seedless.....	Spaeth & Pearson, Spooner.....	Guggenheimer & Co., Fresno, Cal.....	Sulphur dioxide, 0.057%.
Mar. 27	California figs.....	California figs. Net wt. 12 oz.....	Beverly White, Maiden Rock.....	T. J. Hammond, Fresno, Cal.....	Sulphur dioxide, 0.02%.
Mar. 28	Figs.....	Clevace California Figs. Net wt. 9½ oz.	F. M. White & Son, Maiden Rock.....	Roeding Fig & Olive Co.; Fresno, Cal.	Also very moldy. Misbranded. Short weight.
Mar. 28	Figs, dried.....	California Figs. Net wt. 10 oz.....	John A. Lawson, Pepin.....	Castle Bros., Fresno, Cal.....	Sulphur dioxide, 0.1346%.
Apr. 7	Raisins.....	Sultana raisins. 15 oz. net when packed.	Henry J. S. Hanson, Bayfield.....	Stone-Ordean-Wells Co., Duluth.....	Contains sulphur dioxide. Misbranded. Short wgt.
Apr. 12	Sultana raisins.....	Rust Park Brand Sultana Raisins. Prepared from choice selected fruit.....	Walter P. Milberg, Washburn.....	Rust-Parker Company, Duluth.....	Contains sulphur dioxide.
June 7	Bleached raisins.....	Bleached raisins.....	C. Nelson, Eau Claire.....		Contains sulphur dioxide.
June 7	Bleached raisins.....	Thompson Seedless Sulphur Bleached Raisins.....	S. B. Bostwick, Eau Claire.....	Reid, Murdoch & Co., Chicago.....	Contains sulphur dioxide.
June 7	Bleached raisins.....	Bleached Raisins.....	C. B. Everson, Eau Claire.....	Sprague, Warner & Co., Chicago.....	Contains sulphur dioxide.
June 8	Bleached raisins.....	Cleaned Thompson Seedless Sulphur Bleached Raisins. 15 oz. net.....	F. F. Volp, Menomonie.....		Contains sulphur dioxide.
June 9	Bleached raisins.....		S. B. Bostwick, Eau Claire.....	Reid, Murdoch & Co., Chicago.....	Contains sulphur dioxide.
June 9	Bleached raisins.....		C. Nelson, Eau Claire.....		Contains sulphur dioxide.
June 12	Bleached raisins.....		Farmers' Produce Co., Chippewa Falls.....		Contains sulphur dioxide.
June 12	Bleached raisins.....		Pelletier & Paquette, Chippewa Falls.....		Contains sulphur dioxide.
June 13	Bleached raisins.....		Pelletier & Paquette, Chippewa Falls.....		Contains sulphur dioxide.
June 27	Bleached raisins.....	Thompson Seedless Sulphur Bleached Raisins. 15 oz. net when packed.....	G. H. Warner, Stevens Point.....	Reid, Murdoch & Co., Chicago.....	Contains sulphur dioxide.
June 29	Bleached raisins.....	Thompson Seedless Sulphur Bleached Raisins. 15 oz. net.....	Johnson & Hill Co., Grand Rapids.....	Reid, Murdoch & Co., Chicago.....	Contains sulphur dioxide.

DRUGS.**Alcohol—Not Standard.**

According to the latest edition of the U. S. Pharmacopoeia, alcohol contains 94.9% by volume of absolute ethyl alcohol.

Date	Purchased of	Per cent alcohol by volume
1915		
Dec. 1	J. F. Hammes, Coleman.....	93.70
1916		
Jan. 26	Sam Goldstein, Beloit.....	79.8
Jan. 27	F. P. Curry, Beloit.....	74.13
Jan. 26	F. J. Murphy, Beloit.....	75.34
Jan. 27	Carroll & Haley, Beloit.....	75.0
Apr. 19	Ed. Barth, Green Bay.....	93.06
Apr. 19	A. Du Chateau Co., Green Bay.....	83.4
Apr. 19	Deuster Wine Co., Green Bay.....	74.6
June 28	C. C. Suiteman Co., Neillville.....	93.82

DRUGS—Continued.
Aspirin and Aceto Salicylic Acid.

Date	Bought for	Bought of	Labeled	Remarks
1915				
Dec. 8	Acid acetylo salicylic acid tablets.....	G. F. Hilton, Sturgeon Bay.....	Acid Acetylo Salicylic Acid.....	No adulteration found.
Dec. 9	Acid acetylo salicylic acid.....	H. C. Vincent, Green Bay.....	Acid Acetylo Salicylic Monoaceticacidester of Salicylic Acid. Repacked from bulk from Von Heyden's fine powder.	No adulteration found.
1916				
Feb. 25	Aceto salicylic acid.....	R. W. Woelffer, Monticello.....	Aceto Salicylic Acid, 5 grain tablets.....	Not standard. 29.7% of claimed strength.
Mar. 3	Aspirin.....	Bert Schwanberg, Wausau.....	Aspirin.....	Found to contain acetanilid and salicylic acid. Adulterated.
Mar. 16	Aceto salicylic acid tablets.....	R. H. Nanscawen, Hartford.....	Aceto Salicylic Acid, 5 grain tablets.....	No adulteration found.
Mar. 23	Acid acetylo salicylic.....	F. M. Charlesworth, Kaukauna.....	Acid Acetylo Salicylic.....	No adulteration found.
Mar. 29	Aspirin.....	B. Schwanberg, Wausau.....	Tablets of Aspirin, 5 grain.....	No adulteration found.
Mar. 31	Aspirin.....	H. Hackbarth, Mosinee.....	Aspirin, 5 grain capsules.....	Capsules are 19.6% short weight.
Apr. 28	Aceto salicylic acid.....	Seeman & Hubbell, Boscobel.....	Aceto Salicylic Acid.....	Passed.
May 4	Aceto salicylic acid.....	W. W. Albers, Wausau.....	Aceto Salicylic Acid.....	Passed.
June 21	Aceto salicylic acid tablets.....	Richmond's Pharmacy, Eagle River.....	Aceto Salicylic Acid, 5 grain tablets.....	No adulteration found.

DRUGS—Continued.

Aqua Hamamelidis (Hamamelis Water), (Witch Hazel).

Hamamelis water, according to the U. S. Pharmacopoeia, contains the volatile products of hamamelis bark obtained by distillation and should contain in the finished product 14.25% of ethyl alcohol by volume.

Hamamelis Water—Standard.

Date	Purchased of
1915	
July 16	R. W. Heintz, Rice Lake.
July 16	Jewett Drug Co., Rice Lake.
July 21	A. G. Peterson, Manawa.
July 21	Trayser & Co., New London.
July 27	Durand Drug Co., Durand.
July 30	City Drug Store, Alma.
Aug. 3	Suits Drug Store, Hudson.
Aug. 4	Moody-Baker-Elliott Co., W. Ellsworth.
Aug. 11	Sweets Pharmacy, Roberts.

Hamamelis Water—Not Standard.

Date	Purchased of	Per cent alcohol by volume
1915		
July 9	Hocking Bros., Waupaca.....	12.22

DRUGS—Continued.

Liquor Calcis (Lime Water).

The official lime water of the U. S. Pharmacopoeia is intended to be a saturated solution of calcium hydroxide and should contain not less than 0.14% of pure calcium hydroxide.

Lime Water—Standard.

Date	Purchased of	Date	Purchased of
1915			
July 9	C. H. Truesdell, Waupaca.	Aug. 4	A. Swahn & Co., W. Ellsworth.
July 9	Hocking Bros., Waupaca.	Aug. 4	Moody-Baker-Elliott Co., W. Ellsworth.
July 9	C. A. Spencer, Waupaca.	Aug. 6	L. A. Christensen, Baldwin.
July 13	A. Schmidt Drug Co., Hayward.	Aug. 11	Rob. Roberts, Elmwood.
July 13	H. Tomkins, Hayward.	Aug. 16	O. J. Thompson, Whitehall.
July 16	Elmer E. Larson, Rice Lake.	Aug. 18	J. E. Cance, Ettrick.
July 16	Jewett Drug Co., Rice Lake.	Aug. 25	D. E. Thatcher, Dallas.
July 16	N. W. Heintz, Rice Lake.	Aug. 30	M. J. Birge, Elk Mound.
July 21	The Vischow Drug Co., New London	Aug. 31	J. P. Coyle, Mondovi.
July 21	Looks Drug Store, New London.	Sept. 27	Frost & Spies, Washburn.
July 21	Trayser & Co., New London.	Sept. 28	Bayfield Pharmacy, Bayfield.
July 21	J. C. F. Bullock, Manawa.	Sept. 29	City Drug Store, Iron River.
July 21	A. G. Peterson, Manawa.	Oct. 7	Otto E. Rydell, Superior.
July 22	J. C. Lang, Iola.	Oct. 7	F. D. Priest, Superior.
July 29	G. E. Brasington, Maiden Rock.	Oct. 7	Odin Drug Store, Superior.
July 29	Pepin Pharmacy, Pepin.	Oct. 8	Priest's Pharmacy, Superior.
July 29	Plum City Pharmacy, Plum City.	Oct. 8	A. A. Campbell, Superior.
July 30	C. A. Hougan, Durand.	1916	
Aug. 3	Suits Drug Store, Hudson.	June 8	J. P. Coyle, Mondovi.
Aug. 4	R. Nash Drug Store, E. Ellsworth.		

Lime Water—Not Standard.

Date	Purchased of	Per cent calcium hydroxide
1915		
July 28	Welch's Drug Store, Prescott.....	0.09
Aug. 3	E. E. Getchell, Hudson.....	0.10
Aug. 24	Dr. G. Jensen, Cameron.....	0.05
Aug. 31	Mondovi Pharmacy, Mondovi.....	0.10

DRUGS—Continued.**Spiritus Camphorae (Spirit of Camphor).**

The latest edition of the U. S. Pharmacopoeia as well as the previous edition, requires that 100 ccs. of camphor contain 10 gms. of camphor dissolved in alcohol.

Spirit of Camphor—Standard.

Date	Purchased of	Date	Purchased of
1915			
July 2	Loetz' Pharmacy, Edgerton.	Oct. 25	Neumann & Hoyer, Berlin.
July 2	Martin E. Titus, Edgerton.	Oct. 25	J. W. Slater, Berlin.
July 9	C. A. Spencer, Waupaca.	Oct. 26	Winneconne Pharmacy, Winneconne.
July 9	C. H. Truesdell, Waupaca.	Oct. 29	Mueller Drug Co., Oshkosh.
July 10	Webster Drug Store, Webster.	Nov. 11	Jackson St. Pharmacy, Oshkosh.
July 13	H. Tomkins, Haywood.	Nov. 4	Weeden Drug Co., Oshkosh.
July 16	Elmer E. Larson, Rice Lake.	Nov. 15	S. W. Ford, Oconto.
July 20	Taylor Drug Co., Sparta.	Nov. 29	F. A. McDonald, DePere.
July 20	Paul Schaller, Sparta.	Dec. 2	R. L. McDonald, Green Bay.
July 21	The Virchow Drug Co., New London.	Dec. 9	Schultz Drug Store, Green Bay.
July 21	J. C. Bullock, Sparta.	Dec. 10	Corner Drug Store, Green Bay.
July 22	F. E. Palmer, Bangor.	Dec. 10	Tuckenback's Pharmacy, Green Bay.
July 22	Alex. Johnson, West Salem.	Dec. 14	C. J. Conrad, West Allis.
July 23	W. E. Bossard, Tomah.	Dec. 15	C. J. Flusche, West Allis.
July 27	Kalk's Drug Store, Columbus.	Dec. 21	E. G. Jones, West Allis.
July 27	Durand Drug Co., Durand.	Dec. 22	Trakel's Drug Store, Waukesha.
July 27	John A. Jones, Columbus.	Dec. 29	Pewaukee Pharmacy, Pewaukee.
July 28	M. J. Hansen & Co., Fall River.	Dec. 31	A. J. Dettloff, Cudahy.
July 29	Plum City Pharmacy, Plum City.	1916	
July 29	G. E. Brasington, Maiden Rock.	Jan. 1	F. J. Janda, Hartland.
Aug. 3	Suits Drug Store, Hudson.	Jan. 14	J. R. Culbertson, North Freedom.
Aug. 4	A. Swahn & Co., West Ellsworth.	Feb. 1	Geo. A. Gerrits, Cedarburg.
Aug. 16	Runkel's Pharmacy, Independence.	Feb. 8	Red Cross Pharmacy, Janesville.
Aug. 19	Corliss Drug Co., Corliss.	Feb. 8	People's Drug Store, Janesville.
Aug. 23	Geo. A. Sherman, North Prairie.	Feb. 11	W. G. Groh, Evansville.
Aug. 24	B. F. & C. E. Schwartz, East Troy.	Feb. 12	West Side Drug Store, Monroe.
Aug. 30	M. J. Birge, Elk Mound.	Feb. 17	Haskin & Wilson, Darlington.
Aug. 31	Mondovi Pharmacy, Mondovi.	Feb. 23	Ney St. John, Dodgeville.
Aug. 31	J. P. Coyle, Mondovi.	Feb. 25	R. W. Woelffer, Monticello.
Sept. 15	E. C. Everson, DeSoto.	Mar. 1	Empire Drug Store, Richland Center.
Sept. 17	G. E. Mariner, La Crosse.	Mar. 1	Burnham's Drug Store, Richland Center.
Sept. 17	Hoeschler Bros., La Crosse.	Mar. 13	Roentz Drug Co., Sheboygan.
Sept. 17	Young & Boerner, La Crosse.	Mar. 30	Red Cross Pharmacy, Spooner.
Sept. 19	Erhart's Drug Store, La Crosse.	Mar. 3	Lemmer Drug Co., Spooner.
Sept. 17	A. Bellerue, La Crosse.	Mar. 23	Mayers Reliable Drug Store, S. Kaukauna.
Sept. 17	C. Beyschlag, La Crosse.	Mar. 3	Kaukauna Drug Co., S. Kaukauna.
Sept. 17	Hebberd & Co., La Crosse.	Mar. 23	F. M. Charlesworth, Kaukauna.
Sept. 18	C. F. & L. Runckel, La Crosse.	Mar. 28	G. E. Brosington, Maiden Rock.
Sept. 22	Bruhn Drug Co., Sheboygan.	Mar. 28	Dr. H. V. King, Pepin.
Sept. 22	North Side Drug Co., Sheboygan.	Mar. 29	Ole Bilstad, Cambridge.
Sept. 23	A. P. Grube, Sheboygan.	Mar. 30	J. N. Blending Drug Co., St. Croix Falls.
Sept. 23	J. C. Thomas & Co., Sheboygan.	Mar. 30	F. O. Elwell, Platteville.
Sept. 23	F. O. Hoppe, Sheboygan.	Mar. 31	Barker Bros. Drug Co., Cuba City.
Sept. 28	City Drug Store, Bayfield.	Mar. 31	Scheldrup Drug Co., Stoughton.
Sept. 28	Bayfield Pharmacy, Bayfield.	Apr. 4	A. Schmidt Drug Co., Hayward.
Sept. 28	Pokorny Drug Co., Racine.	Apr. 6	Pioneer Drug Store, Hayward.
Sept. 30	Russell's Drug Store, Racine.	Apr. 6	Krueger's Drug Store, Marinette.
Oct. 1	Schulze Pharmacy, Racine.	Apr. 6	Schulz Pharmacy, Marinette.
Oct. 6	Kradwell Drug Co., Kenosha.	Apr. 7	C. A. Spencer, Waupaca.
Oct. 6	C. H. Hurd, Kenosha.	Apr. 8	C. G. Etta, Bayfield.
Oct. 7	Otto E. Rydell, Superior, 528 Tower Ave	Apr. 8	Bayfield Pharmacy, Bayfield.
Oct. 7	F. D. Priest, Superior, 287 W. 5th St.	Apr. 10	H. D. Stoppenbeck, Schlessingerville.
Oct. 18	Badger Drug Co., Janesville.	Apr. 11	John Marriott, Gratiot.
Oct. 18	Smith's Pharmacy, Janesville.	Apr. 18	Kane Drug Store, Shullsburg.
Oct. 18	J. P. Baker, Janesville.	Apr. 18	Chas. W. Wolf, Thorp.
Oct. 18	W. T. Sherer, Janesville.	Apr. 20	Jensen Bros., Withee.
Oct. 19	McCue & Buss, Janesville.	Apr. 21	Griffin's Pharmacy, Owen.
Oct. 22	C. H. Jones, Beloit.	Apr. 26	R. W. Woelffer, Monticello.
Oct. 22	Wagner's Pharmacy, Beloit.	Apr. 26	Ora Hatch, Bloomington.
Oct. 22	F. VanWart, Beloit.	Apr. 28	H. H. Clark Drug Co., Monroe.
Oct. 22	C. A. Smith Co., Beloit.	Apr. 28	Trukenbrod's Pharmacy, Monroe.
Oct. 22	C. A. Emerson, Beloit.	May 4	Ploss Pharmacy, Wausau.

DRUGS—Continued.

Spirit of Camphor—Continued.

Date	Purchased of	Date	Purchased of
1916		1916	
May 15	J. A. Meller Drug Co., Boscobel.	June 9	Neher Pharmacy, Eau Claire.
May 23	Olson & Son, Frederic.	June 14	A. M. Duescher, Birnamwood.
May 29	A. Schmidt Drug Co., Hayward.	June 15	Will J. Smith, Brodhead.
June 1	M. W. Avery, Milltown.	June 16	Jewett Drug Co., Rice Lake.
June 2	Corner Drug Store, Columbus.	June 19	Klenert's Drug Store, Portage.
June 2	Kalk's Drug Store, Columbus.	June 21	C. C. Morrison, Barron.
June 2	Bennett's Pharmacy, Friendship.	June 22	Tomahawk Drug Co., Tomahawk.
June 2	E. E. Gatchell Drug Store, Hudson.	June 23	Tomahawk Drug Co., Tomahawk.
June 6	Montello Pharmacy, Montello.	June 26	D. E. Thatcher, Dallas.
June 6	Chamberlain Pharmacy, Sparta.	June 27	Drummond Brothers, Honey Creek.
June 7	F. W. Wirtenberger, Waumandee.	June 27	Frank Wheeler, Neillsville.
June 8	H. O. Wheeler, DePere.	June 27	Taylor's Drug Store, Stevens Point.
June 8	K. E. Anderson, Menomonie.	June 28	C. C. Sniteman Co., Neillsville.
June 8	Olaf Noer, Menomonie.	June 30	Schutz's Drug Store, Shawano.
June 9	Fred C. Palmer, Bangor.		

**Spirit of Camphor—Not Standard.
Above Standard.**

Date	Purchased of	Gms. of camphor in 100 ccs.
1915		
July 11	A. C. Huleatt, Arkansaw.....	13.58
July 20	Geo. H. Seidel, Sparta.....	11.06
July 23	F. H. Burlin, Tomah.....	10.47
July 29	Pepin Pharmacy, Pepin.....	11.70
Aug. 4	J. A. Devlin, Lowell.....	13.20
Aug. 5	A. J. Koepsell, Mayville.....	12.35
Aug. 6	L. A. Petersen, Baldwin.....	14.65
Aug. 11	Sweet's Pharmacy, Roberts.....	11.11
Aug. 11	Central Drug Store, Hartford.....	11.49
Aug. 16	The Avenue Drug Store, South Milwaukee.....	16.23
Aug. 19	Miller & Mattansch, Cream, R. D.....	11.36
Aug. 20	Walter S. Jones, Waterford.....	12.47
Sept. 2	L. M. Young, Oconto.....	16.19
Sept. 3	S. W. Ford, Oconto.....	12.3
Sept. 9	R. S. Young, Darien.....	12.82
Sept. 17	Hoeschler Bros., La Crosse.....	11.41
Sept. 23	Fred Look, Sheboygan.....	13.31
Sept. 29	Fancher Medicine Co., Racine.....	13.16
Oct. 8	Priest's Pharmacy, Superior.....	11.41
Nov. 4	James A. Coe, Oshkosh.....	11.02
Nov. 4	Crystal Drug Co., Oshkosh.....	11.02
Nov. 15	H. J. Germond, Oconto.....	11.26
Dec. 9	A. G. Neven, Green Bay.....	12.17
Dec. 9	H. C. Vincent, Green Bay.....	21.36
1916		
Jan. 27	G. W. Hare, Clinton.....	13.63
Feb. 24	F. C. O. Muenich, Argyle.....	11.41
Feb. 24	H. F. McDonald, Hollandale.....	12.17
Mar. 21	C. W. Staples, Osceola.....	11.70
Mar. 22	Alfred J. Krienitz, Milwaukee.....	16.23
Apr. 4	J. B. Berg, Mondovi.....	11.11
Apr. 7	Höls Pharmacy, Marinette.....	11.32
Apr. 12	City Drug Store, Washburn.....	11.11
Apr. 19	Geo. H. Meyer, Green Bay.....	11.54
Apr. 28	Seeman-Hubbell, Bosobel.....	11.53
May 11	E. Cunningham, Lone Rock.....	11.7
May 18	J. Clohisy, Mukwonago.....	11.1
May 19	Collins Drug Co., Blue River.....	11.3
June 1	A. R. Nash & Co., E. Ellsworth.....	15.32
June 7	City Drug Store, Alma.....	12.95
June 7	F. W. Wirtenberger, Waumandee.....	11.4
June 9	Cass Drug Store, Eau Claire.....	15.0
June 19	Rhymes Drug Store, Portage.....	12.25
June 21	Richmond's Pharmacy, Eagle River.....	11.4
June 21	A. P. Stebbins & Co., Barron.....	12.6
June 27	Hannon-Boch Pharmacy, Stevens Point.....	12.8
June 27	J. S. Pierson & Son, Trempealeau.....	12.8
June 30	B. F. & G. E. Schwartz, East Troy.....	11.1

DRUGS—Continued.

Spirit of Camphor—Not Standard.

Deficient in Camphor and Contains Added Water.

Date	Purchased of	Gms. of camphor in 100 ccs.	Strength by volume of the alcohol used, per cent
1915			
July 15	E. F. Swanson, Minong.....	9.31	79.90
July 21	Looks Drug Store, New London.....	7.77	83.94
July 28	Welch's Drug Store, Prescott.....	3.63	84.11
July 30	Dr. T. S. Lawler, Lyndon.....	7.43	71.48
Aug. 10	H. D. Stoppenbeek, Schleisingsville.....	6.83	90.55
Aug. 11	R. H. Nanscaen, Hartford.....	7.82	64.18
Aug. 25	D. E. Thatcher, Dallas.....	5.47	87.46
Sept. 1	Johnson Drug Co., Strum.....	6.06	88.92
Sept. 27	Kradwell Drug Co., Racine.....	5.47	82.00
Sept. 28	Gieseler's Pharmacy, Racine.....	6.75	73.89
Sept. 29	City Drug Store, Iron River.....	8.29	82.33
Oct. 6	Williams Drug Store, Kenosha.....	7.13	86.11
Oct. 25	F. W. Lambrecht, Berlin.....	5.38	79.86
Nov. 29	H. I. Wheeler, De Pere.....	8.63	89.14
Dec. 9	Popp & Rather, Green Bay.....	7.6	89.90
1916			
Jan. 5	Regner Pharmacy, West Bend.....	8.85	78.04
Feb. 28	Dr. Rundlett's Pharmacy, Prairie du Sac.....	2.64	70.01
Mar. 7	W. H. Harley, Waldo.....	8.17	79.31
Mar. 15	City Drug Store, Mayville.....	8.17	90.14
Apr. 4	North End Drug Co., Manitowoc.....	8.54	88.55
Apr. 4	C. A. Graffman, Manitowoc.....	6.83	80.96
Apr. 4	Park Drug Store, Manitowoc.....	8.50	81.3
Apr. 7	Reinhardt & Frigina, Fountain City.....	8.54	89.0
Apr. 8	Wiechmann's Pharmacy, Wausau.....	9.1	89.36
May 3	Geo. W. Pradel, Wausau.....	4.87	85.1
May 3	Wm. A. Taege, Wausau.....	9.35	87.73
May 4	James Upjohn, Rib Lake.....	9.1	92.0
May 4	Wiechmann's Pharmacy, Wausau.....	9.06	89.33
June 1	Welch's Drug Store, Prescott.....	6.3	82.69
June 2	M. A. Leibreich, Centuria.....	8.0	92.6
June 8	J. B. Coyle, Mondovi.....	9.05	92.36
June 9	Fred Gadsby, Eau Claire.....	6.65	69.88
June 9	W. L. Nichols, Eau Claire.....	4.35	83.36
June 9	Winkel's Drug Store, Tigerton.....	8.55	89.81
June 16	O. W. Bosshard, Mattoon.....	7.25	90.30
June 20	D. S. Crocker, Almena.....	8.6	90.26
June 22	J. C. Webster, Tomahawk.....	9.35	91.25
June 26	M. P. Yantise, Hillsdale.....	7.25	83.83

DRUGS—Continued.**Spirit of Camphor—Not Standard.****Deficient in Camphor.**

Date	Purchased of	Gms. of camphor in 100 ccs.
1915		
July 2	Dean Swift, Edgerton	8.93
July 12	Stone Drug & Merc. Co., Lake Nebagamon	8.80
July 13	A. Schmidt Drug Co., Hayward	7.13
July 20	F. H. Chamberlain, Sparta	8.07
July 22	G. C. Groezinger, Bangor	9.1
July 22	J. C. Lang, Iola	8.54
July 23	C. E. Van Wies, Tomah	8.3
July 26	W. E. Wendt, Reeseville	8.58
July 27	Corner Drug Store, Columbus	8.88
July 29	E. C. Molstad, Rio	9.01
July 30	City Drug Store, Alma	7.86
July 30	C. A. Hougan, Durand	8.11
Aug. 3	E. E. Getchell, Hudson	8.88
Aug. 4	R. Nash Drug-Store, East Ellsworth	6.70
Aug. 5	City Drug Store, Mayville	8.54
Aug. 5	Schoen Drug Co., Mayville	9.10
Aug. 6	W. E. Koebornick, Hustisford	8.29
Aug. 6	C. H. Rex, Hustisford	6.96
Aug. 11	Rob. Roberts, Elmwood	8.41
Aug. 12	Menomonee Falls Drug Co., Menomonee Falls	8.11
Aug. 16	L. R. Morris, South Milwaukee	8.03
Aug. 16	H. F. Bergmann, South Milwaukee	8.46
Aug. 19	Collender & Keuper, Union Grove	9.31
Aug. 24	C. H. Zinn, East Troy	9.27
Aug. 24	Dr. G. Jensen, Cameron	7.94
Aug. 27	C. E. Hoffman, Port Washington	8.16
Sept. 2	A. H. Luckenbach, Oconto	9.23
Sept. 3	H. J. Germond, Oconto	8.46
Sept. 7	Brown's Drug Store, Walworth	8.20
Sept. 10	Sarasy's Drug Store, Footville	8.24
Sept. 16	W. H. Aldrich, Onalaska	8.33
Sept. 17	C. L. Lien, La Crosse	9.31
Sept. 17	C. L. Lien, La Crosse	9.35
Sept. 17	Julie's Pharmacy, La Crosse	4.74
Sept. 17	H. L. Partridge & Co., La Crosse	7.60
Sept. 17	M. Simon, La Crosse	9.27
Sept. 23	W. G. Schroeter, Sheboygan	8.54
Sept. 23	A. W. Bock, Sheboygan	8.76
Sept. 23	Roenitz Drug Co., Sheboygan	8.37
Sept. 23	O. A. Schrant, Sheboygan	6.83
Sept. 27	Frost & Spies, Washburn	8.97
Sept. 27	Fox's Drug Store, Washburn	8.37
Sept. 28	Kradwell Drug Co., Racine	8.88
Sept. 28	Red Cross Drug Co., Racine	8.76
Sept. 29	E. F. Stokes, Racine	8.54
Sept. 30	Heck's Drug Store, Racine	8.54
Oct. 6	W. S. Lamb, Kenosha	8.63
Oct. 6	The Mayer Pharmacy, Kenosha	2.90
Oct. 7	Odin Drug Store, Superior	8.58
Oct. 8	A. A. Campbell, Superior	7.39
Oct. 18	Red Cross Pharmacy, Janesville	8.93
Oct. 18	Reliable Drug Co., Janesville	8.97
Oct. 19	People's Drug Co., Janesville	8.37
Oct. 27	Becker's Pharmacy, Omro	8.03
Oct. 28	W. G. Cotauche, Oshkosh	8.76
Nov. 1	H. Volkman, Kingston	7.52
Nov. 4	John Brennan, Oshkosh	7.56
Nov. 4	J. F. W. Schmidt, Oshkosh	8.76
Nov. 4	Bauman Drug Co., Oshkosh	8.54
Nov. 4	White Cross Drug Co., Oshkosh	7.99
Nov. 30	Jos. LeFevre, Pulaski	6.96
Dec. 2	C. LeComte, Green Bay	5.25
Dec. 14	Theo. Mueller, West Allis	6.07
Dec. 21	Model Drug Store, North Milwaukee	8.76
Dec. 22	O. C. Seltzer, Waukesha	9.43

DRUGS—Continued.
Spirit of Camphor—Not Standard.
Deficient in Camphor.

Date	Purchased of	Gms. of camphor in 100 ccs.
1916		
Jan. 5	Alfonso Schissle, West Bend	7.99
Jan. 14	Abelman Drug Store, Ableman	8.20
Jan. 17	T. R. Morris, South Milwaukee	8.30
Jan. 26	L. F. Davreux, Beloit	8.54
Jan. 27	The Sharon Pharmacy, Sharon	7.13
Jan. 27	A. J. Bodden, Clinton	8.54
Feb. 10	C. W. Trickle, Browntown	8.81
Feb. 16	Gratiot's Drug Store, Shullsburg	8.25
Feb. 23	Dr. A. McKellar, Blanchardville	8.67
Feb. 23	Ryan's Drug Store, Blanchardville	6.96
Feb. 28	Gustav Naffz, Sauk City	9.27
Feb. 28	J. F. Meyer, Prairie du Sac	7.22
Mar. 1	Clark's Drug Store, Richland Center	6.41
Mar. 1	Dieter Bros., Richland Center	7.77
Mar. 2	W. G. Correll, Spring Green	8.93
Mar. 13	W. G. Schroeter, Sheboygan	9.15
Mar. 18	A. G. Ellis, Brooklyn	7.88
Mar. 21	J. E. Rogers, Beaver Dam	6.49
Mar. 21	W. H. Kummer, Wauwatosa	6.53
Mar. 22	W. A. Perkins, Deerfield	9.39
Mar. 22	C. S. Peacock, Benton	8.84
Mar. 27	J. L. Barber, Marathon	6.96
Mar. 31	H. Hackbarth, Mosinee	8.50
Apr. 4	J. P. Coyle, Mondovi	9.31
Apr. 4	R. E. Arnold, Fairchild	8.88
Apr. 4	Geo. H. Mills, Hazel Green	7.56
Apr. 4	F. C. Buerstatte, Manitowoc	8.54
Apr. 4	Henry Hinrichs Co., Manitowoc	9.23
Apr. 5	O. N. Falk & Son, Stoughton	9.10
Apr. 6	R. A. McDonald, Marinette	9.10
Apr. 11	C. H. Rex, Hustisford	9.15
Apr. 12	Fox's Drug Store	9.1
Apr. 17	H. Lapple, Mazomanie	8.84
Apr. 17	Geo. A. Shields, Mazomanie	9.06
Apr. 20	Schultz Bros., Menasha	8.63
Apr. 20	John Rosch, Menasha	5.0
Apr. 20	Foss Drug Co., Menasha	9.01
Apr. 21	Jewett & Casterline, Iron River	8.88
Apr. 27	W. I. Vaughn, Wauzeka	7.47
May 4	W. W. Albers, Wausau	9.10
May 4	Bert Schwanberg, Wausau	9.06
May 8	Webster Drug Co., Webster	8.42
May 8	Ackerman Drug Co., Gays Mills	8.8
May 15	Williams Drug Co., Boscobel	9.10
May 16	Walter S. Jones, Waterford	8.8
May 25	J. E. Roberts & Co., Cambria	9.15
May 25	Griffin's Pharmacy, Owen	9.2
May 25	R. E. Arnold, Fairchild	8.85
May 27	Dr. G. Jensen, Cameron	9.1
May 29	R. E. Bartlett Pharmacy, New Glarus	8.55
June 8	Waterman-Erhard Co., Menomonie	8.6
June 8	Boston Drug Store, Menomonie	8.95
June 9	G. C. Groeninger, Bangor	None
June 9	Curran's Drug Store, Eau Claire	7.25
June 9	Branstad Drug Co., Eau Claire	7.65
June 9	Otto Boberg, Eau Claire	7.65
June 9	Lars L. Urheim, Eau Claire	7.9
June 15	Durand Drug Co., Durand	9.15
June 15	C. A. Haugan, Durand	8.8
June 16	Chas. A. Abbott, Chetek	6.3
June 21	Larson Drug Co., Rice Lake	8.2
June 21	F. L. Hinman & Co., Rhineland	6.6
June 22	Galvin Pharmacy, Mauston	9.4
June 23	The Standard Pharmacy, Tomahawk	9.2
June 26	F. L. Schilling, Minocqua	6.4
June 30	C. H. Zinn, East Troy	8.7
June 30	Williams Drug Store, Shawano	9.25
June 30	Gallagher's Pharmacy, Shawano	6.1

DRUGS—Continued.**Spirit of Camphor—Not Standard.****Standard or Above in Camphor but Contains Added Water.**

Date	Purchased of	Gms. of camphor in 100 ccs.	Strength by volume of the alcohol used, per cent
1915			
Aug. 19	F. W. Wirtenberger, Waumandee.....	10.34	71.70
1916			
Mar. 10	Fred Look, Sheboygan.....	9.2	89.17
Mar. 21	O. E. Peterson, Cornell.....	11.50	80.92
Apr. 4	J. E. Barnstein, Manitowoc.....	9.61	81.20
May 4	K. H. Pagenkopf, Wausau.....	9.87	85.94
June 1	Welch's Drug Store, Prescott.....	10.2	91.28

DRUGS—Continued.

Tincture Iodi (Tincture of Iodine).

Tincture of iodine, according to the latest edition of the U. S. Pharmacopoeia, is a solution of 7 grams of iodine and 5 grams of potassium iodide in sufficient alcohol to make 100 ccs. of the finished product, and when titrated with tenth normal sodium thio-sulphate, shall contain not less than 6.86 grams of iodine per 100 ccs.

Tincture of Iodine—Standard.

Date	Purchased of	Date	Purchased of
1915			
July 2	Martin E. Titus, Edgerton	Mar. 10	Roenitz Drug Co., Sheboygan.
July 20	F. H. Chamberlain, Sparta	Mar. 13	W. G. Schroeter, Sheboygan.
July 20	Paul Schaller, Sparta.	Mar. 15	City Drug Store, Mayville.
July 23	F. H. Burlin, Tomah.	Mar. 16	R. H. Nanscawen, Hartford.
July 23	W. E. Bosshard, Tomah.	Mar. 21	J. E. Rogers, Beaver Dam.
July 27	John A. Jones, Columbus.	Mar. 22	C. S. Peacock, Benton.
Aug. 5	Schoen Drug Co., Mayville.	Mar. 27	J. L. Barber, Marathon.
Aug. 5	A. J. Koepsell, Mayville.	Mar. 28	C. E. Barsington, Maiden Rock.
Aug. 6	C. H. Rex, Hustisford.	Mar. 28	J. O. Hatch, Lancaster.
Aug. 6	W. E. Koebornick, Hustisford.	Mar. 29	A. G. Peterson, Manawa.
Aug. 10	H. D. Stoppenbeck, Schleisingerville.	Apr. 3	J. N. Blanding Drug Co., St. Croix Falls.
Aug. 18	J. E. Cance, Ettrick.	Apr. 4	Henry Hinrichs Co., Manitowoc.
Aug. 24	C. H. Zinn, East Troy.	Apr. 4	C. A. Graffman, Manitowoc.
Aug. 24	B. F. & G. E. Schwartz, East Troy.	Apr. 4	F. C. Buerstatte, Manitowoc.
Aug. 26	Edward W. Mees, Port Washington.	Apr. 4	North End Drug Co., Manitowoc.
Aug. 30	M. J. Birge, Elk Mound.	Apr. 4	Geo. K. Mills, Hazel Green.
Sept. 2	A. H. Luckenbach, Oconto.	Apr. 4	J. B. Berg, Mondovi.
Sept. 3	S. W. Ford, Oconto.	Apr. 4	J. P. Coyle, Mondovi.
Sept. 16	W. H. Aldrich, Onalaska.	Apr. 5	O. N. Falk & Son, Stoughton.
Sept. 17	M. Simon, La Crosse.	Apr. 6	Kreuger's Drug Store, Marinette.
Sept. 17	Erhart's Drug Store, La Crosse.	Apr. 6	Schulz Pharmacy, Marinette.
Sept. 17	Young & Boerner, La Crosse.	Apr. 7	Reinhardt & Frigina, Fountain City.
Sept. 22	Bruhn Drug Co., Sheboygan.	Apr. 8	Bayfield Pharmacy, Bayfield.
Sept. 22	North Side Drug Co., Sheboygan.	Apr. 8	C. G. Etta, Bayfield.
Sept. 23	O. Q. Schrant, Sheboygan.	Apr. 11	John Marriot, Gratiot.
Sept. 23	Fred Look, Sheboygan.	Apr. 12	City Drug Store, Washburn.
Sept. 23	A. P. Grune, Sheboygan.	Apr. 12	Foxe's Drug Store, Washburn.
Sept. 28	Bayfield Pharmacy, Bayfield.	Apr. 17	Geo. A. Schields, Mazomanie.
Sept. 28	Pokorny Drug Co., Racine.	Apr. 20	Fox Drug Co., Menasha.
Sept. 28	Gieseler's Pharmacy, Racine.	Apr. 28	Trukenbrod's Pharmacy, Monroe.
Sept. 28	Kradwell Drug Co., Racine.	May 4	Ploss Pharmacy, Wausau.
Sept. 29	E. F. Stokes, Racine.	May 4	Bert Schwanberg, Wausau.
Oct. 1	Schulze Pharmacy, Racine.	May 10	C. F. Mathews & Son, Viola.
Oct. 18	Red Cross Pharmacy, Janesville.	May 10	B. G. Engstrom, Westboro.
Oct. 18	Reliable Drug Co., Janesville.	May 11	Jos. Wiesmer, La Farge.
Oct. 18	J. P. Baker, Janesville.	May 15	Williams Drug Co., Boscobel.
Oct. 18	W. T. Sherer, Janesville.	May 15	J. A. Meller Drug Co., Boscobel.
Oct. 19	People's Drug Co., Janesville.	May 16	Walter S. Jones, Waterford.
Oct. 22	C. H. Jones, Beloit.	May 25	J. E. Roberts & Co., Cambria.
Oct. 25	J. W. Slater, Berlin.	May 27	Dr. G. Jensen, Cameron.
Oct. 26	Winneconne Pharmacy, Winneconne.	June 2	Kalk's Drug Store, Columbus.
Nov. 3	Jackson St. Pharmacy, Oshkosh.	June 8	Waterman-Erhard Co., Menomonie.
Nov. 4	Crystal Drug Co., Oshkosh.	June 8	K. E. Anderson, Menomonie.
Nov. 4	J. F. W. Schmidt, Oshkosh.	June 8	Olaf Noer, Menomonie.
Nov. 4	Bauman Drug Co., Oshkosh.	June 8	T. C. Hahn, De Pere.
Nov. 15	H. J. Germond, Oconto.	June 8	Boston Drug Store, Menomonie.
Nov. 29	F. A. McDonald, De Pere.	June 9	Lars L. Urheim, Eau Claire.
Nov. 29	H. I. Wheeler, De Pere.	June 9	Alex Johnson, West Salem.
Nov. 29	E. A. Lange, West De Pere.	June 9	G. C. Groezinger, Bangor.
Dec. 2	C. Le Comte, Green Bay.	June 9	Fred E. Palmer, Bangor.
Dec. 9	H. C. Vincent, Green Bay.	June 14	A. M. Duescher, Birmamwood.
Dec. 14	C. J. Conrad, West Allis.	June 15	Durand Drug Co., Durand.
1916		June 15	Will J. Smith, Brodhead.
Jan. 4	F. J. Janda, Hartland.	June 16	Jewett Drug Co., Rice Lake.
Jan. 14	J. R. Culbertson, North Freedom.	June 22	Galvin Pharmacy, Mauston.
Jan. 27	A. J. Bodden, Clinton.	June 22	J. C. Webster, Tomahawk.
Feb. 8	McCue & Buss, Janesville.	June 22	Tomahawk Drug Co., Tomahawk.
Feb. 9	W. J. Smith, Brodhead.	June 27	Drummond Bros., Honey Creek.
Feb. 15	H. H. Clark Drug Co., Monroe.	June 29	W. H. Shaver, Spring Prairie.
Feb. 22	Ney St. John, Dodgeville.	June 30	B. F. & G. E. Schwartz, East Troy.
Feb. 28	Gustav Naffz, Sauk City.	June 30	C. H. Zinn, East Troy.

DRUGS—Continued.

Tincture of Iodine—Not Standard.
Deficient in Iodine.

Date	Purchased of	Gms. of iodine per 100 ccs.	Gms. of potassium iodide per 100 ccs.
1915			
July 2	Loetz's Pharmacy, Edgerton.....	5.83	5.31
Aug. 16	T. R. Morris, So. Milwaukee.....	5.08	4.81
Aug. 17	H. A. Jacobson, Pigeon Falls.....	6.14	4.52
Sept. 28	Red Cross Drug Co., Racine.....	5.46	4.68
Oct. 6	The Mayer Pharmacy, Kenosha.....	6.25	4.89
Oct. 18	Badger Drug Co., Janesville.....	5.55	5.72
Oct. 19	McCue & Buss, Janesville.....	5.20	4.53
Nov. 1	H. Volkmann, Kingston.....	1.69	4.84
Nov. 30	Jos. LeFevre, Pulaski.....	5.47	5.67
Dec. 10	Corner Drug Store, Green Bay.....	5.72	4.58
Dec. 22	Hoeveler Drug Co., Waukesha.....	5.85	4.88
1916			
Feb. 8	Badger Drug Co., Janesville.....	5.23	5.61
Feb. 11	R. J. Sarasy, Footville.....	5.60	5.22
Mar. 1	Burnham's Drug, Richland Center.....	6.02	4.51
Mar. 1	Empire Drug Store, Richland Center.....	6.00	5.00
Mar. 10	Fred O. Hoppe, Sheboygan.....	6.23	5.9
Mar. 16	L. A. LeMieux, Seymour.....	4.45	6.66
Mar. 18	A. G. Ellis, Brooklyn.....	4.72	6.36
Mar. 20	Red Cross Pharmacy, Spooner.....	5.70	4.45
Mar. 21	C. W. Staples, Osceola.....	6.21	4.58
Mar. 21	O. E. Peterson, Cornell.....	3.78	7.35
Mar. 29	Ole Bilstad, Cambridge.....	6.26	5.27
Mar. 31	Barker Bros. Drug Co., Cuba City.....	6.07	4.9
Apr. 4	J. E. Barnstein, Manitowoc.....	6.24	4.56
Apr. 4	Griffin's Pharmacy, Owen.....	4.95	6.19
June 2	M. A. Leibreich, Centuria.....	6.11	5.28
June 2	Bennett's Pharmacy, Friendship.....	5.83	7.28

Tincture of Iodine—Not Standard.
Deficient in Potassium Iodide.

Date	Purchased of	Gms. of iodine per 100 ccs.	Gms. of potassium iodide per 100 ccs.
1915			
July 10	Webster Drug Store, Webster.....	7.25	4.16
July 23	C. E. Van Wies, Tomah.....	7.07	3.78
July 27	Kalk's Drug Store, Columbus.....	7.18	3.40
July 30	Dr. T. S. Lawler, Lyndon.....	6.63	none
Aug. 5	City Drug Store, Mayville.....	6.99	3.61
Aug. 16	The Avenue Drug Store, So. Milwaukee.....	6.78	2.10
Sept. 7	Brown's Drug Store, Walworth.....	6.93	3.15
Sept. 17	Hoeschler Bros., La Crosse.....	7.44	0.9
Sept. 17	G. E. Mariner, La Crosse.....	6.98	4.24
Sept. 17	C. Beyschlag, La Crosse.....	6.79	3.93
Sept. 17	Jule's Pharmacy, La Crosse.....	7.07	1.58
Sept. 23	L. C. Thomas & Co., Sheboygan.....	7.20	4.07
Nov. 4	White Cross Drug Co., Oshkosh.....	6.83	4.03
Dec. 9	A. G. Neven, Green Bay.....	6.74	2.01
Dec. 22	O. C. Seltzer, Waukesha.....	6.55	4.28
1916			
Jan. 27	The Sharon Pharmacy, Sharon.....	6.88	3.83
Feb. 1	Geo. A. Gerrits, Cedarburg.....	6.55	4.04
Feb. 28	J. F. Meyer, Prairie du Sac.....	6.87	3.35
Mar. 20	Lemmer Drug Co., Spooner.....	7.88	none
Mar. 23	F. M. Charlesworth, Kaukauna.....	7.12	3.08
Mar. 31	H. Hackbarth, Mosinee.....	7.27	2.67
Apr. 14	P. H. Martin, Sheridan.....	6.97	3.24
Apr. 19	Geo. H. Meyer, Green Bay.....	6.52	1.75
June 13	C. J. Seyferth's Drug Store, Wittenberg.....	7.30	3.78
June 15	C. A. Haugan, Durand.....	6.45	4.18
June 16	Larson Drug Co., Rice Lake.....	6.35	4.00
June 26	F. L. Schilling, Minocqua.....	6.84	3.67
June 27	J. S. Pierson & Son, Trempealeau.....	9.22	none

DRUGS—Continued.

Tincture of Iodine—Not Standard.

Deficient in Iodine and Potassium Iodide.

Date	Purchased of	Gms. of iodine per 100 ccs.	Gms. of potassium iodide
1915			
May 26	M. O'Dwyer & Son, Dane.....	5.52	none
July 1	A. C. Huleatt, Arkansaw.....	4.56	none
July 12	Stone Drug & Mercantile Co., Lake Nebagamon.....	5.51	none
July 22	F. E. Palmer, Bangor.....	3.25	2.88
July 22	Axel Johnson, West Salem.....	6.18	3.90
July 20	W. E. Wendt, Reeseville.....	6.21	4.4
Aug. 11	Central Drug Store, Hartford.....	5.15	3.59
Aug. 16	Runkel's Pharmacy, Independence.....	5.45	3.61
Aug. 19	Corliss Drug Co., Corliss.....	5.8	3.73
Aug. 20	Walter S. Jones, Waterford.....	4.69	2.21
Aug. 27	C. E. Hoffman, Port Washington.....	4.98	trace
Sept. 2	L. M. Young, Oconto.....	5.58	none
Sept. 9	R. S. Young, Darien.....	3.87	none
Sept. 10	Sarasy's Drug Store, Footville.....	4.60	none
Sept. 17	H. L. Partridge & Co., La Crosse.....	4.92	2.69
Sept. 17	C. L. Lien, La Crosse.....	6.28	4.4
Sept. 17	Hoeschler Bros., La Crosse.....	5.82	3.87
Sept. 22	North Side Drug Co., Sheboygan.....	4.65	none
Sept. 23	F. O. Hoppe, Sheboygan.....	6.30	4.21
Sept. 23	W. G. Schroeter, Sheboygan.....	6.11	4.37
Sept. 27	Kradwell Drug Co., Racine.....	5.92	2.27
Sept. 27	Fox's Drug Store, Washburn.....	6.15	none
Sept. 28	City Drug Store, Bayfield.....	6.15	3.41
Sept. 29	Faucher Medicine Co., Racine.....	5.29	none
Sept. 30	Heck's Drug Store, Racine.....	5.58	4.31
Sept. 30	Russell's Drug Store, Racine.....	6.48	none
Oct. 6	C. H. Hurd, Kenosha.....	6.40	3.28
Oct. 18	Smith's Pharmacy, Janesville.....	5.80	4.10
Oct. 22	F. Van Wart, Beloit.....	6.13	4.29
Oct. 25	F. W. Lambrecht, Berlin.....	5.16	none
Oct. 25	Neumann & Hoyer, Berlin.....	5.21	2.41
Nov. 15	L. M. Young, Oconto.....	5.10	none
Dec. 9	Popp & Rather, Green Bay.....	6.02	4.17
Dec. 10	Luckenbach's Pharmacy, Green Bay.....	6.38	none
Dec. 14	Theo. Mueller, West Allis.....	4.77	none
Dec. 31	A. J. Dettloff, Cudahy.....	2.42	2.41
1916			
Jan. 14	Ableman Drug Store, Ableman.....	5.83	3.2
Jan. 26	L. F. Davreux, Beloit.....	5.15	0.76
Feb. 7	F. Van Wart, Beloit.....	6.12	4.07
Feb. 8	Smith's Pharmacy, Janesville.....	6.08	4.21
Feb. 23	Ryan's Drug Store, Blanchardville.....	5.89	3.82
Feb. 24	F. C. O. Muenich, Argle.....	5.60	2.97
Feb. 28	Dr. Rundlett's Pharmacy, Prairie du Sac.....	2.88	none
Mar. 1	Dieter Bros., Richland Center.....	5.85	3.59
Mar. 2	W. G. Correll, Spring Green.....	5.83	3.32
Mar. 7	W. H. Harley, Waldo.....	2.17	none
Mar. 10	North Side Drug Co., Sheboygan.....	5.95	none
Mar. 16	Central Drug Store, Hartford.....	5.10	3.92
Mar. 23	Kaukauna Drug Co., S. Kaukauna.....	5.23	none
Mar. 28	J. S. Conkling, Peshigo.....	3.35	1.7
Mar. 28	Dr. H. V. King, Pepin.....	5.69	none
Apr. 4	R. E. Arnold, Fairchild.....	6.08	2.4
Apr. 6	Pioneer Drug Store, Hayward.....	5.88	4.40
Apr. 8	Aug. P. Ruh, Fond du Lac.....	4.09	1.50
Apr. 18	Chas. W. Wolf, Thorp.....	6.23	2.40
Apr. 20	Schultz Bros., Menasha.....	5.99	3.91
Apr. 25	A. J. Webster, Brule.....	4.56	none
May 3	Geo. W. Pradel, Wausau.....	4.36	none
May 4	K. H. Pagenkopf, Wausau.....	3.73	2.77
May 4	W. W. Albers, Wausau.....	5.55	none
May 4	Wiechmann's Pharmacy, Wausau.....	4.46	3.96
May 8	Ackerman Drug Co., Gays Mills.....	5.41	2.0
May 18	Collins Drug Co., Blue River.....	5.73	3.15
May 27	A. T. McGeorge, Cameron.....	1.82	none
May 27	Lemmer Drug Co., Spooner.....	5.60	0.26
May 29	R. E. Bartlett Pharmacy, New Glarus.....	6.31	2.45

DRUGS—Continued.**Tincture of Iodine—Not Standard.****Deficient in Iodine and Potassium Iodide.**

Date	Purchased of	Gms. of iodine per 100 ccs.	Gms. of potassium iodide
1916			
June 9	Branstad Drug Co., Eau Claire.....	6.37	2.90
June 9	Winkel's Drug Store, Tigerton.....	5.32	1.56
June 9	Curran's Drug Store, Eau Claire.....	5.32	5.58
June 9	W. L. Nichols, Eau Claire.....	4.42	0.86
June 15	Eleho Drug Co., Elcho.....	5.05	1.78
June 16	O. W. Bosshard, Mattoon.....	4.83	none
June 20	D. S. Crocker, Almena.....	5.28	none
June 23	Standard Mercantile Co., Tomahawk.....	6.02	4.5
June 26	D. E. Thatcher, Dallas.....	3.09	1.61
June 30	Williams' Drug Store, Shawano.....	5.83	6.03

DRUGS—Continued.

Tincture of Iodine—Not Standard.

Above standard in Iodine or Potassium Iodide or Both.

Date	Purchased of	Gms. of iodine per 100 ccs.	Gms. of potassium iodide per 100 ccs.
1915			
June 22	LaVine Blending Drug Co.....	7.38	6.6
July 2	Dean Swift, Edgerton.....	7.74	4.29
July 20	Geo. H. Seidel, Sparta.....	12.34	7.16
July 20	Taylor Drug Co., Sparta.....	11.81	2.42
July 22	G. C. Groezinger, Bangor.....	7.78	5.53
July 27	Corner Drug Store, Columbus.....	6.86	5.91
July 28	M. J. Hansen & Co., Fall River.....	8.13	6.12
July 29	E. C. Molstad, Rio.....	7.37	6.18
Aug. 4	J. A. Devlin, Lowell.....	6.87	6.25
Aug. 11	R. H. Nanscauwen, Hartford.....	10.18	none
Aug. 12	Memomonee Falls Drug Co., Memomonee Falls.....	9.45	4.30
Aug. 19	Callender & Keuper, Union Grove.....	7.97	5.51
Sept. 1	Johnson Drug Co., Strum.....	8.09	4.71
Sept. 3	H. J. Germond, Oconto.....	8.06	5.55
Sept. 17	A. Bellerue, La Crosse.....	7.8	5.63
Sept. 17	Hebberd & Co., La Crosse.....	8.33	7.00
Sept. 17	C. F. & L. Runckel, La Crosse.....	7.64	5.36
Sept. 17	C. L. Lien, La Crosse.....	7.53	5.4
Sept. 23	A. W. Bock, Sheboygan.....	6.50	6.85
Oct. 6	Kradwell Drug Co., Kenosha.....	7.57	5.25
Oct. 6	Williams' Drug Store, Kenosha.....	7.02	7.05
Oct. 22	C. A. Smith & Co., Beloit.....	7.45	5.45
Oct. 22	Wagner's Pharmacy, Beloit.....	7.25	6.55
Oct. 22	C. A. Emerson, Beloit.....	6.92	6.53
Oct. 27	Becker's Pharmacy, Omro.....	7.35	5.67
Oct. 28	W. G. Cotauche, Oshkosh.....	7.35	5.03
Oct. 29	Mueller Drug Co., Oshkosh.....	7.68	7.18
Nov. 3	John Brennan, Oshkosh.....	8.91	7.42
Nov. 4	Weeden Drug Co., Oshkosh.....	6.72	6.21
Nov. 4	James A. Coe, Oshkosh.....	7.41	4.78
Nov. 29	J. H. Arent, West DePere.....	11.48	8.0
Dec. 1	M. W. Kolb, Lena.....	9.17	3.12
Dec. 2	R. L. McDonald, Green Bay.....	8.41	5.64
Dec. 7	Woerfel's Drug Store, Sawyer.....	7.74	5.52
Dec. 9	Shultz Drug Store, Green Bay.....	7.47	5.45
Dec. 15	E. J. Flusche, West Allis.....	7.04	7.99
Dec. 21	E. G. Jones, West Allis.....	8.23	5.50
Dec. 22	Trakel's Drug Store, Waukesha.....	7.04	6.00
1916			
Jan. 5	Regner Pharmacy, West Bend.....	8.2	6.72
Jan. 7	Edw. C. Miller, Kewaskum.....	7.65	4.54
Jan. 17	T. R. Morris, So. Milwaukee.....	7.71	4.82
Jan. 27	G. W. Hare, Clinton.....	7.04	7.99
Feb. 11	Pioneer Drug Store, Evansville.....	8.84	5.40
Feb. 17	Haskin & Wilson, Darlington.....	8.25	6.25
Feb. 23	Dr. A. McKellar, Blanchardville.....	7.90	5.27
Feb. 25	R. W. Woelfler, Monticello.....	7.25	5.36
Mar. 1	Clark's Drug Store, Richland Center.....	7.09	6.08
Mar. 3	Collins Drug Co., Blue River.....	7.38	4.66
Mar. 10	Roenitz Drug Co., Sheboygan.....	7.35	6.00
Mar. 10	I. C. Thomas & Co., Sheboygan.....	7.50	5.15
Mar. 21	W. H. Kummer, Wauwatosa.....	14.69	11.54
Mar. 22	Alf. J. Krienitz, Milwaukee.....	7.51	4.73
Mar. 22	W. A. Perkins, Deerfield.....	7.93	5.21
Mar. 23	Mayer's Reliable Drug Store, So. Kaukauna.....	7.61	6.23
Mar. 24	F. J. Tomkiewicz, Edgar.....	8.31	5.2
Mar. 31	Scheldrup Drug Co., Stoughton.....	10.64	8.0
Apr. 4	Park Drug Store, Manitowoc.....	7.75	5.07
Apr. 6	R. A. McDonald, Marinette.....	7.51	6.61
Apr. 6	A. Schmidt Drug Co., Hayward.....	7.83	5.07
Apr. 7	Holz Pharmacy, Marinette.....	7.89	4.85
Apr. 8	The Huber Bros., Fond du Lac.....	7.73	7.0
Apr. 17	H. Lappley, Mazomanie.....	7.50	5.4
Apr. 20	Jensen Bros., Withee.....	7.75	5.36
Apr. 26	R. W. Woelfler, Monticello.....	7.41	5.53
Apr. 26	Ora Hatch, Bloomington.....	7.88	6.06

DRUGS—Continued.**Tincture of Iodine—Not Standard.****Above standard in Iodine or Potassium Iodide or both.**

Date	Purchased of	Gms. of iodine per 100 ccs.	Gms. iodide of potassium per 100 ccs.
1916			
Apr. 28	Seeman & Hubbell, Boscobel.....	9.25	6.59
May 3	Wm. A. Taege, Wausau.....	8.27	5.82
May 12	E. Cunningham, Lone Rock.....	9.03	6.19
May 18	J. Clohisy, Mukwonago.....	7.20	5.92
May 19	Flood & Hildebrand, Eden.....	8.61	5.12
May 23	Olson & Son, Fredonia.....	7.66	6.47
May 25	Griffin's Pharmacy, Owen.....	7.17	5.72
June 2	Corner Drug Store, Columbus.....	7.60	5.55
June 6	Montello Pharmacy, Montello.....	7.22	6.00
June 9	Neher Pharmacy, Eau Claire.....	7.35	5.94
June 9	Cass Drug Store, Eau Claire.....	7.28	6.39
June 9	Otto Boberg, Eau Claire.....	8.42	6.13
June 15	E. M. Lyons, Brodhead.....	7.45	5.93
June 21	F. L. Hinman & Co., Rhinelander.....	6.82	5.77
June 21	Richmond's Pharmacy, Eagle River.....	7.70	5.66
June 21	A. P. Stebbins & Co., Barron.....	7.53	4.35
June 21	C. C. Morrison, Barron.....	8.69	5.92
June 22	Dr. T. S. Lawler, Lyndon.....	7.62	6.00
June 23	Tomahawk Drug Co., Tomahawk.....	7.43	5.20
June 28	F. J. McIntyre, Prairie Farm.....	7.68	4.21
June 30	Gallagher's Pharmacy, Shawano.....	7.39	5.78
June 30	Schutz & Carr Drug Co., Shawano.....	7.05	6.14

Prepared with Alcohol of Less than Standard Strength.

Date	Purchased of	Per cent alcohol by volume
1915 Sept. 23	Roenitz Drug Co., Sheboygan.....	50.6

DRUGS—Continued.
Miscellaneous Drugs.

Date	Bought for	Bought of	Remarks
1915			
July 9	Precipitated sulphur.....	C. H. Truesdell, Waupaca.....	Not standard. Leaves a residue of 46.7% on ignition.
July 13	Precipitated sulphur.....	H. Tomkins, Hayward.....	Not standard. Leaves a residue of 1.19% on ignition.
July 13	Precipitated sulphur.....	A. Schmidt Drug Co., Hayward.....	Standard.
July 26	Olive oil.....	T. A. Thompson, Wilson.....	Standard.
Aug. 4	Yellow Malaga Oil.....	J. A. Devlin, Lowell.....	Standard.
Aug. 19	Sweet oil.....	A. G. Ritscher, Cream.....	Standard.
Sept. 27	Precipitated sulphur.....	Fox's Drug Store, Washburn.....	Not standard. Leaves a residue of 5.34% on ignition.
Oct. 28	Tincture of iron.....	W. G. Cotauche, Oshkosh.....	Below standard in iron.
Nov. 4	Tincture of iron.....	Weeden Drug Co., Oshkosh.....	Standard.
Dec. 8	Precipitated sulphur.....	Bassett's Drug Store, Sturgeon Bay.....	Standard.
Dec. 8	Precipitated sulphur.....	H. A. Stiles Co., Sturgeon Bay.....	Not standard. Leaves a residue of 45.62% on ignition.
1916			
Feb. 17	Green olive oil.....	Haskin & Wilson, Darlington.....	Standard.
June 1	Lime water tablets.....	Welch's Drug Store, Prescott.....	Passed.
June 8	Aqua camphor.....	Waterman-Ehrhard Co., Menomonie.....	Standard.
June 19	Lanolin.....	Klenert's Drug Store, Portage.....	No adulteration found.
June 19	Lanolin.....	John Graham Drug Co., Portage.....	No adulteration found.

DRUG—Continued.
Drugs—Submitted Samples.

Date	Submitted for	Submitted by	Remarks
1915			
July 13	Tincture of iodine.....	O. N. Falk & Son, Stoughton.....	Standard.
July 20	Spirit of camphor.....	F. J. Tomkiewicz, Edgar.....	Standard.
Aug. 12	Spirit of camphor.....	A. Schmidt, Hayward.....	Standard.
Aug. 24	Tincture of iodine.....	Geo. H. Seidel, Sparta.....	Standard.
Sept. 28	Spirit of camphor.....	Geo. J. Weigle, Madison.....	Below standard.
Nov. 1	Tincture of iodine.....	Corliss Drug Co., Corliss.....	Below standard.
Nov. 7	Hexamethylenetetramine tablets, 5 grain.....	H. W. Kleinschmit, Oshkosh.....	Standard.
Nov. 7	Trianol tablets, 5 grain.....	H. W. Kleinschmit, Oshkosh.....	Standard.
Nov. 7	Sodium Salicylate.....	H. W. Kleinschmit, Oshkosh.....	Standard.
Nov. 7	Hexamethylenetetramine.....	H. W. Kleinschmit, Oshkosh.....	Standard.
Dec. 9	Salol.....	W. W. Kelly, Green Bay.....	Standard.
Dec. 9	Aspirin tablets, 5 grain.....	W. W. Kelly, Green Bay.....	5% short of claimed strength.
1916			
Jan. 19	Aspirin powder.....	G. J. Janda, Hartland.....	No adulteration found.
Jan. 19	Aspirin tablets, 5 grain.....	Kuhnmuench Bros., Wauwatosa.....	No adulteration found.
Feb. 8	Tincture of iodine.....	Smith's Pharmacy, Janesville.....	Above standard.
Feb. 8	Iron tonic.....	Elmer E. Barlow, Arcadia.....	Tested for alcohol. None found.
Feb. 18	Tincture of iodine.....	John H. Arent, West De Pere.....	Above standard.
Feb. 23	Aspirin tablets.....	Health Department, Racine.....	5% short of claimed strength.
Feb. 23	Aspirin.....	Health Department, Racine.....	No adulteration found.
Mar. 1	Aspirin tablets.....	Mrs. Ada James, Richland Center.....	No adulteration found.
Mar. 5	Tincture of iodine.....	G. A. Gerrits, Cedarburg.....	Standard.
Apr. 20	Tincture of iodine.....	Aug. P. Ruh, Fond du Lac.....	Above standard.
Apr. 20	Spirit of camphor.....	Roger's Pharmacy, Beaver Dam.....	Standard.
Apr. 20	Spirit of camphor.....	Roger's Pharmacy, Beaver Dam.....	Above standard.

FISH AND OYSTERS.

Date	Bought for	Bought of	Remarks
1915			
Oct. 13	Codfish.....	Geo. W. Yahn, Janesville.....	Directions fore removal of benzoate of soda not sufficient.
Oct. 13	Codfish cake.....	Janesville Tea Co., Janesville.....	Directions for removal of benzoate of soda not sufficient.
Oct. 18	Codfish.....	F. L. Wilbur & Co., Janesville.....	Directions for removal of benzoate of soda not sufficient.
1916			
Mar. 23	Codfish cake.....	Elsie Dobson, Lancaster.....	Standard.
Mar. 23	Codfish cake.....	Elsie Dobson, Lancaster.....	Standard.
Apr. 8	Oysters.....	G. H. Geisler, Wausau.....	No indication of watering.
Apr. 10	Oysters.....	G. H. Geisler, Wausau.....	No indication of watering.
Apr. 20	Codfish.....	Peter Merten.....	Direction for removal of benzoate of soda not sufficient.

FLAVORS AND FLAVORING EXTRACTS.
Vanilla Extract—Not Standard or Misbranded.

Date	Labeled	Bought of	Manufacturer or Jobber	Remarks
1915 July 27	Vanilla. Compound composed of vanilla, vanillin, coumarin, caramel color	John A. Jones, Columbus.....	John A. Jones, Columbus.....	Not standard. Not a vanilla extract. Misbranded in that the net contents was not stated.
July 27	Vanillin and coumarin, colored.....	H. Radloff, Richwood.....	Badger Medicine Co., Waterloo, Wis.....	Misbranded in that the net contents was not stated. Adulterated. Not vanilla extract.
July 27	Compound extract vanilla. Net contents 7½ oz. Prepared from vanilla bean, tonka, bean, vanillin and coumarin. Color deepened with caramel	H. Radloff, Richwood.....	Badger Medicine Co., Waterloo, Wis.....	Not standard. Contains caramel. Not properly labeled. Label is deceptive.
Aug. 5	Vanilla extract.....	A. J. Koepsell, Mayville.....	.....	Misbranded in that the net contents was not stated.
Aug. 4	Extract of compound vanilla.....	C. Ladwig, Lowell.....	.....	Not vanilla extract. A compound sold for vanilla extract, contains little or no vanilla. Misbranded in the net contents was not stated.
Aug. 13 Oct. 1	Vanilla and vanillin..... Compound extract of vanilla, vanillin, and coumarin	M. W. Koenig, Saukville..... H. J. Kane, Racine.....	Marshall Medicine Co., Fond du Lac..... E. R. Hansen Extract Co., Racine.....	Not standard. Not vanilla extract. Not standard. Not vanilla extract.
Nov. 19 Nov. 30	Pure concentrated extract vanilla. 1½ oz. Three-eighths standard strength vanilla and tonka	M. Stoveken, Pembine..... Big White Store, Pulaski.....	C. Soap Co., Tomahawk..... Atwood & Steel Co., Chicago.....	Misbranded. Eight per cent short measure. Not standard. Not a vanilla extract.
Dec. 10	Vanilla bean, vanillin, coumarin.....	S. Hartmann, Green Bay.....	Aretic Mfg. Co., Grand Rapids.....	Not standard. Not a vanilla extract.
1916 Feb. 11	Extract of vanillin. 2¾ oz. mixed with a small proportion of vanilla extract	J. Brinkman, Afton.....	S. H. Jewett, Milton Jet.....	Not standard. Not a vanilla extract.
Mar. 23 May 17	Extract of vanilla..... Vanilla flavor for ices, cream, puddings, etc., contains vanillin and coumarin	P. Lesch, Milwaukee..... Giswold Mercantile Co., Grantsburg.....	Math. Roth, Milwaukee..... The E. Howard Smith Co., Grantsburg.....	Misbranded in that net contents was not stated. Not standard. Not vanilla extract. Misbranded in that net contents was not stated.
May 24	Pure extract vanilla. 2¼ oz.	D. O. Stevingsen, Plum City.....	Arbuckles Bros., Chicago.....	Misbranded. Six per cent short measure.
June 27	Vanilla flavor composed of vanillin, coumarin, glycerin, caramel coloring	A. H. Behrend, Stevens Point.....	Chas. A. Engstrom, Stevens Point.....	Not standard. Not a vanilla flavor.

Lemon Extract—Standard.

Date	Bought of	Labeled	Manufacturer or Jobber
1915			
July 29	The Hanson Co., Rio.....	Lemon 2 oz.....	A. J. Hilbert & Co., Milwaukee.
Aug. 27	Boerner Bros. Co., Port Washington.....	Lemon.....	National Extract Works, Milwaukee.

Lemon Extract—Not Standard or Misbranded.

Date	Labeled	Bought of	Manufacturer or Jobber	Remarks
1915				
July 7	Lemon Extract.....	A. J. Herold, Alma.....	Latch & Son, Winona, Minn.....	Misbranded in that net contents was not stated.
July 9	Half Standard Strength Terpeneless Lemon Extract	James Birmingham, Wolf Creek.....	Griggs, Cooper & Co., St. Paul.....	Not standard. A half standard terpeneless extract sold for lemon extract.
July 9	Terpeneless Half Standard Lemon Extract....	Mrs. James Love, Wolf Creek.....	Minnesota Mercantile Co., Stillwater....	Not standard. A half standard terpeneless extract sold for lemon extract.
July 27	Lemon Extract.....	John A. Jones, Columbus.....	John A. Jones, Columbus.....	Misbranded in that net contents was not stated.
July 27	Soluble Extract of Lemon. Terpeneless Colored	H. Radloff, Richwood.....	Badger Medicine Co., Waterloo, Wis.....	Not standard. Misbranded in that net contents was not stated.
July 27	Pure Concentrated Extract of Lemon.....	C. E. Fowler, Columbus.....	S. W. McCune Co., Aurora, Ill.....	Misbranded in that net contents was not stated and in that it was not a concentrated extract of lemon.
July 30	Lemon.....	A. W. English, Wyocena.....		Not standard. Contains no oil of lemon. Misbranded in that net contents was not stated.
July 30	Concentrated Extract of Lemon.....	A. W. English, Wyocena.....		Not standard. Contains no oil of lemon and is not a concentrated extract of lemon. Misbranded in that net contents was not stated.
Aug. 4	Lemon Extract.....	C. Ladwig, Lowell.....		Misbranded in that net contents was not stated.
Aug. 5	Lemon Extract.....	A. J. Koepsell, Mayville.....		Misbranded in that net contents was not stated.
Aug. 13	Lemon Extract.....	M. W. Koenig, Saukville.....	M. Roth, Milwaukee.....	Misbranded in that net contents was not stated.
Aug. 13	Lemon Extract.....	M. W. Koenig, Saukville.....	Gillett's Chemical Works, Chicago.....	Misbranded in that net contents was not stated.
Aug. 13	Lemon Extract.....	M. W. Koenig, Saukville.....	M. W. Marshall, Fond du Lac.....	Misbranded in that net contents was not stated.
Aug. 17	Lemon Extract.....	A. Skorstad, York.....	Medicine Remedy Co., Duluth.....	Not standard. Contains no oil of lemon. Misbranded in that net contents was not stated.

FLAVORS AND FLAVORING EXTRACTS—Continued.
Lemon Extract—Not Standard or Misbranded—Continued.

Date	Labeled	Bought of	Manufacturer or Jobber	Remarks
1915				
Sept. 23	Jim's Compound Extract of Lemon.....	F. Mueller, Sheboygan.....	J. A. Annes, Sheboygan.....	Not standard. Below standard in lemon oil. Misbranded in that net contents was not stated.
Sept. 23	Substitute Lemon Extract.....	J. Fludernick, Sheboygan.....		Not standard. Contains no oil of lemon. Misbranded in that net contents was not stated. A substitute sold for lemon extract.
Oct. 18	Perfection Triple Strength. Lemon Extract. 4-oz. full measure	Dedrick Bros., Janesville.....	Sprague, Warner & Griswold, Chicago..	Misbranded. Six per cent short measure. Not a triple strength. A very old sample.
Oct. 20	Lemon Extract.....	J. F. Carle & Son, Janesville.....		Misbranded in that net contents was not stated.
Nov. 30	One Fourth Standard Strength Terpeneless Lemon	Big White Store, Pulaski.....	Atwood & Steele Co., Chicago.....	Not standard. A one-fourth standard terpeneless extract sold for lemon extract.
1916				
Feb. 15	Ideal Pure Triple Extract Lemon.....	Carroll Bros., Monroe.....	J. G. Flint Co., Milwaukee.....	Misbranded in that net contents was not stated and in that it was not triple strength.
Mar. 20	Dieter's Double Lemon Flavoring.....	H. Beersten, Green Bay.....	J. P. Dieter, Chicago.....	Misbranded. Not a double strength. The term double is misleading.
Mar. 23	Extract of Lemon.....	P. Lesch, Milwaukee.....	M. Roth, Milwaukee.....	Misbranded in that net contents was not stated.
Mar. 29	Extract of Lemon.....	P. Lesch, Milwaukee.....	M. Roth, Milwaukee.....	Misbranded in that net contents was not stated.
Apr. 24	Pure Concentrated Extract Lemon.....	M. Falck, Hortonville.....	C. Soap Co., Tomahawk.....	Not standard. Below standard in lemon oil. Misbranded in that net contents was not stated and in that it was not a concentrated extract of lemon
May 17	Lemon (Triple Extract).....	Giswold Mercantile Co., Grantsburg.....	The E. Howard Smith Co., Grantsburg..	Not standard. Below standard in lemon oil. Misbranded in that net contents was not stated and in that it was not a triple extract.
May 24	Ward's Extract of Lemon. Net contents 4 oz	D. O. Stevlingson, Plum City.....	Dr. Ward Medical Co., Winona.....	Misbranded. Four per cent short measure.
May 24	Pure Extract of Lemon. Contents 2½ oz.....	D. O. Stevlingson, Plum City.....	Arbuckles Bros., Chicago.....	Not standard. Below standard in lemon oil. Misbranded. Five per cent short measure.
June 29	Perrigo's Extract Lemon.....	J. A. Abbott, Springfield.....	L. Perrigo Co., Alligan, Mich.....	Misbranded in that net contents was not stated.

Extract of Vanilla and Tonka; Compound Extract of Vanilla—Misbranded.

Date	Bought for	Labeled	Bought of	Manufacturer or Jobber	Remarks
1915 Nov. 3	Vanilla and tonka.....	Vanilla and Tonka.....	White's Grocery, Oshkosh.....	Arctic Manufacturing Co., Grand Rapids.....	Misbranded in that the net contents was not stated.
1916 May 24	Compound extract of vanilla	Compound Essence Vanilla, Vanillin, Coumarin, Caramel. 4 oz.	D. O. Stevlingson, Plum City.....	Dr. Ward Medical Co., Plum City....	Misbranded. Four per cent short measure.

Miscellaneous Flavoring Extracts.

Date	Bought for	Bought of	Manufacturer or Jobber	Remarks
1915 July 7	Essence peppermint.....	A. J. Herold, Alma, R. D.....	Latsch & Son, Winona.....	Not essence of peppermint. A one fourth standard strength essence of peppermint sold for essence of peppermint.
Aug. 27	Peppermint essence.....	Boerner Bros. Co., Port Washington.....	National Extract Works, Milwaukee.....	Misbranded in that net contents was not stated.
Nov. 3	Essence peppermint.....	H. G. Lieske, Fairwater.....	M. W. Marshall, Fond' du Lac.....	Misbranded. Twelve per cent short measure.
1916 Mar. 16	Imitation raspberry.....	B. Moss, Seymour.....	Joannes Bros. Co., Green Bay.....	Misbranded in that net contents was not stated.
Apr. 13	Orange flavoring.....	F. Allen, Little Suamico.....	E. A. Lange, W. De Pere.....	Misbranded in that net contents was not stated.
May 24	Raspberry flavoring.....	D. O. Stevlingson, Plum City.....	Wm. Rademacher, Winona.....	Not standard and misbranded. Net contents not stated. Artificially colored. Not sold as an imitation.
May 24	Strawberry flavoring.....	D. O. Stevlingson, Plum City.....	Wm. Rademacher, Winona.....	Not standard and misbranded. Net contents not stated. Artificially colored. Not sold as an imitation.
June 27	Essence of peppermint.....	J. A. and R. E. Schulz, Irma.....	C. Soap Co., Tomahawk.....	Standard.
June 30	Essence of peppermint.....	Gallagher's Pharmacy, Shawano.....		Standard.
June 30	Essence of peppermint.....	Williams' Drug Store, Shawano.....		Standard.

FOOD PRESERVATIVES.

Date	Purchased of	Labeled	Remarks
1915			
July 20	Sparta Bottling Works, Sparta.....	Antiferment or Fermenticide Vegetable.....	A strong solution of benzoate of soda.
Aug. 27	C. E. Hoffman, Port Washington.....	Imperial Brand Canning Compound.....	Composed essentially of borax.
Sept. 9	R. S. Young, Darien.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Sept. 10	Sarassy's Drug Store, Footville.....	Mrs. Price's Special Prepared Boric Acid.....	Composed essentially of boric acid.
Sept. 17	C. Beyschlag, La Crosse.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Sept. 17	Jule's Pharmacy, La Crosse.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Sept. 23	A. P. Grube, Sheboygan.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Sept. 23	W. G. Schroeter, Sheboygan.....	Canning Compound.....	Composed essentially of boric acid.
Oct. 6	Kradwell Drug Co., Kenosha.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Oct. 6	The Mayer Pharmacy, Kenosha.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Oct. 6	A. H. Hurd, Kenosha.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Oct. 25	F. W. Lambrecht, Berlin.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Oct. 25	Neumann & Hoyer, Berlin.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Oct. 25	J. W. Slater, Berlin.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Oct. 25	J. W. Slater, Berlin.....	Imperial Brand Canning Compound.....	Composed essentially of boric acid.
Oct. 26	Winneconne Pharmacy, Winneconne.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Oct. 28	W. G. Cotauche, Oshkosh.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Oct. 29	Mueller Drug Co., Oshkosh.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Nov. 3	Jackson St. Pharmacy, Oshkosh.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Nov. 4	A. J. Greenkorn, Oshkosh.....	Antiferment, colored.....	Essentially benzoate of soda.
Nov. 4	White Cross Drug Co., Oshkosh.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Nov. 4	Bauman Drug Co., Oshkosh.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Nov. 4	Weeden Drug Co., Oshkosh.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Nov. 4	James A. Coe, Oshkosh.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Dec. 15	P. J. Bohl, West Allis.....	B-B Egg Pickle Paste.....	Liquid, found to be solution of sodium silicate, water glass.
1916			
Jan. 4	H. L. Kellogg, Oconomowoc.....	Lime Sulphite for preserving cider. Contents sufficient for 63 gal.....	Found to be calcium sulphite.
Jan. 5	Regner Pharmacy, West Bend.....	Fuhrman's Ever-Keep Canning Compound. Contains Sodium Chloride, Boric Acid.....	Found to contain boric acid and sodium chloride.
Jan. 24	K. F. Stupp, Beloit.....	Iceine Brine.....	Found to be free from sulphites, borates and benzoates.
Mar. 7	G. J. Cox, Ft. Atkinson, R. 2.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Mar. 10	I. C. Thomas & Co., Sheboygan.....	Mrs. Price's Special Prepared Boric Acid.....	Composed essentially of boric acid.
Mar. 23	Mayer's Reliable Drug Store, S. Kaukauna.....	Fuhrman's Ever-Keep Canning Compound.....	Composed essentially of boric acid.
Mar. 23	Mayer's Reliable Drug Store, S. Kaukauna.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Mar. 23	Kaukauna Drug Co., S. Kaukauna.....	Fuhrman's Ever-Keep Canning Compound.....	Composed essentially of boric acid.

Mar. 23	Kaukauna Drug Co., S. Kaukauna.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Mar. 23	F. M. Charlesworth, Kaukauna.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
Mar. 28	Lancaster Bottling Works, Lancaster.....		Solution of benzoate of soda.
May 8	Engler & Dedloph, Marion.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
May 20	Hanson & Carlson, Luck, R. 1.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
June 16	Larson Drug Co., Rice Lake.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
June 16	Rice Lake Meat Market, Rice Lake.....	Freeze-Em Pickle.....	Found to be free from sulphites, borates and benzoates.
June 16	J. H. Johnson, Rice Lake.....	Freeze-Em Pickle.....	Found to be free from sulphites, borates and benzoates.
June 16	Jewett Drug Co., Rice Lake.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.
June 19	Lehmer Drug Co., Spooner.....	Mrs. Price's Canning Compound.....	Composed essentially of boric acid.

LINSEED OILS.

Boiled Linseed Oil—Standard.

Date	Purchased of	Date	Purchased of
1915		1916	
June 17	Lewis Peterson, Dorchester.	May 5	Trukenbrod's Pharmacy Monroe.
July 10	C. E. Johnson, Karlsborg.	May 11	James M. King, Arena.
July 13	Gust Lueck & Son, Hamburg.	May 22	Prehn-Stieber-Lang Hdw. & Furniture Co., Marathon.
July 16	Albert Larsen, Ringle, R. 1.	May 23	A. W. Puchner, Edgar.
Aug. 9	H. Herbert, Waumandee.	May 24	Goodrich Mercantile Co., Goodrich.
Nov. 4	G. B. Gilbertson, Morrisonville.	June 1	Prehn-Stieber-Lang Hdw. & Furniture Co., Marathon.
1916		June 2	R. Connor Co., Stratford.
Feb. 11	Chetak Cooperative Merc. Co., Chetek.	June 15	Chas. W. Fish Lumber Co., Elcho.
Mar. 6	H. F. Tietz, Watertown, R. 4.	June 19	Herman Schmidt, Wausau.
Mar. 6	A. C. Gruennert, Helenville.	June 20	Prehn-Stieber-Lang Hdw. & Furniture Co., Marathon.
Apr. 29	Klein-Statz Co., Madison.		

LINSEED OILS—Continued.

Boiled Linseed Oil—Not Standard.

Found to Contain Unsaponifiable Material—Either a Mineral Oil Product or Rosin Oil or a Mixture of Both.

Date	Purchased of	Manufacturer or Jobber	Per Cent Unsaponifiable material
1915			
June 24	Gustafson & Gustafson, Trade Lake.....	Central Oil Co., Cleveland.....	54.37
July 1	A. Johnson, Utica.....	Holland Linseed Co., Chicago.....	2.65
July 9	H. E. Hubbard, Clam Falls.....	Central Linseed Oil Co., Omaha.....	54.0
July 10	Webster Mercantile Co., Webster.....		4.09
July 12	Webster Mercantile Co., Webster.....		3.63
July 13	Goodrich Mercantile Co., Goodrich.....	Central Linseed Oil Co., Omaha.....	29.43
July 14	*Henry Rein, Cherokee.....	Central Linseed Oil Co., Omaha.....	
July 14	Stallman Bros., Corinth.....	National Linseed Oil Co., Cleveland.....	36.97
July 15	Dennison & Coeper, Mosinee, R. D.....		45.91
July 16	E. P. Lemke, Ringle.....	Central Linseed Oil Co., Omaha.....	3.78
July 16	Louis Gumz, Ringle, R. 1.....	Central Linseed Oil Co., Omaha.....	46.71
July 29	Plum City Mercantile Co., Plum City.....	Central Linseed Oil Co., Cleveland.....	20.03
Aug. 9	W. S. Crane, Balsam Lake.....		51.87
Aug. 9	W. M. Froehlich Merc. Co., Jackson.....	Standard Linseed Co., Cleveland.....	37.52
Aug. 10	O. O. Steen, Ellsworth.....	Eastland Linseed Co., Cleveland.....	24.67
Aug. 10	W. J. Plumley, Spring Valley, R. 3.....	Duluth-Superior Linseed Oil Works, Duluth.....	45.89
Aug. 16	Kuhnke-Fitzgerald Co., So. Milwaukee.....	Standard Linseed Co., Cleveland.....	34.45
Aug. 31	Braun Bros., Baileys Harbor.....	Standard Linseed Co., Cleveland.....	34.5
Sept. 10	W. Andrew & Son, Evansville, R. R.....	Holland Linseed Oil Co., Chicago.....	17.23
Sept. 30	S. Swanson, Ogren, Iron River.....	National Linseed Co., Cleveland.....	33.59
Sept. 30	Higgins Hdw. Co., Racine.....	G. R. Jenkins Co., Chicago.....	24.91
Oct. 1	C. J. Nelson, Racine.....	G. R. Jenkins Co., Chicago.....	24.17
Oct. 7	Oscar Risberg, Loraine.....	The American Linseed Oil Co., Omaha.....	36.93
Oct. 7	Pitts & Heather, Kenosha.....	D. A. Stuart & Co., Chicago.....	21.48
Nov. 19	M. Corn Estate, Amberg.....	Atlantic Refining Co., Cleveland.....	53.00
Dec. 1	V. B. Corbin & Son, Wascott.....	Central Linseed Oil Co., Omaha.....	33.89
Dec. 3	Dreifuerst Bros., St. Cloud.....	Hirst & Begley Linseed Oil Co., Chicago.....	3.00
Dec. 6	S. S. Ogren, Port Wing.....	National Linseed Co., Cleveland.....	33.59
Dec. 7	Braun Bros., Bailey's Harbor.....		37.63
1916			
Feb. 17	Sinaiko Bros., Mt. Vernon.....	Holland Linseed Oil Co., Chicago.....	16.47
Feb. 28	Rischmueller & Meyer, Sauk City.....	Holland Linseed Oil Co., Chicago.....	3.49
Feb. 29	J. M. King, Arena.....	Holland Linseed Oil Co., Chicago.....	13.69

Mar. 14	B. Bittner, Mt. Calvary.....	Eastland Linseed Co., Cleveland.....	22.75
Mar. 27	A. Ritger, Marathon.....	Minnesota Linseed Oil Co., Minneapolis.....	9.0
Apr. 13	Sinaiko Bros., Mt. Vernon.....	Holland Linseed Co., Chicago.....	17.76
Apr. 24	Sinaiko Bros., Mt. Vernon.....	Holland Linseed Co., Chicago.....	18.53
May 5	E. P. Lemke, Ringle.....	Central Linseed Oil Co., Omaha.....	4.08
May 8	Prehn-Steiber-Lang Hdw. & Furniture Co., Marathon.....	Southern States Turpentine Co., Cleveland.....	35.53
May 29	V. B. Corbin & Sons, Wascott.....		33.86
May 31	N. O. Risberg, Loraine.....		45.78
June 2	Doud Sons Co., March.....	Ohio State Linseed Co., Cleveland.....	38.12
June 8	E. O. Plisch, Aniwa.....	Southern States Turpentine Co., Cleveland.....	34.00
June 12	Northwestern Lbr. Co., Stanley.....	Standard Linseed Co., Cleveland.....	30.94
June 12	Northwestern Lbr. Co., Stanley.....	Standard Linseed Co., Cleveland.....	29.72
June 15	Burton Merc. Co., Eleho.....		2.75
June 28	Geo. E. Scott Estate, Prairie Farm.....	Standard Linseed Co., Cleveland.....	33.70

*Contains excessive foods.

Raw Linseed Oil—Not Standard.

Found to Contain Unsaponifiable Material—Either a Mineral Oil Product or Rosin Oil or a Mixture of Both.

Date	Purchased of	Manufacturer or Jobber	Per Cent Unsaponifiable Material
1915			
July 9	N. O. Risberg, Loraine.....	Duluth-Superior Linseed Works, Duluth.....	24.21
July 14	Stallman Bros., Corinth.....	National Linseed Oil Co., Cleveland.....	31.78
July 15	Brinkmann & Reif, Rozellville.....	Eastland Linseed Co., Cleveland.....	38.0
Aug. 31	Braun Bros., Baileys Harbor.....	Standard Linseed Co., Cleveland.....	38.0
Nov. 27	E. O. Plisch, Aniwa.....	Southern States Turpentine Co., Cleveland.....	3.63
1916			
June 12	Northwestern Lumber Co., Stanley.....	Standard Linseed Co., Cleveland.....	24.18
June 28	Geo. E. Scott, Prairie Farm.....	Standard Linseed Co., Cleveland.....	34.27
June 28	T. M. Winters, Neillsville.....	Eastland Linseed Co., Cleveland.....	42.19

LINSEED OILS—Continued.**Raw Linseed Oil—Standard.**

Date	Purchased of
1915	
July 21	John Schmitt, St. Joseph.
Oct. 1	O. E. Minor, Belmont.
Oct. 1	H. W. Nessler, Belmont.
Nov. 4	G. B. Gilbertson, Morrisonville.
Dec. 1	Wm. Steffer, Malone, R. 38.
1916	
Mar. 21	T. J. Zeisinger, Tomah.
May 22	H. Roebke, Wrightstown.
May 23	A. W. Puchner, Edgar.

Linseed Oils—Standard, but not Labeled in Compliance with Law.

Date	Bought for	Purchased of
1915		
July 23	Boiled linseed oil.....	R. G. Nicke, Tomah.
Oct. 7	Raw linseed oil.....	Pitts & Heather, Kenosha.
Oct. 16	Raw linseed oil.....	R. J. Coon, Ladysmith.
Oct. 20	Raw linseed oil.....	C. E. Engstrand Co., Ogema.
Oct. 21	Raw linseed oil.....	Brantwood Supply Co., Brantwood.
Oct. 22	Raw linseed oil.....	Geo. Een, Waupaca, R. 3.
Oct. 30	Boiled linseed oil.....	Chas. W. Fish Lbr. Co., Elcho.
Nov. 8	Linseed oil.....	Nick Huberty, Fond du Lac, R. 8.
1916		
Mar. 8	Boiled linseed oil.....	Will Bieck, Rome.
June 1	Boiled linseed oil.....	C. P. Gerrets, So. Kaukauna.
June 14	Boiled linseed oil.....	Roepeke & Beversdorf, Birnamwood.
June 14	Boiled linseed oil.....	I. W. Boettcher Hdw. Co., Birnamwood.
June 15	Boiled linseed oil.....	I. Jansen, Pelican Lake.

Linseed Oils—Submitted Samples.

Date	Submitted by	Remarks
1915		
Aug. 16	Louis Brunner, Blue Mounds.....	No adulteration found.
Sept. 17	Goemans Bros., De Pere.....	Contains 37% of mineral oil.
Sept. 17	Goemans Bros., De Pere.....	Contains 37% of mineral oil.
Oct. 4	Northwestern Mfg. Co., Ft. Atkinson.....	No adulteration found.
Oct. 18	J. B. Gillingham, Richland Center.....	Contains 16% of mineral oil.
Nov. 30	Jos. A. Pitts, Kenosha.....	Contains 66% of mineral oil.
1916		
Jan. 18	J. S. Millen, Oconto.....	Standard.
Jan. 28	Ed McNamara, Bloomington.....	Not a linseed oil. Of the nature of a varnish.
Mar. 15	E. C. Armstrong, Mauston.....	Not standard. Contains 31.76% unsaponifiable material.
Mar. 21	O. J. Meyer, Manitowoc.....	Standard.
Apr. 4	Klein & Stutz Co., Madison.....	Contains 35% of mineral oil.
Apr. 17	Ora Hatch, Bloomington.....	Standard.
Apr. 17	Stephenson Bros., Darlington.....	Standard.
Apr. 25	R. J. Schanel, Madison.....	Standard.
Apr. 28	Wm. Tesch, Appleton.....	Contains 30% of mineral oil.
May 1	C. S. Chambers, Monroe.....	No adulteration found.
May 27	Stallman Bros., Corinth.....	Standard.
May 28	Sinaiko Bros., Mt. Vernon.....	No adulteration found.
June 1	Economy Service Co., Oshkosh.....	Contains 58% of a volatile mineral oil of the nature of kerosene.
June 12	Lyle O'Brien, Brooklyn.....	No adulteration found. Old viscous oil badly oxidized.
June 19	Edward Wentker, Mishicot.....	Standard.

Linseed Oil Compounds—Not Labeled in Compliance with Law.

Date	Purchased of	Per cent unsaponifiable material
1915		
July 9	F. A. Dinger, Clam Falls.....	52.17
July 27	H. Radloff, Richwood.....	52.27
Aug. 18	Lingsweiler Bros., Corliss.....	36.58
Sept. 4	Theo. J. Baraboo, Egg Harbor.....	57.39
Oct. 6	Wm. J. Threinen, Kenosha.....	50.0
1916		
Mar. 10	Range Mercantile Co., Amery, R. 1.....	66.0
Apr. 24	Kopplin & Kopplin, Iron River.....	15.39
May 22	Prehn-Stieber-Lang Hdw. & Furniture Co., Mauston.....	44.8

MEAT PRODUCTS.**Meat, Chopped Meat and Sausage.****Tested for Sulphites, Boric Acid and Borates—None Found.**

Date	Bought of
1916	
Feb. 7	McGavock Grocery Co., Beloit.
Feb. 8	Stupp's Cash Market, Janesville.
Feb. 9	J. M. Fox & Son, Janesville.
Feb. 14	Lee H. Burr, Beloit.
Feb. 14	K. F. Stupp, Beloit.
Feb. 14	Newton & Witte, Beloit.
Feb. 16	Bergener Bros., Shullsburg.
Feb. 17	Macken Meat Market, Darlington.
Feb. 17	Nelson & Gilbertson, Darlington.
Feb. 21	Otto Beyer, Watertown.
Mar. 10	Buehler Bros., Sheboygan.
Mar. 21	Geo. Bernard, Cornell.
Mar. 21	L. Williamson, Cornell.
Apr. 19	Peoples Cash Market, Green Bay.
May 3	Paul Friedrich & Co., Wausau.
May 3	W. J. Morgan, Wausau.
May 3	Geo. Jung & Son, Wausau.
May 4	J. H. Brandt, Wausau.
June 3	Chas. Weisbrod, Stratford.
June 9	J. P. Meyer, Eau Claire.

Chopped Meat and Sausage—Found to Contain Sulphites.

Date	Bought for	Bought of
1916		
Jan. 24	Chopped meat.....	K. F. Stupp, Beloit.
Feb. 7	Hamburger.....	McGavock Grocery Co., Beloit.
Feb. 8	Chopped meat.....	Stupp's Cash Market, Janesville.
Apr. 19	Hamburger.....	Z & H Market, Green Bay.
May 3	Chopped meat.....	Geo. Jung & Son, Wausau.

Sausage and Sausage with Cereal.

Date	Bought for	Bought of	Remarks
1916			
Apr. 11	Bologna.....	Ed Noll, Juneau.....	Contains more than 4% of cereal.
May 4	Bologna.....	Kieffer Bros., Wausau.....	Not standard, contains cereal.
May 5	Bologna.....	Karl Merklein, Wausau.....	Not standard, contains cereal.
June 16	Sausage with cereal.....	R. Voigt & Son, Mattoon.....	Standard.
June 22	Sausage.....	Robt. C. Thielman, Tomahawk.....	Not standard, contains cereal.

MISCELLANEOUS FOODS.

Date	Bought for	Labeled	Bought of	Remarks
1915				
July 2	Cider vinegar.....	Pure Cider Vinegar Reduced to 4% acid strength.....	Ratzloff Bros., Edgerton.....	Passed.
July 27	Canned roast duck.....	Oxford Roast Duck.....	C. E. Fowler, Columbus.....	Not standard. Contains large amount of tin. Misbranded. Net contents not stated.
Dec. 16	Oleomargarine.....	Oleomargarine, tinted.....	Chas. Luetzow, Wauwatosa.....	Not standard. Held to be in semblance of yellow butter.
1916				
Jan. 27	Home rendered lard.....		E. Wright, Beloit.....	Not standard. Contains beef fat.
Mar. 10	Lard.....	Lard, Kettle Rendered. 2 lbs. 9 oz. net.....	Buehler Bros., Sheboygan.....	Passed.
Mar. 16	Extracted honey.....	Pure Extracted Honey.....	F. W. Huth, Seymour.....	Standard.
Mar. 30	Oleomargarine.....	Glendale Oleomargarine.....	Fred J. Will, St. Croix Falls.....	Not standard. Held to be in semblance of yellow butter. Contains molds.
Mar. 30	Beer.....	List Erl-King. 24 oz. net.....	List Brewing Co., Platteville.....	Misbranded. Labeled 24 oz. Contained 13 oz.
Mar. 30	Candy.....		Earl T. Palmer, St. Croix Falls.....	Passed.
May 8	Cucumber pickles.....	Prepared with a small amount of harmless preservative, benzoate of soda, 1, 1000 part	Ramsdell Sales Co., Marion.....	Not standard. Contains benzoic acid. Misbranded. Net contents not stated.
May 8	Chow Chow.....	Prepared with a small amount of preservative, benzoate of soda, 1, 1000 part	Ramsdell Sales Co., Marion.....	Not standard. Contains benzoic acid. Misbranded. Net contents not stated.
June 14	XXX Porter.....	XXX Porter Special Brew.....	Emil Thibeau, Chippewa Falls.....	Misbranded. Net contents not stated.
June 14	XXX Porter.....	XXX Porter Special Brew.....	Geo. E. Hebert, Chippewa Falls.....	Misbranded. Net contents not stated.
June 15	XXX Porter.....	XXX Porter.....	Emil Nordlie, Chippewa Falls.....	Misbranded. Net contents not stated.

SACCHARINE PRODUCTS.
Maple Sugars and Syrups—Standard.

Date	Bought of	Bought for	Manufacturer or Jobber
1916			
Apr. 8	C. H. Wenger, Wausau.....	Maple syrup.....	Herman Raasch.
Apr. 11	Geo. Rothlisburg, Merrill.....	Maple syrup.....	Herman Raasch.
Apr. 11	Stuemke Bros., Merrill.....	Maple syrup.....	
Apr. 15	Thorp Mercantile Co., Thorp.....	Maple syrup.....	
Apr. 17	Frank Lieg, Marathon.....	Maple sugar.....	Max Ritter, Marathon, R. 2.
Apr. 17	Chas. Trauba, Marathon.....	Maple sugar.....	Geo. Hoffmann, Marathon, R. 1.
Apr. 17	C. C. DeLong, Edgar.....	Maple syrup.....	John Masang, Edgar, R. 3.
Apr. 19	Upham & Russell Co., Shawano.....	Maple syrup.....	— Zeiner, Shawano.
Apr. 19	Upham & Russell Co., Shawano.....	Maple syrup.....	A. Brum, Fella.
Apr. 19	Upham & Russell Co., Shawano.....	Maple sugar.....	Henry Wolf, Keshena.

SACCHARINE PRODUCTS—Continued.
***Maple Syrup—Not Standard.**
Found to Contain an Excessive Amount of Water.

Date	Purchased of	Manufacturer or Jobber
1916		
Apr. 8	Wausau Farmers Produce Co., Wausau.....	Emil Lang, Wausau.
Apr. 8	C. H. Wegner, Wausau.....	
Apr. 8	Frank Hannemann, Wausau.....	Mrs. C. Koenig.
Apr. 10	Frank Hannemann, Wausau.....	Hugo Nass, Wausau, R. D.
Apr. 10	Frank Hannemann, Wausau.....	B. Haasch, Wausau, R. D.
Apr. 10	C. H. Wegner, Wausau.....	Fred Gutnecht.
Apr. 10	C. H. Wegner, Wausau.....	Frank Reinke, Naugat, R. D.
Apr. 11	Geo. Rothlisburg, Merrill.....	Wm. Muher, Merrill, R. D.
Apr. 11	Emerich Merc. Co., Merrill.....	Fred Baumann, Merrill, R. D.
Apr. 11	Emerich Merc. Co., Merrill.....	Albert Storm, Merrill, R. D.
Apr. 11	Monarch Grocery, Merrill.....	Erwin Gruetamacher, Merrill, R. D.
Apr. 11	Petermann Bros., Merrill.....	Chas. Brandenburg.
Apr. 11	Otto Steckling, Merrill.....	Julius Woller, Merrill, R. D.
Apr. 11	Otto Steckling, Merrill.....	Otto Radke, Merrill, R. D.
Apr. 11	Livingston Merc. Co., Merrill.....	Carl Freitag, Merrill, R. D.
Apr. 17	Frank Lieg, Marathon.....	Chas. Ristau, Marathon, R. 2.
Apr. 17	A. Ritger, Marathon.....	Max Ritter, Marathon, R. 2.
Apr. 19	Frank Brightman, Shawano.....	Chas. Bucholtz, Lyndhurst.

*All samples were produced by farmers on a small scale.

SAMPLES SUBMITTED BY AND ANALYSED FOR THE STATE BOARD OF CONTROL.

Bath Soap.

Kind	Moisture per cent	Ash per cent	Caustic or free alkali	Silicates	Borates	Price per pound. Cents
Fairbank's Fairy.....	17.14	16.54	none.....	small amount.....	none.....	9.8
Swift's White Ribbon.....	17.82	15.73	none.....	small amount.....	none.....	8.0
Armour's Flotilla.....	17.40	16.10	none.....	small amount.....	none.....	9.0
Kirk's White Cloud.....	18.64	16.08	none.....	small amount.....	none.....	8.8
Johnson's China.....	16.96	16.96	trace.....	small amount.....	none.....	8.8
Globe White Rose.....	21.00	15.22	trace.....	small amount.....	none.....	7.7
Cudahy Cudoma.....	8.79	19.76	none.....	small amount.....	none.....	8.9

Laundry Soap.

Kind	Moisture per cent	Ash per cent	Ash on dry basis per cent	Silica as soluble silicate per cent	Insoluble filler per cent	Caustic or free alkali	Borates	Comparative soap value calculated	Cost per pound cents	Actual price per pound cents
Kitcher Brown, Armour & Co.....	24.41	21.58	28.54	2.32	9.91	none	none	63.36	4.4	6.9
Johnson's Naphtha.....	26.03	15.11	20.42	1.37	0.1	none	none	72.50	5.2	7.1
Swift's Pride, large bar.....	28.04	15.61	21.78	2.84	0.44	none	none	68.68	4.8	6.9
Swift's Pride, small bar.....	25.46	15.60	20.92	2.91	0.48	none	none	71.15	4.5	6.3
Brag, Globe Soap Co.....	30.76	15.90	22.96	2.87	0.1	none	none	66.27	3.9	5.9
Kirk's Good Deal.....	28.10	16.01	22.26	2.15	0.27	none	none	69.48	4.9	7.1
Best Olive, Armour & Co.....	25.95	16.21	21.89	2.70	2.37	none	none	68.98	4.7	7.0
Special Merion Bar, Wadhams Oil Co.....	26.64	14.17	19.31	none	none	none	none	73.36	market	
"From prison".....	29.0	15.79			trace	none				

SAMPLES SUBMITTED BY AND ANALYSED FOR THE STATE BOARD OF CONTROL—Continued.

Sal Soda.

Manufacturer or Jobber	Per Cent Water Including Water of Crystallization	Per Cent Anhydrous Sodium Carbonate
O'Neil Oil & Paint Co.....	60.03	39.77
National Aniline & Chemical Co.....	63.37	36.67
B. J. Johnson Soap Co.....	62.24	27.61
Woldenberg & Schaar.....	61.26	38.59

Soap Chips.

Kind	Moisture per cent	Ash per cent	Silica in soluble silicates per cent	Insoluble filler per cent	Free alkali	Borates	Compara- tive soap value cal- culated	Price per pound cents
"From Prison".....	4.35	17.88		none	none			
"From Industrial School for Boys".....	15.17			trace	trace			
	6.34			2.0	trace			
	3.99			2.59	trace			
"From Northern Hospital.....	5.67			3.37	trace			
Paragon Oil & Supply Co's.....	5.29	22.53	3.77	6.61	none	none	84.33	5.5
Proctor & Gamble's O. K.....	5.04	17.18	0.37	0.35	none	none	93.24	6.88
Armour & Co's Flint.....	2.40	21.48	0.86	0.53	none	none	96.2	7.
Johnson's.....	8.43	29.39	5.64	6.23	none	none	79.7	7.25
Armour & Co's Topaz.....	5.21	25.82	3.53	3.93	none	none	87.33	5.5
Swift & Co's.....	2.20	17.79	trace	none	none	none	97.8	8.

Tar Soap.

Kind	Moisture per cent	Ash per cent	Ash on dry basis per cent	Silica as soluble silicate	Insoluble filler per cent	Caustic or free alkali	Cost per pound. Cents
Old Black Joe, Johnson.....	6.29	16.65	17.57	none	none	none	10.2
Raven Tar, Swift & Co.....	2.62	17.13	17.42	(some silica)	(some silica)	none	10.6
Glycerine Tar, Fairbanks.....	20.44	14.29	17.84	none	none	none	9.3

Toilet Soap.

Kind	Moisture per cent	Ash per cent	Caustic or free alkali	Silicates	Borates	Price per pound. Cents
Armour & Co's Fair Skin.....	8.19	17.58	none	none	trace	17.3
Johnson's Palmolive.....	8.73	17.07	none	none	none	26.
Swift's Maxine Elliott.....	8.82	16.71	none	small amount	none	23.

SAMPLES SUBMITTED BY AND ANALYZED FOR THE STATE BOARD OF CONTROL—Continued.

Washing Powder.

Kind	Moisture per cent	Ash per cent	Caustic or free alkali per cent	Soap	Sodium carbonate	Silica or a silicate	Cost per pound. Cents	Weight of powder in package	
								lb.	oz.
Johnson's.....	29.61	51.20	none	23.54	42.33	none	3.7	1	2 5-8
Kirkoline White.....	14.93	63.48	none	24.51	57.47	none	4.4	3	8 5-8
Gold Dust.....	37.98	44.35	none	21.77	40.17	none	4.6	3	10 3-4
Golden Rod.....	12.98	62.11	none	30.73	56.30	none	5.1	2	11 5-8
Swift's Pride.....	33.35	49.17	none	21.28	44.29	none	3.7	3	5 13-32
Victor.....	28.83	59.23	none	16.07	54.19	present	.....	2	7 11-32
Best 5c Lavo.....	32.07	55.43	none	10.69	53.75	present	3.1	1	7-8
Lively Sally.....	45.63	40.60	none	18.14	34.88	none	3.1	15	1-32
Hippo.....	12.73	86.31	none	3.46	84.69	none	3.4	13	7-8
N. K. Fairbanks.....	13.13	57.32	none	36.79	50.21	none	.....	.....	.....
"From State Home, Chippewa Falls"	9.14	33.0	none	.....	18.72	trace	.....	.....	.....

White Lead.

Sample from Industrial School for Boys found to be standard.

Wool Blankets.

Marked	Fiber	Color	Threads	Weight	Size
Cedarburg.....	Mere trace of cotton.....	Withstands washing.....	Up to specifications.....	3 lbs. 9 3/4 oz.....	7' x 5' 6".
Fairbault Woolen Mills Co.....	Contains 3.76% cotton.....	Withstands washing.....	Up to specifications.....	3 lbs.....	7' x 5' 1".
Boston Store.....	Contains 0.7% cotton.....	Withstands washing.....	Not up to specifications.....	2 lbs. 14 1/2 oz.....	6' 10 1/2" x 5' 11".
Wisconsin Woolen Mills.....	Contains 20.77% cotton.....	Withstands washing.....	Up to specifications.....	2 lbs. 13 oz.....	6' 6" x 5' 2".

SAMPLES SUBMITTED BY AND ANALYSED FOR THE DEPARTMENT OF WEIGHTS AND MEASURES AND THE UNIVERSITY OF WISCONSIN.

Five samples of coke were tested for the per cent of moisture for the weights and measures department and eight samples of soft soap, washing powder and sal soda were analyzed for the university of Wisconsin. The work done for the university of Wisconsin was for the purpose of determining whether or not the products analyzed were of standard quality.

SUBMITTED SAMPLES.

Date	Submitted for	Submitted by	Remarks
1915			
July 7	Maple syrup.....	Dr. W. C. Nason, Omro.....	No adulteration found. Tastes like soft maple.
July 19	Vinegar (3 samples).....	W. R. Bolse, Ft. Atkinson.....	All samples below standard in acetic acid.
July 19	Wine.....	J. J. McShane, Kenosha.....	Contained 7.52 % alcohol by volume.
July 20	Pablo.....	Attorney-General's Dept., Capitol.....	Contained 0.27% alcohol by volume.
July 26	Vinegar (3 samples).....	C. W. Loomis, Clinton.....	Samples 1 and 3 standard; sample 2 below standard in acetic acid.
July 28	Vinegar.....	Ansel Jones, Wonecaw.....	Below standard in acetic acid.
Aug. 6	Vinegar.....	J. F. Lindstrom, Beloit.....	Below standard in acetic acid.
Aug. 20	Vinegar.....	Ryan & Crowley, Janesville.....	Below standard in acetic acid.
Aug. 28	Distilled vinegar.....	M. G. McNamar, Whittlesey.....	Contains 7.44 grams acetic acid per 100 ccs.
Sept. 1	Honey.....	Geo. Stowell, Barron.....	Standard.
Sept. 21	Vinegar (2 samples).....	C. L. Gibbs, Pardeeville.....	Sample No. 1 standard; sample No. 2 not standard.
Sept. 28	Extract of vanilla.....	Geo. J. Weigle, Madison.....	Standard.
Oct. 20	Cider vinegar.....	F. Wendt, Waterloo.....	Below standard in acetic acid.
Nov. 5	Lemon extract.....	John J. Boe, Butte des Morts.....	Standard.
Nov. 5	Vanilla extract.....	John J. Boe, Butte des Morts.....	No adulteration found.
Nov. 5	Extract of peppermint.....	John J. Boe, Butte des Morts.....	Standard.
Nov. 9	Butter.....	Mrs. E. Wolff, Fond du Lac.....	No foreign fat present.
Nov. 26	Honey.....	E. G. Mueller, La Crosse.....	No adulteration found.
Nov. 29	Butter.....	Shurtleff Co., Janesville.....	No foreign fat found.
Dec. 3	Buckwheat flour.....	L. A. Rivedon, Woodman.....	No adulteration found.
Dec. 3	Buckwheat flour.....	Levi Sipher, Weyauwega.....	No adulteration found.
Dec. 9	Rennet extract.....	Chris. Bolchen, Richland Center.....	Mourad test showed the sample to be active.
Dec. 9	Creamery butter.....	A. J. Kull, Ashland.....	A rancid, stale product. No foreign fat found.
Dec. 10	Apple ade.....	H. Morgan, Madison.....	Tested for chemical preservatives, none found.
Dec. 13	Buckwheat flour.....	Lone Tree Farm, Green Lake.....	No adulteration found.
Dec. 17	Creamery butter.....	Zilisch Pure Milk Co., Madison.....	Below standard in butter fat.
Dec. 21	Honey.....	F. I. Lehmann, Mather.....	No adulteration found.

SUBMITTED SAMPLES—Continued.

Date	Submitted for	Submitted by	Remarks
1916			
Jan. 10	Olive oil.....	Ed. Nestingen, Sparta.....	No adulteration found.
Jan. 10	Olive oil.....	Ed. Nestingen, Sparta.....	No adulteration found.
Jan. 17	Butter.....	Mrs. Olga Zenk, Pulcifer.....	No foreign fat present.
Jan. 24	Butter.....	B. Barwig, Mayville.....	Found to contain 15.98 % of moisture.
Jan. 24	Honey.....	M. Martens, Coleman.....	No adulteration found.
Feb. 4	Buckwheat flour.....	Mrs. F. H. Hembrook, Chetek.....	No foreign starch present. Looked like last year's product.
Feb. 5	Butter.....	Mrs. A. Faucett, Walsh.....	Not standard. Contains foreign fat.
Feb. 8	Rye flour.....	Joe Katz, Osseo.....	No adulteration found.
Feb. 11	Butter.....	Shurtleff Co., Janesville.....	Below standard in butter fat.
Feb. 18	Creamery butter.....	Ed. Sherer, Waukesha.....	No foreign fat present.
Feb. 26	Vinegar.....	Neuman's Grocery, Appleton.....	Below standard in acetic acid.
Feb. 28	Butter.....	A. J. Kull, Ashland.....	No foreign fat. Pound package weighed 14 3-16 oz. Short weight.
Mar. 3	Honey.....	Henry Storzbach, Plainfield.....	Standard.
Mar. 6	Butter.....	A. J. Plowman, Elderon.....	No adulteration found.
Mar. 9	Lard.....	K. A. Bibbs, Madison.....	Standard.
Mar. 9	Lard.....	K. A. Bibbs, Madison.....	Standard.
Mar. 10	Salt fish.....	Remish & Freiburger, New London.....	Fish were soft and sample looked like very old, poorly kept stock.
Mar. 15	Butter.....	A. J. Plowman, Elderon.....	No adulteration found.
Mar. 15	Lemon extract.....	Beloit Tea Co., Beloit.....	Standard.
Mar. 20	Corn meal.....	M. E. Johnson, Amherst.....	Product had not been properly bolted.
Mar. 21	Confectioner's mixture.....	Dr. William Teich, Gresham.....	Contains 3.3 % of salt.
Mar. 22	Cherry Smast.....	Sprague, Warner & Co., Chicago.....	Not properly labeled.
Mar. 27	Sweet corn, can.....	Leslie Knock, Marion.....	Misbranded. Not labeled in compliance with law.
Mar. 30	Cheese.....	James H. Mitchell & Sons, Wake Forest, N. C.....	No adulteration found.
Mar. 30	Creamery butter.....	F. A. Fenner, Rice Lake.....	No adulteration found.
Apr. 2	Butter.....	R. G. Olp & Co., Manitowoc.....	No foreign fat present.
Apr. 3	Sausage.....	C. D. Geidel, Madison.....	Trichinae cysts, none.
Apr. 5	Powdered sugar.....	Mrs. L. Kahlenberg, Madison.....	Contained corn starch.
Apr. 12	Butter.....	John Geiger, Wauwatosa.....	No foreign fat found.
Apr. 20	Brandy.....	Wm. Bonncamp, Sawyer.....	Passed.
Apr. 22	Pablo.....	Attorney-General's Dept., Madison.....	Tested for percentage of alcohol.
Apr. 22	Maple syrup.....	Mrs. Leake, Marion.....	Passed.
Apr. 22	Maple syrup.....	F. E. Keating, Madison.....	Standard.
Apr. 28	Butter.....	W. Jackson Bell, Brooks.....	No foreign fat found.
May 3	Pablo.....	State Fair Board, Capitol.....	Tested for alcohol, none found.
May 18	Pork sausage.....	Emil Priebe, Milwaukee.....	Contains 48.8% moisture and 2.20% starch.
June 13	Vinegar.....	F. E. Wicke, Ft. Atkinson.....	Below standard in acetic acid.
June 18	Pork sausage.....	Emil Priebe, Milwaukee.....	Contains 50.37% moisture and 1.42% starch.
June 18	Pork sausage.....	Emil Priebe, Milwaukee.....	Contains 46.23% moisture and 3.43% starch.
June 18	Pork sausage.....	Emil Priebe, Milwaukee.....	Contains 51.70% moisture and 1.49% starch.
June 18	Pork sausage.....	Emil Priebe, Milwaukee.....	Contains 50.38% moisture and 1.88% starch.
June 25	Bologna sausage.....	A. Oertel, New Lisbon.....	Contains 5.22% starch.
June 27	Near beer.....	C. J. Smith, Viroqua.....	Contains 0.26% alcohol by volume.
June 27	Near beer.....	C. J. Smith, Viroqua.....	Contains 0.26% alcohol by volume.

TURPENTINE.
Turpentine—Standard.

Date	Purchased of
1915	
July 2	Kaufman Bros., Edgerton.
July 2	P. M. Ellingson, Edgerton.
July 3	Klein-Statz Co., Madison.
July 12	E. G. Dorethy, Maple.
July 20	Paul Schaller, Sparta.
July 27	H. Radloff, Richwood.
July 29	Plum City Mercantile Co., Plum City.
Oct. 21	F. E. Winn, Glenbeulah.
Oct. 22	Estes & Estes, Beloit.
Nov. 4	G. B. Gilbertson, Keyeser.
Nov. 10	The Persohn Co., Eagle River.
Nov. 10	Fielding & Sons, Mingong.
1916	
Mar. 8	Cornwall & Bunker, Turtle Lake.
Mar. 21	T. J. Zeisinger, Cornell.
Mar. 27	Beverly White, Maiden Rock.
Apr. 13	Sinaiko Bros., Mt. Vernon.
May 4	James Upjohn, Rib Lake.
May 5	Sell Bros. Hdw. Co., Wausau.
May 8	A. Ritger, Marathon.
May 10	B. G. Engstrom, Westboro.
May 22	Prehn-Stieber-Lang Hardware & Furniture Co., Wausau.
May 26	J. F. Schroeder, West Allis, R. 5.
June 1	Ed. Husloen, Beldenville, R. D.
June 14	L. W. Boettcher Hdw. Co., Birnamwood.
June 15	Chas. W. Fish Lbr. Co., Elcho.
June 27	Frank Wheeler, Neillsville, R. 3.
June 28	Laut & Abendschein, Schofield.

TURPENTINE—Continued.
Turpentine and Second Run Turpentine—Not Standard.
Adulterated with a Mineral Oil Product.

Date	Purchased of	Manufacturer or Jobber	Per cent of Adulteration Shown on Polymerization
1915			
July 7	Miller & Mattansch, Cream, R. D.	Atlas Oil Co., Cleveland	75.0
July 16	E. R. Lemke, Ringle	Central Linseed Oil Co., Omaha	66.6
July 23	*R. Andres, Tomah	Sanitary Turpentine Co., Chicago	62.0
July 23	R. Andres, Tomah	Sanitary Turpentine Co., Chicago	15.0
Aug. 5	Edward Husfloen, Lawton		100.0
Aug. 9	W. M. Froehlich, Merc. Co., Jackson	Standard Linseed Co., Cleveland	65.0
Aug. 16	*Kuhnke-Fitzgerald Co., So. Milwaukee	Standard Linseed Co., Cleveland	60.0
Aug. 16	Kuhnke-Fitzgerald Co., So. Milwaukee	Standard Linseed Co., Cleveland	28.0
Aug. 31	*Theo. J. Baraboo, Egg Harbor	Sanitary Turpentine Co., Chicago	65.0
Sept. 15	A. Zabolio Co., Genoa	Eastland Linseed Co., Cleveland	25.0
Oct. 6	W. J. Threinen, Kenosha	Fort Dearborn Varnish Co., Chicago	50.0
Nov. 27	Badger Turpentine Co., Wausau	Southern States Turpentine Co., Cleveland	66.66
Dec. 3	H. Smits & Son, Green Bay	Southern States Turpentine Co., Cleveland	70.0
1916			
Feb. 24	Nels Saalsaa, Argyle	Warren Refining Co., Cleveland	80.0
Mar. 16	Schauer Bros., Hartford	Chicago Paint Works, Chicago	
Mar. 23	Butler-Dietzler Hdw. Co.	Southern States Turpentine Co., Cleveland	34.0
Apr. 12	Settergren Hdw. Co., Baraboo		33.3
Apr. 20	Butler-Dietzler Hdw. Co.		26.0
Apr. 20	Trilling Hdw. Co., Menasha	Standard Paint and Oil Co., Cleveland	70.0
May 4	O. C. Callies, Wausau	Sanitary Turpentine Co., Chicago	20.0
May 4	Wm. Sell Hdw. Co., Wausau	Southern States Turpentine Co., Cleveland	21.0
May 4	Herman Schmidt, Wausau	O. C. Callies, Wausau	21.0
May 4	*Herman Schmidt, Wausau	Sanitary Turpentine Co., Chicago	49.0
May 4	F. Kurth, Wausau	Southern States Turpentine Co., Cleveland	62.0
May 5	O. C. Callies, Wausau	Sanitary Turpentine Co., Chicago	66.0
May 8	Lemmer Hdw. Co., Marathon	O. C. Callies, Wausau	11.0
June 6	Miller & Mattansch, Cream, R. D.	Winona Oil Co., Winona	12.0
June 8	E. H. Keplinger, Centuria, R. 2	American Turpentine Co., Cleveland	64.0
June 8	Jackson Hdw. Co., Menomonie		73.0
June 12	North Western Lumber Co., Stanley	Standard Linseed Co., Cleveland	20.0
June 20	Hopps Hdw. & Implement Co., Emery		52.0
June 20	Kutze-Senger Hdw. Co., Portage	National Linseed Co., Cleveland	58.0

*Sold for second run turpentine.

Turpentine—Misbranded.

Date	Purchased of
1916	
June 1	J. P. Holms, Milltown.
June 14	Roepke & Beversdorf, Birnamwood.
June 15	I. Jansen, Pelican Lake.
June 16	Wm. Blum, Mattoon.

**Wood Turpentine—Not Standard.
Adulterated with a Mineral Oil Product.**

Date	Purchased of	Per cent of adulteration shown on polymerization
1915		
Sept. 21	F. Geele Hdw. Co., Sheboygan.....	66.66
1916		
Mar. 10	F. Geele Hdw. Co., Sheboygan.....	25.0

TURPENTINE—Continued.
Turpentine—Submitted Samples.

Date	Submitted by	Remarks
1916		
Mar. 13	Kohlkepps Hardware Store, Eau Claire.....	Standard.
Apr. 25	R. J. Schanel, Madison.....	Standard.
May 5	Herman Smits & Sons Co., Green Bay.....	Standard.
May 15	Trilling Hardware Co., Menasha.....	Adulterated about 28%.
May 25	F. Geele Hardware Co., Sheboygan.....	Adulterated about 26%.
May 25	F. Geele Hardware Co., Sheboygan.....	Adulterated about 24%.
May 25	F. Geele Hardware Co., Sheboygan.....	Adulterated about 26%.

WHITE LEAD.

Date	Bought of	Labeled	Remarks
1915			
July 3	Klein-Statz Co., Madison.....	Strictly pure white lead. 92% lead, 8% linseed oil	Standard.
Oct. 29	Henry Made, Hurley.....	White lead.....	Not standard. Contains 71.7% of barium sulphate.
1916			
Feb. 11	Chetek Coöperative Merc. Co., Chetek.....	Lead.....	Not standard. Composed largely of barytes, 74%.
Feb. 24	K. N. Hollister, Delavan.....		Standard.
Mar. 20	F. H. Anderson & Co., Brooklyn.....	Strictly pure white lead.....	Not standard. Contains 7.4% of barium sulphate.
Mar. 27	A. Ritger, Marathon.....	Old Dutch White.....	Not standard.
Mar. 29	O. C. Callies, Wausau.....	Dutch Boy White Lead.....	Standard.
		Pure white lead..... 92 per cent	
		Pure linseed oil..... 8 per cent	
		Total..... 100 per cent	
May 16	Halbach Bros., Waterford.....	XXX White.....	Contains barium sulphate in large amount.
May 27	J. E. Elger, Waukesha.....	XXX White.....	Contains barium sulphate in large amount.
June 16	The Chetek Coöperative Merc. Co., Chetek.....	Lead.....	Contains barium sulphate in large amount.
June 20	Prehn-Stieber-Lang Hdw. & Furniture Co., Marathon.....		Not standard. A mixture of white lead, zinc white, calcium carbonate, calcium sulphate and magnesium sulphate.

Respectfully submitted,
HARRY KLUETER,
Chemist.

REPORT OF C. E. LEE, ASSISTANT DAIRY AND FOOD COMMISSIONER AND DAIRY SPECIALIST.

Hon. GEORGE J. WEIGLE,
Dairy and Food Commissioner.

Sir:—I hereby submit a report of my work for the year ending June 30, 1916. I have had charge of the work dealing with the inspecting of creameries, cheese factories, dairy and city milk supplies, and, since Jan. 1, 1916, with the licensing of operators of creameries and cheese factories and butter and cheese makers. I have checked all reports of inspectors, and kept in touch with the problems which are confronting the men in the field who are doing factory and dairy inspection work; inspected all of the creameries of Dane county but two, besides several factories located in territories in charge of regular inspectors. Early in the year assistance was rendered in preparing for publication two leaflets, one entitled "Leaflet for Dairymen" or "Helpful Suggestions for Improving the Quality of Butter and Cheese," and one entitled "Leaflet for Producers of Whey Cream." Later, assistance was given in formulating the license rules and regulations and suggestions relating to proper methods of operating butter and cheese factories.

The dairy inspection reports of several communities were tabulated, and a summary report of such findings was submitted to the factory serving said territory. These reports have been published by the factory men and distributed to the milk and cream producers. This work has been one of the means of informing the dairymen of the actual conditions on the farms where milk and cream is produced.

WORK OF THE INSPECTORS.

The inspectors have coöperated along all lines of activity that would result in an improved condition of the market milk, dairy, and the factory industry. During the fall and winter months a great deal of time was devoted to the inspection of the milk supply of the cities and dairy farms, and during the summer months factory inspection and the inspection of the milk and the cream offered for sale at these plants was the main field of activity. The active work dealing with the granting of licenses to operators of butter and cheese factories and the makers began April 17 and by June 30, 2,221 factory inspection reports had reached the office. It was found on first inspection that 35 per cent of the butter factory operators and 24 per cent of the cheese factory operators were complying with the license law and the rules and regulations. Where repairs or alterations of buildings were found necessary, an extension of time was granted.

Each one of the nine men in the field has a fixed territory to cover. The number of factories in operation determines the number of counties to be handled by an inspector.

CITY MILK INSPECTION.

The milk supply of various cities of the state was inspected by representatives of this department. A portion of this work was carried on in coöperation with health officers or local inspectors employed by the cities. The work of this department in the past has had a marked influence on the grade of milk and cream now being delivered to the consumer either by the dairymen or by dealers who obtain their supply from a large number of farms. In nearly all of the cities the consumers obtain milk that is free from adulteration, namely, no water has been added or fat removed by skimming or preservative added to increase the length of time that the milk may be kept without showing an excessive amount of lactic acid.

The problems dealing with the milk supply of the cities naturally vary with the season and local conditions. During that portion of the year when the cows are kept in the barn, practically all of the time, the sanitary condition of the barn, including cleanliness of the cows, light and ventilation of the barn, and the construction of the barn floors have a marked influence on the production of sanitary milk. At all seasons of the year the sanitary condition of all dairy utensils and the manner of handling the product until it is delivered must not be overlooked.

THE LARGER PROBLEM.

The most important problem dealing with the milk supply of the cities is sanitation and the manner of handling and distributing the product. In the larger cities of the state the improvement along these lines has reached a high standard because the number of persons, firms or corporations that distribute the product is small compared with the amount of milk handled. These large dealers have equipment for the washing and sterilizing of bottles that is not found in some of the smaller dairies. In the smaller cities of the state the consumers obtain their milk either from a neighbor's family-cow or from a dairyman who may sell the output of 5 to 20 cows; hence a more difficult problem to deal with. It is not to be inferred that these dairymen are more careless than the larger dealers, but the equipment as a rule is not such as to make it possible to properly sterilize the bottles and utensils without materially increasing the cost of production.

In one city the inspection of the entire milk supply delivered by the producers revealed the fact that all of the men operating 8 to 30 cow dairies were fairly well equipped to produce milk of high quality; barns were whitewashed and sanitary; the dairy house was provided with ample means of heating a large amount of water to be used in cleaning and sterilizing the bottles; a storage tank or refrigerator was provided for the proper handling of the milk until delivered. The smaller dairies, mostly located within the city, were poorly equipped, thus making it almost

impossible to produce milk of high quality. Three out of four of the parties operating these dairies felt that they would discontinue selling milk rather than comply with the laws relating to milk production.

DAIRY INSPECTION.

During the fall and winter months, a total of 1,772 dairy inspections were made. This work was distributed throughout the entire state, with the largest number of inspections in the counties of Dane, Jefferson, La Crosse, Monroe, St. Croix, Ashland and Dunn. Dairy inspection resulted in marked improvement in the production of clean milk for the cities; also a higher grade of milk and cream delivered to the creameries, cheese factories and the condenseries. It has also resulted in the erection on a number of farms of a suitable place where the milk and the cream can be properly handled until it is delivered. The dairy house also provides a place for the cream separator and all dairy utensils. Reinspections of dairies located in a certain locality revealed the fact that seven neighboring farmers had erected dairy houses.

In many sections of the state as the result of dairy inspection, new barns have been erected or improvements made on old structures in order that the cows may be housed in well-lighted and well-ventilated buildings. Improvements have been made in barn floors, thus making it possible for the dairymen to keep the cows clean whenever they are housed. A number of barns have been thoroughly cleaned and whitewashed. Clean barns, clean cows, clean utensils, are essential in the production of milk and cream of high standard.

The leading dairymen welcome inspection because it is the means of becoming informed on the dairy laws and how to obtain sanitary dairy products. They realize that dairy inspection creates a demand for milk, cream, butter and cheese; insures the purity of dairy products; increases the income from the dairy, and makes Wisconsin famous as a state where milk, cream, butter and cheese is made.

The two articles given below were the results of dairy inspections in two different creamery communities. The factory managements printed the material and distributed it to the patrons with the milk or cream checks.

THE FARMER AS A CREAM PRODUCER.

The State of Wisconsin is known everywhere as a place where a great deal of butter and cheese is made. The future success of this, the greatest of all agricultural activities, will in a large measure depend upon the farmer. The steady increase in land values and the price that the dairy cow will bring are dependent upon the quality of the dairy products. The farmer interested in cream and milk production knows that at present an amount equal to all of the creamery butter consumed in the United States on one day of each week is the product of Wisconsin farms and all the cheese consumed by the nation on three and one-half days of each week comes from Wisconsin.

Quality Must Count: A reputation based on quantity only is not on a dependable foundation. It would mean far more to the future of the Wisconsin dairy industry to be able to say to every consumer of butter that Wisconsin's dairy products represent the highest quality. It is impossible to make the kind of butter demanded by the consumer unless the product delivered to the factory is sweet and clean in flavor. The Wisconsin cow is doing her part in filling the pail with good milk twice a day, and if the milk were not left to the care of the farmer or his family, it would always make good butter.

A Great Dairy Center: One of the big factors influential in making—what it is today is the coöperative creamery. Close its doors and every business activity will suffer and land will not advance in value. This creamery is a monument to the cow and the people of the country. Its usefulness, however, can be greatly increased if all of its patrons will deliver the kind of cream that is being produced by twenty per cent of your neighbors. This is your problem and a great opportunity, not to be neglected.

For the first fifteen days of August, 119,194 pounds of cream that contained 27,921 pounds of butter fat were made into butter. (What kind of butter?) Some creameries in the state made butter that sold for fully one cent a pound above your product. You lost this extra cent or \$20 per day because quality was not there. This amounts to \$7,000 a year based on August output, and that is not all.

Wisconsin Dairy and Food Commission Studies Your Problems: Representatives of the Wisconsin Dairy and Food Commission early in July visited 103 farms and on September 2 examined nearly all of the cream that was delivered. Hence, the following statements are based on facts:

1. A very large per cent of the barns were poorly ventilated.
2. Too many barns did not have a sufficient number of windows. One barn having stalls for ten cows had one small window and that was partly covered up.
3. Only 14 out of 103 barns had ever been whitewashed. This seemed impossible in such a great dairy section. Whitewash is not expensive nor difficult to apply. It is work for a rainy day. It removes the cobwebs, lightens the dark corners, and increases the value of your barn and your cows. One barn in your vicinity should be visited by every dairyman. It is an ideal place and one to be proud of.
4. Only 45 out of 103 barns had concrete floors. Too many had nothing but dirt floors.
5. Too many separators were placed in the barn and too many separators were not properly washed.
6. On many farms the cream was not properly cared for. The cellar is not, as a rule, the place to store cream.
7. The tank of cold water as a place to cool cream was not found on many farms.
8. Too much skim milk is hauled away from the farm in cream that is too thin. This is a great loss.

9. For the first fifteen days of August, the creamery received 34,575 pounds of skim milk that was worth 30 cents per 100 pounds. That is, the 27,221 pounds of butter fat could have been delivered in 84,619 pounds of cream instead of 119,194 pounds. The thin cream increased the cost of operation and loss of fat in the butter-milk besides lowering the quality of the butter. In July, 34 of the farmers that delivered their own product or had it delivered by their neighbors skimmed cream testing 15 per cent to 19 per cent. Dairy men, what does that mean to you in loss of cash? Another 125 men delivered cream testing 20 per cent to 24 per cent and only 12 delivered cream that tested 30 per cent and higher. The cream from 205 farms delivered to the creamery in the cream hauler's wagon was richer in fat. Only 14 tested under 20 per cent and one out of every five tested over 30 per cent. One lot of cream tested 39 per cent.
10. Do a little figuring and it will be found that fully \$10,000 a year is lost to the cream producer in the vicinity of _____ on account of thin cream.
11. Skim cream that will test 30 per cent to 40 per cent and a great loss will turn to increased profits from the dairy.

Some Cream was Fine: Some of the cream that was delivered on September 2, was of very fine quality, while some was of very poor quality. The tainted cream as well as the clean-flavored article seemed to come in groups; that is if one farmer brought the product of four farms it was all good or all poor. Clean flavored cream is the result of extra efforts—clean pails and cans, milk skimmed in a clean separator, and an abundance of cold water in the storage tank. Cream cooling tanks can be bought from the dairy supply houses or from the creamery. Dairy men, this is your problem. Read the inclosed leaflet issued by the Wisconsin Dairy and Food Commission. S. J. Dufner, Sparta, is the inspector for your territory.

Inspection of _____ Creamery
of _____

by

JAMES VAN DUSER, Inspector
Wisconsin Dairy and Food Commission

June, 1915

The report indicated that some eighty-one different farmers delivered cream, and two milk. The factory was found in good repair and in clean condition. A total of seventy-seven different patrons of this factory were visited and the following comparisons were made from these reports. These facts are interesting and did in a very large measure indicate that the farmers were interested in the production of good, wholesome cream. Some small improvements could be made on a large number of the farms and some radical changes on a few.

The Responsibility Rests with the Farmers: It was found that on fifty-three per cent of the farms the separator was washed only once a day. Seventy per cent of these farms had milk houses. The others used the kitchen, cellar, tobacco shed or the barn as a place to house the separator. In the group of farms where the separator was washed twice a day, 80 per cent had dairy houses. In a few cases the dairy or milk house was used as a general storage room. It is well to remember that the milk house should be used only to store the milk, cream, the separator, and the dairy utensils. The pails used in feeding the calves or pigs should not be found in this room, unless they are thoroughly cleaned each day. On a large number of farms where conditions were not up to standard, the dairies were small. The largest patron of the factory was given a report showing that the dairy house was clean, the barn was well lighted, in clean condition and in good repair. This man, however, did not take the time to wash the separator twice a day.

Facts About the Barn: The barns were divided into three groups, namely: 43 per cent of the barns had concrete floors; 52 per cent plank floors; 5 per cent kept their cows in barns having ordinary dirt floors. Fifty-two per cent of the concrete floors were in clean condition; 6 per cent were dirty and 42 per cent in passable condition. Forty per cent of this group of barns had been whitewashed. In the group of barns having plank floors, 50 per cent were in good repair and one-half of these were kept clean, while in the barns where the plank floor was in fair, poor, or bad repair, not a single one was reported as being clean. Some were in a passable condition. Only 17.5 per cent of the barns with plank floors had ever been whitewashed.

If the few farmers who patronize this factory and produce cream under conditions that are not desirable, would change to the better method, a higher grade of butter would naturally be the result. Now is the time to repair the floor and to apply the whitewash to the interior of the barn. The separator should be washed twice a day and the cream cooled at once by placing the can in a tank of cold water.

It is the object of the Wisconsin Dairy and Food Commission to assist the dairymen to produce an article which when manufactured into butter will bring the highest market value. Can we not count upon each one of you to aid us in making Wisconsin's butter the best butter!

FACTORY INSPECTION.

The license law relating to the operators of creameries and cheese factories became effective Jan. 1, 1916. For the six months ending June 30, 1916, 2,303 cheese factory and 893 butter factory operators had applied for licenses to manufacture either butter or cheese. There were 2,274 cheese makers and 874 butter makers that had applied for licenses to make cheese or butter. Out of this number, licenses were granted by June 30, to 382 cheese factory operators and to 226 butter factory operators, to 905 cheese makers and to 368 butter makers. As stated, the active work of inspection dealing with the granting of licenses began April 17. The inspectors found that a large percentage of the men

that were holders of permits to operate factories showed a willingness to comply with the law and the license rules and regulations. To many this problem was a new one and they felt that no repairs or alterations of buildings should be undertaken until the first visit of the inspector; hence, an explanation is offered why some of the factories inspected were not granted licenses on first inspection.

The results obtained by inspection of factories since the license law became effective has been nothing less than marvelous when speaking of the factory industry as a whole. Everywhere it can be readily seen what has been accomplished. It has not only meant the remodeling and repairing of old factories, but in a number of cases new factories have been built. One large cheese dealer remarked "We have for years realized that something should be done to make the cheese factories more suitable, but we are powerless in convincing the farmers who own these buildings that it should be done. The state Dairy and Food Commission certainly came to our rescue and in a very short time brought the desired result." A creamery manager stated "I speak for the officers and the entire community when I say that the new factory in process of erection is the result of the licensing law." Several factory operators have expressed appreciation of the work of the inspector backed by the license law rules and regulations, because it was the means of pointing out improvements that should be made that prior to the law could not be demanded. A clipping that appeared in a local paper of southern Wisconsin read: "We recently visited—creamery and noted the fine improvements which had been made by the use of genuine enamel. The walks of the creamery are yellow with a gray or slate border. The pipes are covered with black enamel. It is creditable to both the proprietor and the artist and is an excellent advertisement of one of the best factories in Wisconsin."

It is generally conceded that the licensing law and the manner in which it has been administered marks a new epoch in the factory industry of the state. The spirit of coöperation manifested by both the factory operators and the makers in bringing about the desired results has been very good.

FACTORY SANITATION.

In handling dairy products, no phase of the work is more important than maintaining all utensils with which they come in contact in a sanitary condition. The factories to be in such repair and so equipped as to make it possible to easily maintain at all times perfect cleanliness and the factory should be in charge of a person who is an example of high standards. The license law has in a large measure accomplished what is set forth in the above statements.

EDUCATIONAL WORK.

A great deal of good work has been done and splendid results obtained by the educational work carried on by the department to further the dairy industry of the state. There has been a large demand for men to address meetings of farmers, butter makers or cheese makers. Personally I have

addressed sixty-four community gatherings or conventions. In most cases these meetings have been arranged by men of the community who have been directly or indirectly interested in the quality of the butter made. No one can estimate the good accomplished by this work. It has given to the department an opportunity to reach a large number of farmers and explain to them the dairy laws and the part that they must play in holding up the standard of Wisconsin dairy products. At these sixty-four meetings approximately 12,500 people, mostly from farms and factories, have been reached. The interest shown has been remarkable. At Rudolph in Wood county, as an example, 300 farmers were in attendance. After two hours they requested that the meeting be continued for another hour. At Wheeler in Dunn county, at the close of a well-attended meeting, a farmer asked the man in charge of the work if a second meeting could not be held in the very near future. At that second meeting, held three months later, a farmer said: "When I attended the meeting last March, I had my plans for the new barn completed, and the material ordered, but I learned that the new barn would be short on light and ventilation; consequently the barn is now being erected with 32 windows in place of 16." One farmer even in the cold of winter put in additional windows in his barn.

The man in charge of the agricultural school of that county also arranged for twelve meetings in one week and six later in the season. He expressed his views in a letter to the department: "More work has been accomplished toward cleaning up barns and separators, toward the cleanliness and care of dairy products, toward getting separators out of the barns, than has been done by all the dairy forces of the state during the time I have been here, which has been three years. The butter makers of the creameries in our section frankly admit that conditions are better than they ever have been." Another case where educational work backed by police power had its good effect, is brought out by the following statement: "We were in poor standing on account of the poor quality of cream, and consequently we were not receiving a very high price for our butter. This man got the farmers interested by giving them a good talk on the necessity of producing a good quality of raw material and he worked with us as he has done all over the state and now we are receiving one cent per pound over top Chicago for some of our butter."

A year's work in the Dairy and Food Commission has shown that in a large measure greater results are obtained by men doing educational or extension work when it is understood that the worker has *police power*. This applies not only with efficiency in the handling of the product at the farm and the factory, but to all questions dealing with the improvement of the product. Primarily, the work of this office is to secure law abidance and to acquaint the people with the law, but in doing so education must be the initial step. A large number of the farmers of the state do not understand the law, nor are they familiar with proper methods to follow in order to deliver to the factory a good article. Hence, no greater work can be done than to point out to these people the part that they must have in the future quality of dairy products. The farmers as a class will do better work when they understand fully what is expected of them.

QUALITY OF WISCONSIN BUTTER.

A goodly percentage of Wisconsin's creamery butter is of high quality and of such grade that it passes as good table butter. A number of factories market their entire output in weekly shipments without receiving a single unfavorable comment from the consumer or the dealer. There are, however, some creameries whose entire output is not of the quality that is a credit to the state or the industry. Here and there improvements have been made, mainly because the cream producers were taught how to care for their product or better methods were employed in getting the product from the farm to the factory, unfair competition was reduced and better factory methods were employed. In a measure factory operators depend upon the state to render assistance and bring about results that must come sooner or later to meet the demand that is made upon Wisconsin for good butter. Efforts put forth along these lines have brought results.

The 1915 State Fair exhibit and the State Convention butter entered in February, 1916, demonstrated clearly that good butter is made in those factories where good, clean-flavored milk and cream are received and the factory is in charge of a skilled operator. The State Fair exhibit received from 139 different factories consisted of 71 tubs that scored 93 to 96.83 with 31 or 32 per cent scoring 95 and higher. Fully 80 per cent of the butter was of sufficiently high quality to meet the demand of the consumer.

The education of the cream producers always counts for advancement. From one county in northwestern Wisconsin, six lots of butter were received at the State Fair. Only one scored below 94.66. At several of these plants the patrons deliver the cream six times per week. It is no wonder the butter from this county is in demand by the best markets of the country. In two adjoining counties, as an example of what education will do, these facts are presented: In the county where nine different meetings were held with a view of informing the cream producers of the part they play in good butter production, four lots of butter were entered at the State Fair. Only one tub scored below 93. In a county with nearly the same conditions prevailing on the farms, five exhibits were made with only one scoring above 92.

QUALITY OF BUTTER RECOGNIZED.

A great deal of Wisconsin's best butter receives recognition on the markets of the country either through the regular channels or through special markets. One firm handling both milk and butter in Chicago buys nearly the entire supply of butter from Wisconsin factories. Their aim is to receive a product that is uniform in flavor and make-up and of such high standard as to satisfy the most critical trade. These creameries must conform to certain regulations as to the quality of the raw material and method followed in the manufacture of the butter. At different times, unbeknown to the factory men, the product is scored by a representative of the firm or by some person they may select. On four different occasions five one-pound prints of butter representing as many different days' make were packed at the Chicago office and shipped to Madison

with the request that each lot be given a score. For the month of December a total of 85 prints from 17 different factories was scored. The average score for each factory is presented in the December column of the table.

SCORES OF WISCONSIN BUTTER SOLD TO CHICAGO CONSUMERS IN ONE-POUND PACKAGES WRAPPED AT THE FACTORY AND DELIVERED BY THE DEALER.

Each score in the first four columns represents the average of five different churnings.

Monthly Average Score.

Factory No.	Dec.	Jan.	Feb.	June	Factory Average
1.....	94.7	94.3	94.7	94.0	94.4
2.....	94.7	94.8	93.5	93.0	94.0
3.....	93.0	92.3	94.2		93.1
4.....	92.8	93.8	92.3	92.7	93.9
5.....	92.1	92.9	93.2	91.3	92.3
6.....	95.1	95.1	95.0	94.8	95.0
7.....	95.5	93.9	93.9	95.0	94.6
8.....	95.5	94.8	94.6	94.5	94.8
10.....	93.8	93.7	94.2	92.0	93.4
11.....	95.0	94.5	93.4	93.2	94.0
12.....	95.0	95.0	93.5	92.6	94.0
13.....	94.6	94.4	94.0	95.4	94.6
14.....	92.6	93.5	92.7	91.4	92.5
15.....	95.0	94.2	93.5	92.7	93.8
16.....	93.0	93.4	92.6	91.2	92.5
17.....	94.6				94.6
18.....	94.8	94.6	93.5	93.8	94.1
19.....			95.0	96.0	95.5
20.....				95.0	95.0
21.....				95.5	95.5
Average.....	94.2	94.0	93.7	93.5	93.9

The average score for the 85 churnings for December was 94.2. The 16 factories in January, 94.0, 17 factories in February, 93.7 and the 18 in June, 93.5. The average score for the 340 churnings of butter was 93.9. Note the uniformity for each factory for the four months. The firm stated that they realized that a few of the factories were not making as high a grade of butter as the majority. Factories numbered 5, 14, and 16 did not receive as high a grade of raw material as was received at factories numbers 6, 7, 8, etc. Others should work for the same standards.

STATE BRAND FOR BUTTER AND CHEESE A NECESSITY.

There is a great need of a state brand that can be placed upon the butter and the cheese of high quality in order that the consumer may know that the product so marked indicates superior quality as compared with the product not so marked. A state brand should be used only by such factories as conform to certain rules and regulations. A state brand would be one of the most effective means of raising the standard of a great deal

of Wisconsin's butter that is now of fairly good quality, but at the present time not given recognition above the inferior goods that reaches the consumer. Nearly all of the prominent dairy countries of Europe have some form of state or national trade-mark for all the butter manufactured for export trade. The state brand for butter has been adopted in this country by Iowa, Michigan and Minnesota. Wisconsin should give recognition to a similar brand based on superior quality and standard of manufacture.

PER CENT OF FAT IN THE CREAM TOO LOW.

The total income from the creamery industry of the state is greatly reduced on account of the tendency on the part of a large number of cream producers to offer for sale to the creameries a product that contains less than 30 per cent of butter fat. In a measure the creamery men have been helpless to cope with the situation. Therefore, the state should pass some measure which will regulate this problem. At some factories the average per cent of fat in the cream does not greatly exceed 20 per cent. It is very difficult to properly handle this cream both at the farm and at the factory. With the care that the cream now receives at the farm, the quality of the butter would be higher if the average per cent of fat in the cream delivered to the creameries averaged 30 per cent. The richer cream leaves more skim milk at the farm, less cream to transport from farm to factory, and reduces the cost of factory operation. It would make it possible to manufacture butter from nothing but pasteurized cream, and avoid the excessive loss of fat in the butter milk when cream slightly excessive in acid is pasteurized.

At one Wisconsin factory in April of this year, 130 or 41 per cent of the 312 patrons delivered a product that contained from 9 to 17.5 per cent butter fat. For the year 583,000 pounds of skim milk would have been saved at the farm for feeding purposes while sweet, had the cream contained an average of 30 per cent fat in place of 20.4 per cent. The thin cream problem is one of the vital factors in the future progress of the creamery industry of the state. The total loss under present conditions cannot be accurately determined, but in the aggregate is no small sum.

COUNTY INSPECTORS.

The various inspectors regularly employed by this department cover the entire state in their work. The territory for each inspector is so large that most of the time is devoted to inspection work. Thus very little time remains for so-called educational work or assisting the maker or operator in overcoming certain factors that deal with quality. Law enforcement is an important problem but a great deal of good can be accomplished by rendering assistance when quality is at stake. This would be the means of greatly increasing the income from the dairy industry. A law should be passed giving power to this department to appoint county inspectors when the factory men of the county have decided to have such an inspector—the entire matter to be optional with the county or group of counties. (The county inspector to be employed by the factory operators of the county but under the supervision of this department in order to convey police power.)

WHEY CREAM PRODUCTION.

The production of whey cream should be encouraged because it is a highly valuable by-product of the cheese factory that can be converted into a source of revenue. This cream can be either churned at each cheese factory where it is produced and the butter sold to the patrons who produced the milk, or it can be sold to a central churning point. Greater efforts must be put forth by the men directly responsible for the quality of this product, as to the manner in which it is handled. Very frequently in the past whey cream has been held until the flavor had become injured and a low grade of butter was the result. Creameries located in a cheese factory territory or those receiving cream shipped by rail get this whey cream and mix it with the product obtained from the skimming of milk or cream produced on the farm. Thus they lower the quality of the entire output. Since whey butter is not a product of the creamery industry, and not at the present time so handled as to result in butter of clean flavor, yet entering into competition with creamery butter, it is no more than just to the consumer and the creamery industry, that steps be taken to bring about improvements.

THE CREAM BUYING STATION.

In the less populated districts of northern Wisconsin, the cream buying station has its place. It is the only direct method that can be employed to give the beginner in dairying an opportunity to exchange the product from the dairy, in the form of cream, and obtain the needed cash to buy household necessities, etc. In fact, the cream buying station is the forerunner of the creamery and the cheese factory, and in a large measure is one of the factors that has yielded an influence in the agricultural development of the northern portion of the state. There are, however, localities where the cream buying station is a detriment to the quality of the butter, because it is operated in cities and towns where a well established creamery is located. In some places there are two cream buying stations and one creamery when the creamery could handle the entire output of the community at less cost to the dairy men. A number of these stations are only temporary, and not always located in a suitable place or in charge of men who fully realize the importance of accuracy in the operation of the Babcock test, and the proper methods of handling the cream.

In justice to the creamery and the cheese factory industry, the cream buying station should be placed under the control of the Dairy and Food Commission on a basis similar to the factory industry. These stations should be licensed by this department and not by the local board of health. The rules and regulations under which they should be permitted to operate should not be unreasonable, but so drafted as to secure uniformity in operation. It should never be said that the quality of the cream is not under control of the creamery because of competition between cream buying stations or a creamery and a station.

Respectfully submitted,

CARL E. LEE,
Assistant Commissioner and Dairy Specialist.

**REPORT OF E. L. ADERHOLD, ASSISTANT
DAIRY AND FOOD COMMISSIONER.**

HON. GEORGE J. WEIGLE,

Dairy and Food Commissioner.

Sir: I herewith submit my report for the year ending June 30th, 1916, as assistant dairy and food commissioner:

PROGRESS.

In some sections there is a marked improvement since last year in equipments for whey cream production. Holding-vats of tinned metal have been installed in place of those made of materials less suited to the handling of dairy products. Rooms were provided for holding-vats that are cleanable, bright and ventilated.

For conducting whey that is to be skimmed, the unsuitable iron pipes and fittings were replaced by the SANITARY type of pipes and fittings. With the improvements in these equipments the care of the same has also improved, so that unclean vats or pipes are now the exception.

However, much of the whey cream goes to market impaired in quality because of neglect to properly cool it.

WHEY TANKS.

At brick cheese factories whey tanks, with some exceptions, have been kept in fair to good condition. A very large number of manufacturers of American cheese had never given their whey tanks proper care. In many cases these tanks were foul most of the time.

Considerable improvement was noticeable this year in the care of whey tanks.

MEETINGS.

During the year I made addresses at fifty-one dairy conventions and farmers' institutes, discussing the production of high quality milk and cream, barn sanitation, and assisting in the planning of barn improvements.

In my annual report last year, referring to such meetings, I stated: "I consider this feature of my work the most beneficial of all." I desire again to emphasize the value of that part of my work.

LICENSE LAW.

The legislature of 1915 enacted a law which provides for the licensing of butter makers, cheese makers, and operators of butter and cheese factories. This law makes it the duty of the dairy and food commissioner to prescribe rules and regulations governing the licensing of factory operators, and makers, and to furnish in printed form "suggestions relating to proper methods of operating butter and cheese factories."

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Considerable of my time was employed assisting in drawing these "Suggestions" and "Rules and Regulations" which, together, are educational in character and should go a long way in establishing standards as to factory construction, equipment, arrangement, methods of management and, incidentally, a standard of training for the helper—the future maker.

At this writing, the first inspection under the license law is in progress. Indications are, that where factory conditions are faulty, the operators will respond by making the necessary improvements, and that by the end of the year it may be truthfully said that so far as improvements in Wisconsin cheese factories and creameries is concerned, 1916 was the banner year.

Respectfully submitted,

E. L. ADERHOLD,

Assistant Commissioner.

REPORT OF FRED P. DOWNING, CHIEF INSPECTOR OF WEIGHTS AND MEASURES.

Hon. GEO. J. WEIGLE,

*Dairy and Food Commissioner, ex officio State Superintendent of
Weights and Measures.*

Sir:—I hereby submit a report of the work done by both the state and city departments of weights and measures for the year ending June 30, 1916.

PURPOSE.

The weights and measures department controls a feature of the work of the dairy and food commission which has no relation whatever to the health of the people of the state but which is immensely important as an economic question. Business cannot be conducted fairly unless the scales and measures used in trade tell the merchant how much he is selling and the consumer how much he is getting, and the chief function of the department consists in furnishing equal protection under the law to both buyer and seller. In the accomplishment of this object the work of the department has broadened out along four different lines which may be classified as follows: Mechanical, Inspectional, Regulative, Educational.

MECHANICAL FEATURE OF WORK.

The mechanical side of the work of the department consists, first, in maintaining the standards of the state in good condition; second, in the inspecting, testing and adjusting of the infinite variety of scales, weights and weighing and measuring devices used in business. A knowledge of the more important principles of scale construction is required for the successful accomplishment of this work. The maintaining of the office

and field standards in excellent condition necessitates a good understanding of the methods of calibration of both weights and capacity measures. The perpetuation of our standards is a very important matter and has received altogether too small an amount of consideration by many departments of weights and measures.

Brass, iron, steel, aluminum and other metals used in the manufacture of weights are all acted upon by the elements. Corrosion of these metals, combined with wear through handling, has a marked action on their value. The rough handling and exposure of commercial weights introduce greater changes in the value of the weights than is possible in the case of weights used by inspectors. Even the office standards of the department will change slightly and once in every ten years the same are sent to Washington to be compared with the standards in the possession of the United States government.

Many people are not aware that the fundamental standards of the United States government are metric units. Since April 5, 1893, the international meter and kilogram now in the possession of the United States Bureau of Standards have been regarded as the fundamental standards of length and mass both for the metric and customary weights and measures. The primary standards of the state kept in the office of weights and measures at Madison consist of sets of metric and customary units of both mass and volume. These standards all bear the seal of approval of the United States Bureau of Standards. The working standards used in the office are checked against the primary standards, and the inspectors' standards are at stated intervals compared with the working standards. By the above method the accuracy of commercial weights and measures is maintained. The work of maintaining the standards of the state in good condition is carried on both in the office and in the field. The most careful work is done on the delicate office balances provided for that purpose. At stated intervals the inspectors' standards are tested in the field, a portable scale and outfit having been provided.

The most burdensome part of the work of the inspector consists in carrying about the outfit for testing scales. This outfit weighs about 1,200 pounds and when the large scales are tested necessitates the use of a conveyance. The testing of the small scales is done without a conveyance. The value of the work of the inspector is increased by his ability to make adjustments and slight repairs when the same can be done with but little loss in time. Frequently 15 to 30 minutes of the inspector's time spent in adjusting scales in the small country towns will save the state the expense of a second trip.

PERCENTAGE OF INACCURACIES.

The percentage of inaccurate appliances is gradually decreasing from year to year, but the numerous defects in new as well as old scales are a constant reminder that the inspection must be periodical. In 1914, seventeen per cent of the computing scales tested were found to be incorrect. In 1915, this number was reduced to eleven per cent and for the year 1916, it was lowered to eight per cent. In addition minor adjustments were made by inspectors on twenty per cent of these scales

in 1914 and 1915 and twenty-three per cent in 1916. It is a very easy matter for computing scales to get out of adjustment and a frequent inspection of these scales is absolutely necessary.

In 1914, forty-five per cent of the wagon scales tested were found to be incorrect. In 1915, this number was reduced to thirty-seven per cent and in 1916, still further to twenty-three per cent. In addition minor adjustments were made by inspectors on eight per cent of these scales in 1914 and seven per cent in 1915 and 1916.

In 1914, twelve per cent of the weights tested were found to be incorrect. In 1915, this number was reduced to seven per cent and in 1916 still further reduced to five per cent.

In 1914, twenty-one per cent of the liquid measures tested were found to be incorrect. In 1915 this number was reduced to fourteen per cent and in 1916 increased to fifteen per cent. This increase in the percentage of condemned liquid measures during the past year is due partly to the requirement prohibiting the use of measures made from too light material.

In 1914, seventeen per cent of the measuring pumps tested were found to be incorrect. In 1915 this number was reduced to ten per cent and in 1916 increased to twelve per cent. In addition inspectors of this department adjusted twenty-seven per cent of the pumps tested in 1914, nineteen per cent in 1915 and twelve per cent in 1916. Automatic measuring pumps for gasoline have been found to be very unreliable and it is advisable for every user to have a sealed gallon measure in his possession and make frequent tests of his pumps for his own protection.

The recent rise in the price of gasoline has brought particular attention to gasoline measuring pumps. Results of the tests in the field indicate that pumps in service show a decided tendency toward undermeasurement, this being due to the fact that nearly all of the defects of construction or installation tend to produce errors in this one direction. These include leaks of air and liquid, retention of liquid by the hose, vapor formation consequent upon excessive suction head, failure to complete the full stroke, and slippage of liquid past valves and piston.

Piston measuring pumps which have been standing unused for a considerable length of time should always be operated for one or two strokes to eliminate the first stroke short delivery which often occurs on account of valve leakage, vaporization or thermal contraction.

In 1915 twenty-six per cent of the prescription graduates tested were found to be incorrect. In 1916 this number was reduced to fourteen per cent. All inaccuracies in prescription graduates are due to defective graduations on the part of the manufacturer. Wisconsin is the first state to take up a systematic inspection of prescription graduates.

The total number of weighing and measuring appliances tested for the year by state inspectors of weights and measures in 13,523 places of business is 139,898 and of this number fifteen per cent were found incorrect.

The total number of weighing and measuring appliances tested by the thirty-six city departments of weights and measures for the year 1916 is 131,377, of which number five per cent were found incorrect.

The total number of office tests for the year 1916 is 30,310 as against 73,222 for the year 1915. The great reduction in office tests is due to the passage of a law by the legislature of 1915 which relieved the department

of the necessity of testing Babcock milk and cream test bottles and milk pipettes. This law placed the manufacturer of these bottles and pipettes under a \$1000 bond to make the same to comply with the requirements of the state department of weights and measures both as to accuracy and type. Its passage has enabled the department to devote its energies to other matters and has removed from its shoulders an unnecessary burden. The state department still tests new cream test scales and weights at the office in Madison, thus preventing inaccurate appliances from going out into use. Over sixteen per cent of the new cream scales tested were found incorrect.

The total number of tests made for the entire state for the year 1916 is 301,585, of which number 131,377 were made by the city departments. The city department of Milwaukee alone made 65,201 inspections. For a full report of the appliances tested by the state and city departments of weights and measures reference should be made to the various tabulations in this report.

SUMMARY OF FIELD INSPECTIONS MADE BY INSPECTORS OF STATE WEIGHTS AND MEASURES DEPARTMENT, JULY 1, 1915, TO JUNE 30, 1916.

Instrument	Scaled	Per cent scaled	*Ad-justed	Per cent adjusted	Con-demned for repairs	Con-demned	Per cent condemned for repairs and condemned	Total
Scales:								
Counter.....	4,802	90.9	342	6.4	296	186	9.1	5,284
Hopper.....	288	90.8	37	13.2	17	1	9.2	306
Suspension.....	183	88.8	16	7.7	17	6	11.2	206
Computing.....	3,786	91.9	886	23.2	310	22	8.1	4,118
Wagon.....	1,795	74.6	180	7.3	582	62	23.4	2,439
Portable platform.....	5,955	90.2	542	8.2	501	143	9.8	6,599
Dormant.....	772	87.9	44	5.	97	9	12.1	878
Spring.....	1,339	59.4	90	4.	237	676	31.6	2,252
Torsion.....	662	89.4	4	0.5	62	17	10.6	741
Beam.....	381	85.1	6	1.3	34	44	14.9	459
Slot machine.....	18	90.	5	25.	1	1	10.	20
Miscellaneous.....	23	62.1	1	2.7	10	4	37.9	37
Total scales.....	(20,004)	(85.7)	(2,151)	(9.1)	(2,164)	(1,171)	(14.3)	(23,339)
Dry measures:								
Dry measures.....	237	84.6	0	0.	1	42	15.4	280
Liquid measures.....	20,955	84.4	20	.08	175	3,685	15.6	24,815
Presc. graduates.....	2,231	85.9	0	0.0	0	365	14.1	2,596
Automatic pumps.....	2,823	87.6	521	16.1	364	35	12.4	32,22
Linear measures.....	7,036	94.5	480	6.4	265	141	5.5	7,442
Weights.....	65,501	94.9	2,193	3.1	1,192	2,345	5.1	69,038
Milk test bottles.....	174	3.	0	0.	0	5,525	97.	5,699
Cream test bottles.....	0	0.	0	0.	0	3,223	100.	3,223
Pipettes.....	46	18.4	0	0.	0	198	81.6	244
Totals.....	119,007	85.	5,365	3.8	4,161	16,730	15.	139,898

* The appliances adjusted have been sealed and in figuring totals are included in the "Sealed" column.

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OFFICE TESTS OF STATE DEPARTMENT OF WEIGHTS AND MEASURES, JULY 1, 1915, TO JUNE 30, 1916.

Instrument	Sealed	Condemned for repairs	Condemned	Total
Cream test scales.....	111	20	2	133
Cream weights.....	460	12	2	474
Cream test bottles.....	12,620		428	13,048
Milk test bottles.....	13,204		623	13,827
Milk pipettes.....	1,654		763	2,417
Miscellaneous.....	358	3	50	411
Total.....	28,407	35	1,868	30,310

SUMMARY OF TESTS MADE BY CITY SEALERS FROM JULY 1, 1915, TO JUNE 30, 1916.

City	Sealed	*Adjusted	Condemned for repairs	Condemned	Total
Antigo.....	805	166	6	14	825
Appleton.....	2,219	56	48	78	2,345
Ashland.....	852	152	14	128	994
Baraboo.....	1,089	122	12	117	1,218
Beloit.....	1,692	63	9	71	1,772
Chippewa Falls*.....	966	189	87	129	1,182
Eau Claire.....	1,387	37	109	61	1,557
Fond du Lac.....	1,497	13	43	25	1,565
Grand Rapids.....	730	106	6	44	780
Green Bay.....	6,413	362	127	278	6,818
Janesville.....	1,973	16	5	13	1,991
Kenosha.....	1,525	22	20	65	1,610
La Crosse.....	2,100	55	1	82	2,183
Madison.....	4,790	189	62	221	5,073
Manitowoc.....	2,214	175	0	1	2,215
Marinette.....	1,091	65	19	41	1,151
Marshfield.....	806	103	2	42	850
Menasha*.....	260	23	0	5	265
Menomonie.....	617	31	0	1	618
Merrill.....	1,097	0	4	75	1,176
Milwaukee.....	63,051	4	1,653	497	65,201
Neenah.....	714	9	0	12	726
Oconto.....	30	0	3	5	38
Oshkosh.....	3,976	148	112	370	4,458
Portage.....	961	0	1	48	1,010
Racine.....	4,727	335	41	240	5,008
Rhineland.....	757	85	13	101	871
Sheboygan.....	3,073	111	269	82	3,424
South Milwaukee.....	346	2	16	17	379
Stevens Point.....	1,161	85	15	67	1,243
Superior.....	4,696	343	75	151	4,922
Watertown.....	2,277	126	114	163	2,554
Waukesha.....	122	4	6	45	173
Wausau.....	2,867	167	15	144	3,026
West Allis*.....	1,882	83	20	254	2,156
Totals.....	124,763	3,537	2,927	3,687	131,377

* The appliances adjusted have been sealed and in figuring totals are included in the "Sealed" column.
 Chippewa Falls*—Report dates from Oct. 15, 1915.
 Menasha*—Report dates from March, 1916.
 West Allis*—Report dates from September, 1915.

SEALING OF WEIGHTS AND MEASURES BEFORE SALE.

The legislature of 1915 enacted a law at the suggestion of this department which gave sealers of weights and measures the right to test all weights and measures and weighing and measuring appliances before sale. The principal underlying this legislation is a vital one to the proper and

efficient carrying on of inspection work. Naturally there has been opposition to the enforcement of this act on the part of certain manufacturers, jobbers and retailers who, in the past had been carrying on a thriving business in the sale of cheaply constructed and grossly inaccurate scales and measures. These dealers contended that the state ought not to concern itself with the testing of weights and measures on their shelves but should limit its activities to weighing and measuring appliances that are in actual commercial use. They argued that certain of these scales were sold to housewives and farmers for private use in which case the public at large received no injury even if the scales were false.

The provision that all weights and measures shall be sealed before they are sold is a common provision of state law. It is incorporated in the model law approved by the Bureau of Standards and recommended for passage in the various states. It is included in the ordinances of many cities located in Wisconsin and in other states. Its importance is recognized by all the leading weights and measures officials in the country.

It is impossible for a dealer to determine the purpose or use to which a scale will be subjected after it leaves his place of business. The manufacturer makes and sells scales, the large majority of which will actually be used for commercial purposes. There is no difference in type between weighing and measuring devices which are to be used in commercial transactions and those which it may happen are not so used. Weights and measures of every type will constantly be found in use in commercial transactions whether they are fit for such use or not. Every weights and measures official will be able to give numerous examples of this since it is his common experience. Moreover, many weights and measures are used in a dual capacity, sometimes being employed for check weighing or measuring or for private purposes, and at other times being used for commercial work. For example, a farmer may have a scale which is usually used in internal operations in his dairy or home and yet at times this same scale will be used in the sale of butter, cheese, milk or other commodities.

If weights and measures are not tested before they are sold much injustice both to the purchaser of the weight or measure and to the customer of the merchant buying the weight or measure will indubitably arise. The purchaser will be defrauded since he will purchase in good faith and pay for apparatus which is incorrect or faulty and which is certain to be condemned upon the first inspection made by the weights and measures official. The manufacturer or local dealer in weights and measures is the party responsible for the making within the state or the bringing into the state of incorrect or faulty apparatus, and incorrect or faulty apparatus should be intercepted as soon as possible. Furthermore, the manufacturer or local dealer is in a much better position to ascertain and know whether a weight and measure of a certain type is correct and will be sealed within the state, since he necessarily has a wider knowledge of types than a person purchasing an individual piece of apparatus at very infrequent intervals. And finally if a piece of apparatus is found faulty or incorrect before it is put into use the manufacturer is the one who should suffer. If he is within the state and has sold it direct the loss will fall upon him directly. If the dealer or agent has sold a product of a manufacturer

outside the state then he can return it to the responsible manufacturer at once. On the contrary if it has been put into use and used by a purchaser before being tested and condemned, the manufacturer will have the opportunity of refusing to take it back on the ground or pretext that it is no longer new and may have developed faults or inaccuracies through use though correct when delivered by him.

Even if the weights and measures sold should not get into commercial use it is highly important that they be accurate. Many weights and measures are used in a dual capacity, sometimes for commercial purposes and sometimes for private. Also many housewives use weights and measures to check deliveries made by their tradesmen, and if they find that the apparatus indicates that full weight or measure is not being delivered complaints to the merchant or to the official follow, which are unjust ones and do an injury to the honest merchant if the fault lies with the inaccurate weight or measure of the housewife and not with the delivered packages.

The postal scale is another type of scale which often does not enter into commercial use but we urge that these scales should be accurate and should be tested before sold. If the person sending a letter or package is in doubt as to whether additional postage is required and the scale should erroneously indicate that it is not required, his package may be delayed or his letter held for postage due, although his purpose in weighing it was to avoid even these contingencies. Recently a large number of postal scales were condemned in the offices of the various state departments in the capitol on account of inaccuracies. The state was cheating itself on its own scales. The superintendent of public property reports the saving of at least \$1,400 on one series of 160,000 pamphlets for which the postal authorities specified that two cents postage should be placed on each package. The sealed scales belonging to the state showed that the postage to be placed on each package should be but one cent. The postage bill on this one item alone was therefore cut in two.

INSPECTIONAL OR TRY-OUT WORK.

The impression is quite common that errors in weighing are due almost entirely to defective or faulty scales. Whenever a dealer is prosecuted for short weight the question almost invariably asked is: "How did he have his scale fixed?" Yet, in nearly every instance the scales were not at fault. The dealer simply gave short weight over a sealed scale. In other words the scale was not dishonest but the dealer was. A department of weights and measures therefore that simply devotes its time to the testing of weighing and measuring devices is doing only part of its work. It is not protecting the consuming public from unscrupulous merchants with correct scales wrongly used. It is not protecting the honest merchant from dishonest competition.

The legislature of 1915 recognized this important phase of the inspector's work by amending subsection 2 of section 1661 of the statutes which deals with the duties of the sealer by adding the following:

"The city sealer shall have the power to and shall from time to time weigh or measure and inspect packages or amounts of commodities of

whatsoever kind kept for the purpose of sale, offered or exposed for sale, or sold or in the process of delivery, in order to determine whether the same contain the amounts represented, and whether they be offered for sale or sold in a manner in accordance with law."

In the performance of his duties the sealer makes unexpected calls at the grocery, meat market and other places of business. He steps to the back of the store, picks up packages that have been put up by the proprietor or his clerks with bills attached ready for delivery and reweighs these packages on the dealer's own scale. This procedure has a tendency to make dealers and clerks exercise greater care in putting up deliveries. No honest dealer objects to a sealer reweighing his goods. In fact, merchants doing an honest business are glad to have the inspector check up the weight of the packages. They know the same procedure is followed in other stores and are assured that inequitable practices, such as cutting prices and short weighing are best stopped by this inspection. Careless weighing by clerks with no intent to defraud is likewise discovered in this manner. Many instances are on record where the customer was getting more than his due through over-generous weighing of clerks.

The reweighing of packages has almost stopped the practice, common in the past, of including the weight of heavy paper, cardboard or wooden trays in the weight of the commodity sold. In these days of high prices this is most important. With sugar selling at ten cents, lard at eighteen cents and meats ranging from twenty to thirty cents, the including of a ounce of tray or paper with each purchase means much to the consumer.

The following table is a summary of the work done by city sealers of Wisconsin in checking the weight of packages, examining foods in package form to see if the net weight law has been complied with and in testing the containers for the actual amount present. Over 13,000 stores were visited by city sealers and 57,249 packages reweighed or measured. Of this number 3,576 were short. In the smaller villages and towns state inspectors of weights and measures visited 2,653 places of business, reweighing or measuring 10,846 packages, of which number 1,215 were under weight or measure. In most instances the shortage was slight and the dealer was directed to make good the shortage. Usually this acted as a warning to the merchant, but in some cases it was necessary to resort to the courts before the dealer realized that he was violating a state law:

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SUMMARY OF RESULTS OF ESTABLISHMENTS INSPECTED BY CITY SEALERS FROM
JULY 1, 1915, TO JUNE 30, 1916.

City	ESTABLISHMENTS INSPECTED				CONTAINERS TESTED FOR CAPACITY AND COMPLIANCE WITH SPECIFICATIONS	
	Number visits	Number tests	Number packages short	Number packages mis- branded as to weight, measure or count	Number correct	Number incorrect
Antigo.....		1,009			12	0
Appleton.....	647	2,275	110		1,880	26
Ashland.....	469	2,258	160	100	1,616	143
Baraboo*						
Beloit.....	301	856	115	38	488	66
Chippewa Falls.....	64	356	38	138	72	0
Eau Claire.....	20	276	57		0	0
Fond du Lac.....	685	1,569	2	5	492	0
Grand Rapids.....	1,524	504	64	90	838	146
Green Bay.....	126	958	161	6	176	8
Janesville.....	113	73	9		77	0
Kenosha.....	90	569	12	1	303	13
La Crosse.....	110	271	2		99	0
Madison.....		1,307	317	314	222	47
Manitowoc.....	48	133	5		242	0
Marinette.....	31	40	35		4	2
Marshfield.....	44	179	132		35	4
Menasha*	2	2	1			4
Menomonie.....	358	547	2		3,345	0
Merrill.....	57	445	15		1,090	0
Milwaukee.....	1,913	13,031	814	2,290	1,043	146
Nemah.....	816	5,792	92		1,929	8
Oconto.....	3	3	10	10	6	0
Oshkosh.....	186	444	21	2	238	3
Portage.....	867	9,537	0	0	3,498	8
Racine.....	952	2,751	860	514	1,616	87
Rhineland.....	187	1,886	40	0	5,648	216
Sheboygan.....	529	1,503	306	106	175	9
South Milwaukee*						
Stevens Point.....	442	2,438	20	1	6,395	144
Superior.....	831	3,094	41	310	4,705	674
Watertown.....	671	1,384	53	90	240	46
Waukesha*						
Wausau.....	945	1,670	72		680	153
West Allis.....	42	89	10	3	56	7
Totals.....	13,073	57,249	3,576	4,018	37,220	1,960

* Baraboo, South Milwaukee, Waukesha kept no record.

* Menasha, sealer appointed March 1, 1916.

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SUMMARY OF PROSECUTIONS AND CONVICTIONS BY CITY SEALERS, FOR VIOLATIONS OF STATE LAW AND LOCAL ORDINANCES RELATING TO WEIGHTS AND MEASURES, FROM JULY 1, 1915 TO JUNE 30, 1916.

City	Number of prosecutions	Number of convictions
Ashland.....	1	1
Beloit.....	2	2
Fond du Lac.....	2	2
Green Bay.....	4	4
Kenosha.....	1	1
La Crosse.....	1	1
Marinette.....	1	1
Milwaukee.....	27	27
Milwaukee.....	1	1
Neeah.....	3	3
Oconto.....	1	0
Racine.....	2	1
Rhineland.....	1	1
Sheboygan.....	5	4
Stevens Point.....	3	3
Watertown.....		
Total.....	55	50

LIST OF CITY SEALERS OF WEIGHTS AND MEASURES OF WISCONSIN.

City	City Sealer
Antigo.....	C. S. Leykom.
Appleton.....	Geo. D. Gilman.
Ashland.....	A. J. Kull.
Baraboo.....	A. J. Gemmill.
Beaver Dam.....	Homer B. Hubbell.
Beloit.....	W. M. Van Lone.
Chippewa Falls.....	Frank D. Morrison.
Eau Claire.....	Jos. F. Weizenegger, resigned April, 1916.
Eau Claire.....	H. A. Francis, appointed May 1, 1916.
Fond du Lac.....	Jos. L. Weber.
Grand Rapids.....	Berthold Metzger.
Green Bay.....	John M. Kelliher.
Janesville.....	Walter Helms.
Kenosha.....	Felix C. Mayer.
La Crosse.....	E. H. Derr.
Madison.....	H. L. Thompson.
Manitowoc.....	Henry Mulholland.
Marinette.....	C. W. Skowlund.
Marshfield.....	Ludolph Wollesen.
Menasha.....	Wm. A. Lindemann, resigned Jan. 1, 1916.
Menasha.....	Wm. G. Trilling, appointed March 1, 1916.
Menomonie.....	Geo. Shafer.
Merrill.....	R. W. Barrett.
Milwaukee.....	Fred C. Janssen.
Milwaukee.....	Wm. F. Steinel.
Milwaukee.....	Ernest A. Morgan.
Milwaukee.....	Albert Leweck.
Milwaukee.....	Fred Nielsen.
Milwaukee.....	Stanley Kubiak.
Milwaukee.....	Chas. F. Kissinger.
Milwaukee.....	Herman Leweck.
Milwaukee.....	H. C. Verbeck.
Neeah.....	B. M. Mulvaney.
Oconto.....	Walter Meyer.
Oshkosh.....	Wm. Netzo.
Portage.....	D. E. Fitzgerald.
Racine.....	H. J. Danfield.
Rhineland.....	August Lutze.
Sheboygan.....	J. H. Neary.
South Milwaukee.....	E. H. Flentie.
Stevens Point.....	N. G. Penfound.
Superior.....	Edward Gnatzig.
Watertown.....	John J. Staub, resigned July 1, 1916.
Waukesha.....	
Waukesha.....	J. H. Pomeroy.
Wausau.....	E. J. Rogers.
West Allis.....	

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EXPENSES OF STATE AND CITY DEPARTMENTS OF WEIGHTS AND MEASURES,
JULY 1, 1915 TO JUNE 30, 1916.

City	Cost of office
Antigo.....	\$633.80
Appleton.....	865.19
Ashland.....	793.89
Baraboo.....	417.75
Beloit.....	948.69
Chippewa Falls.....	428.01
Eau Claire.....	430.34
Fond du Lac.....	535.08
Grand Rapids.....	306.50
Green Bay.....	1,080.76
Janesville.....	428.78
Kenosha.....	921.54
La Crosse.....	1,307.80
Madison.....	1,402.84
Manitowoc.....	707.00
Marinette.....	316.00
Marshfield.....	574.47
Menasha.....	247.76
Menomonie.....	519.50
Merrill.....	815.00
Milwaukee.....	10,272.00
Neeenah.....	303.50
Oconto.....	130.00
Oshkosh.....	869.73
Portage.....	614.85
Racine.....	1,421.04
Rhineland.....	364.00
Sheboygan.....	1,052.61
Stevens Point.....	726.40
Superior.....	1,151.50
Watertown.....	784.40
Waukesha.....	100.00
Wausau.....	970.32
West Allis.....	300.00
State Department (not figuring administration exp.).....	22,005.63
Total.....	\$54,746.68

NET WEIGHT.

The state law requires that all foods in package form must be marked to show the net weight, measure or count. City sealers report finding during the past year 4,018 packages of food not marked in compliance with this law. Many of these packages were put up by dealers unfamiliar with the law. Honey, lard and olive oil were among the most common violations. The placing of the net weight upon packages is doing away with many deceptive practices, such as only partly filling the carton, raising the bottom of bottles, using heavy wrappers and selling gross weight. The marking of the net weight or measure upon packages should not be limited to foods. Its provision should be extended to other commodities sold by manufacturers. It is just as essential that the purchaser know how many yards there are in a skein of yarn or a roll of ribbon, how many feet there are in a roll of wall paper, how many quarts a can of paint or varnish contains, or how many ounces are placed in a package of washing powder, as it is to know the weight of packages of food purchased.

The attorney-general has ruled that wrapped hams and bacon are not in package form. This ruling allows the packer to sell his product gross

weight. It is true that butchers can buy unwrapped hams from the packer if they do not care to pay for the paper, but they cannot compel the packer to sell his wrapped meats to them net weight. Advantage has been taken of this ruling and from four to eight ounces of wrapping are often placed around a ham. This practice should be stopped by passing legislation that will compel the packer to sell all meats and meat products by net weight only.

In sending out bills many dealers fail to mention the weight or measure. This is almost invariably the case in the sale of meats. Most butchers put down such items as these: steak, 35 cents; dried beef, 10 cents; roast beef, \$1.36. Many cuts of meat are weighed, following which the bone is removed. If the dealer is dishonest he can readily short weight his customer. Many sealers claim it is impossible to check up the weight of packages of meat and advocate the passage of a state law requiring that all packages sold at retail in retail stores be either marked or accompanied by a sales slip showing the net weight or measure of the package. Several cities of Wisconsin have ordinances requiring this and it is highly desirable that the state legislature enact similar legislation.

COKE.

During the past year a number of complaints have been received at this office regarding the sale of coke containing an excessive amount of moisture. An investigation was made and it was found that some dealers were offering coke for sale that contained as high as twenty per cent of moisture. Both Solvay and gas coke are produced and sold in Wisconsin. Solvay coke is produced in large quantities in Milwaukee. Gas coke is produced in many parts of the state, being a by-product obtained in the manufacture of illuminating gas. Solvay coke is harder, more brilliant and less likely to absorb large amounts of water than gas coke. The latter is dull, soft and of a spongy consistency.

In the manufacture of coke it becomes necessary to resort to a process known as "quenching" which lowers the temperature of the coke to a point slightly below its kindling point immediately following its removal from the retort and exposure to the air. If water is played upon the coke after this point has been reached it simply helps to increase the weight of the coke. If this coke is sold at once the customer then pays for excessive amounts of water. Many dealers store coke in piles in the open. Not being covered a great deal of moisture is absorbed during rainy weather. In the winter time this condition is aggravated by the accumulation of snow and ice on the coke, all of which is paid for by the consumer. Coke being bulky requires much room for storage and the cost of erecting sheds for the storage of large quantities of coke would have a tendency to raise the price. Dealers storing coke in the open should at least pile the coke in high piles so that most of the moisture will run off.

The normal moisture content of a good grade of nut or egg coke should not exceed five or six per cent. If it does the coke should be considered adulterated and of inferior grade. In some parts of the state dealers rather than go to the expense of storing coke under cover have given over weight so as to allow for the sale of the coke on a five per cent moisture basis.

In Milwaukee, Racine and Watertown this practice has been followed to some extent, dealers allowing from seventy-five to one hundred fifty pounds excess weight to the ton. It seems that the only solution of the question would be to have legislation passed fixing a maximum legal per cent of moisture permissible in coke and compelling the dealers selling coke with a high moisture content to make good the shortage due to the presence of an excessive amount of moisture.

BREAD.

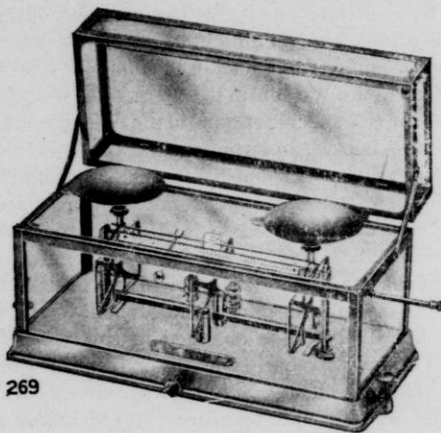
The high price of flour prevailing last year has led to an investigation of the size of loaves of bakers' bread in a number of cities of Wisconsin. Bread wrapped or unwrapped does not come within the definition given in the state law for an article of food in package form and bakers are therefore not required to state the size of the loaf. It is customary to sell bread in loaves retailing at five and ten cents. In buying a loaf of bread the customer is buying an indefinite amount. A loaf not being standardized by law may be of any size. Five cent loaves of wheat bread have been found to vary in weight from ten to seventeen ounces in different parts of the state and ten cent loaves have been found weighing as low as twenty ounces and as high as thirty-four ounces.

It is but natural to infer that bakers making both the five and ten cent sizes would at least double the weight in the ten cent loaf. Many bakers, however, are selling ten cent loaves that are not double the size of the five cent loaves. In several cities of Wisconsin two five cent loaves weigh from three to four ounces more than one ten cent loaf, notwithstanding the claim made by bakers that the production of the smaller loaf is more expensive. One baker of the state was candid enough to give his reasons for doing this. In substance he said: "I do not dare cut down the size of the five cent loaf for it would be too noticeable, but my customers do not detect any change in the size of the ten cent loaf when I cut it down." Of itself this is one of the strongest arguments why the baker should be compelled by law to make a standard loaf of bread or at least to state the size of the loaf he is making.

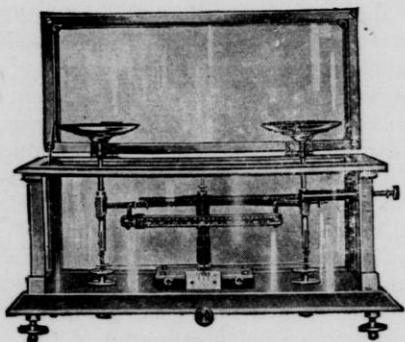
A few of the larger cities of the state have bread ordinances. In the city of La Crosse the ordinance makes it unlawful to sell a loaf of wheat bread weighing less than sixteen ounces. This law is being enforced by the city sealer and five cent loaves of bread in La Crosse weigh sixteen ounces, but strange to say ten cent loaves of bread weigh but twenty-five or twenty-six ounces.

REGULATIONS.

The weights and measures law of this state confers upon the state superintendent of weights and measures the power to issue regulations for the guidance of all sealers of weights and measures, which regulations are to govern their procedure in the discharge of their duties. In these regulations the superintendent is called upon to prescribe tolerances for weights and measures and to make regulations concerning the various kinds of devices, attachments and parts which enter into the construction or installation of weighing and measuring appliances.

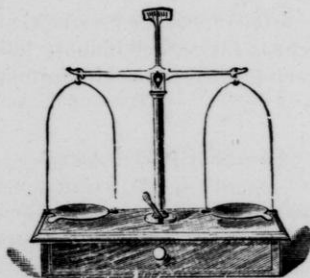


No. 1



No. 2

TWO TYPES OF CLASS A PRESCRIPTION BALANCES USED BY DRUGGISTS.



No. 3

A CLASS B PRESCRIPTION BALANCE NOT SENSITIVE ENOUGH FOR WEIGHING LOADS OF LESS THAN TEN GRAINS.

In December, 1915, a third edition of the booklet containing the tolerances and specifications for weights and measures and weighing and measuring devices used in Wisconsin was issued. The first booklet of specifications issued by the Wisconsin department of weights and measures in 1911 was based on the specifications then existing in the state of New York. In 1913 a new booklet of specifications based on the report of the tolerance committee of the national conference of weights and measures officials was issued. In 1915 these specifications were materially changed and many new specifications added so that it became necessary to issue a third booklet of specifications. Experience revealed numerous defects in the early specifications and tolerances. It is not advisable to make frequent changes in specifications and it is believed that the present specifications are not likely to be changed in the near future except in minor respects. The new specifications differ from all preceding ones in that all weighing and measuring appliances are divided into two classes. *Class 1* includes all weights and measures and weighing and measuring devices which after the promulgation of the specifications were either manufactured in the state or brought into the state. *Class 2* includes all weights and measures and weighing and measuring devices which were in the state at the time the specifications were issued, either in use or in the stock of manufacturers of, or dealers in, such apparatus. All regulations were made applicable to *Class 1*. Many of the regulations which had for their object simply the perfecting of the different types of weighing and measuring devices and which did not have for their purpose the prevention of the perpetration of fraud were not made applicable to apparatus of *Class 2*. To this class belong such regulations as those specifying the gauge of tin used in liquid capacity measures, the specifying of the minimum clear interval between graduations on the dial of computing scales, and the branding of measures to show their actual capacity.

Wisconsin was the first state to take up the systematic inspection of prescription scales and weights and glass graduates. The Wisconsin specifications for prescription balances permit of two classes. *Class A* balances are designed for fine work and must be sensitive to 0.1 grain. *Class B* balances designed for the weighing of larger loads need not be so sensitive. *Class B* balances are not to be used in weighing loads of less than ten grains.

New specifications and tolerances for prescription graduates have been issued by this department to take effect January 1, 1917. These specifications have not as yet been printed in booklet form and are given below in full.

GLASS GRADUATES.

Specifications: 1. Graduates shall be made to contain or to deliver the indicated volume at 20 degrees Centigrade (68 degrees F.). They shall be legibly, conspicuously, and permanently marked to indicate whether they are graduated to contain or to deliver.

2. Graduates shall be either cylindrical or conical in shape. In the case of all cylindrical graduates, the ratio of length of the graduated scale to the internal diameter shall not be less than five to one. In the case of conical

graduates, the ratio of length of the graduated scale to the internal diameter at the highest graduation shall not be less than two to one, and at one-fourth of the total capacity this ratio shall not be less than one to one.

3. Graduates shall be made of good quality glass, thoroughly annealed, clear, transparent, of uniform but not excessive thickness, and free from bubbles and streaks.

4. Graduates shall be provided with a base at right angles to the axis and of such a diameter that the graduate will stand when placed on a surface making an angle of 25 per cent or approximately 15 degrees with the horizontal.

5. All graduates shall be provided with lips.

6. The graduation marks shall be perpendicular to the axis, and parallel to the base and to each other.

7. The graduation marks shall be varied in length in such a manner that they may be conveniently read but in no case shall any graduation mark extend less than one-fourth of the distance around the graduate. The main graduation marks shall extend at least one-half of the distance around the graduate. Provided, however, that on duplex or double scale graduates a clear space shall be left between the ends of the main graduation marks on the two scales, and this space, measured parallel to the graduation marks, shall conform to the following values:

<i>Circumference of Graduate at the Graduation Marks</i>	<i>Distance Between Ends of Graduation Marks</i>
<i>Up to 5 inches</i> -----	<i>1/8 inch</i>
<i>From 5 inches to 10 inches inclusive</i> -----	<i>1/4 inch</i>
<i>More than 10 inches</i> -----	<i>3/8 inch</i>

8. Graduation marks shall be clear and distinct and uniform in character. They shall be etched or engraved and shall not exceed 0.015 inch (0.38 mm) in width. Blown or pressed graduation marks shall not be allowed.

9. The clear interval between the graduation marks shall not be less than 0.04 inch (1 mm).

10. The value of the main graduation marks shall be plainly designated, each number being placed either directly upon or immediately above the graduation mark to which it refers, but the position of the numbers shall be consistent throughout the graduated scale. If placed upon the graduation marks the numbers shall be placed from the ends a sufficient distance to allow the ends to be used in making a setting. Intermediate graduation marks shall not be numbered.

11. On all single scale graduates where the main graduation marks do not completely encircle the graduate, the middle points of the main graduation marks shall be directly opposite the lip. On duplex or double scale graduates the center of the clear spaces between the ends of the main graduation marks, provided for in specification 7, shall be approximately 90 degrees from the lip.

Note. The regulations or portions of regulations in italics shall NOT apply to apparatus of Class 2 (see page 5 of the booklet of Tolerances and

Specifications issued by this department December, 1915), and therefore shall not be retroactive.

Tolerances. The tolerances to be allowed in excess or deficiency on glass graduates shall not be greater than the values given in the following table:

(Note: The Tolerance to be used at any point on any graduate shall be determined by measuring the inside diameter of the graduate at the point under test and taking from the table the tolerance value corresponding to this diameter.)

TOLERANCE FOR GRADUATES OF VARIOUS DIAMETERS
(In Metric Units)

Diam. mm	Toler. ml	Diam. mm	Toler. ml	Diam. mm	Toler. ml	Diam. mm	Toler. ml
10	.04	35	0.60	60	2.2	85	5.1
11	.05	36	0.65	61	2.3	86	5.2
12	.06	37	0.70	62	2.4	87	5.4
13	.07	38	0.75	63	2.5	88	5.5
14	.08	39	0.80	64	2.6	89	5.6
15	.09	40	0.85	65	2.7	90	5.7
16	.10	41	0.90	66	2.8	91	5.9
17	.12	42	0.95	67	2.9	92	6.0
18	.14	43	1.00	68	3.0	93	6.1
19	.16	44	1.05	69	3.1	94	6.2
20	.18	45	1.10	70	3.2	95	6.4
21	.20	46	1.15	71	3.4	96	6.5
22	.22	47	1.25	72	3.5	97	6.6
23	.24	48	1.30	73	3.6	98	6.8
24	.26	49	1.35	74	3.7	99	6.9
25	.28	50	1.4	75	3.9	100	7.1
26	.30	51	1.5	76	4.0		
27	.35	52	1.6	77	4.1		
28	.35	53	1.6	78	4.2		
29	.40	54	1.7	79	4.4		
30	.45	55	1.8	80	4.5		
31	.45	56	1.9	81	4.6		
32	.50	57	2.0	82	4.8		
33	.55	58	2.0	83	4.9		
34	.60	59	2.1	84	5.0		

The term milliliter, or "ml", is used herein to designate the one-thousandth part of the liter. This unit is also commonly known as the cubic centimeter or the "cc". The latter is not an accurate usage as the units are not exactly equal, but the difference between them is of no consequence for the purposes of this table, and therefore they may be used interchangeably.

TOLERANCE FOR GRADUATES OF VARIOUS DIAMETERS
(In U. S. Customary Units)

Diameter Inches Sixteenths		Tolerance minims	Diameter Inches Sixteenths		Tolerance Drams minims
	6	0.6	2	4	32
	7	.8	2	5	34
	8	1.0	2	6	36
	9	1.3	2	7	39
	10	1.6	2	8	41
	11	2.0	2	9	44
	12	2.5	2	10	47
	13	3.0	2	11	49
	14	3.5	2	12	52
	15	4.0	2	13	55
1	0	5	2	14	58
1	1	6	2	15	2
1	2	6	3	0	1
1	3	7	3	1	5
1	4	8	3	2	8
					12
1	5	9	3	3	1
1	6	10	3	4	15
1	7	11	3	5	18
1	8	12	3	6	1
1	9	14	3	7	21
					24
					27
1	10	15	3	8	1
1	11	16	3	9	31
1	12	17	3	10	1
1	13	19	3	11	34
1	14	21	3	12	1
					38
					41
					44
1	15	22	3	13	1
2	0	24	3	14	47
2	1	26	3	15	1
2	2	28	4	00	51
2	3	30	...	....	1
					55
					00
				

One of the greatest evils in the enforcement of regulations relating to weights and measures is the lack of uniformity existing between the several states. Many states have no active department of weights and measures, in others the work is optional with the city and county, and in still others the state department has been granted the right to prescribe tolerances and specifications so that uniformity can be at least secured within the limits of the state. An unsuccessful attempt has been made to secure national uniformity through the adoption by state officials of specifications and tolerances relating to weights and measures bearing the approval of the delegates attending the national conference of weights and measures officials. This conference is held annually at the National Bureau of Standards, Washington, D. C. and has adopted a model set of tolerances and specifications. Several states have adopted these model specifications. Others have adopted portions of the specifications, and still others are working under specifications radically different from those recommended by the conference. It can be readily seen that manufacturers of weighing and measuring appliances doing an interstate business are put to heavy and unnecessary expense in their efforts to comply with conflicting state regulations.

Experience teaches us that uniformity cannot be obtained so long as the power to prescribe regulations rests with the various state departments

of weights and measures. Relief can only be obtained through national regulation. A bill providing for the regulation and control of the manufacture, sale and use of weights and measures has been introduced in the house of representatives. It is commonly known as the Ashbrook bill (H. R. 9323). This bill confers upon the Director of the Bureau of Standards authority to approve of the various types of weighing and measuring devices which may lawfully be used in trade and commerce throughout the United States, and provides for the punishment of manufacturers or dealers who produce or offer for sale appliances of a type not bearing the seal of approval of the Director of the Bureau of Standards. It is only by the enactment of national legislation that uniformity in weights and measures will eventually be obtained.

WOOD.

The statutes of Wisconsin fail to prescribe the number of cubic feet contained in a cord of wood. Custom alone decrees that 128 cubic feet of 4 foot wood shall constitute a cord. The amount of wood contained in a pile 4 x 4 x 8 varies greatly with the method of piling. When a cord of 4 foot wood is sawed into three 16 inch lengths and repiled it will occupy less than 128 cubic feet. The shortage will amount to 15 or 20 cubic feet. If this wood is then split and repiled it will occupy a space from 10 to 15 feet greater than the original pile of 16 inch wood.

In some cities of Wisconsin dealers give 128 cubic feet of wood of any length to their customers for a cord. In other localities but 110 cubic feet of 16 inch wood is given to the cord, and in still others 100 cubic feet is reckoned as a cord. Other dealers sell their wood by the load. This procedure is very common among farmers and much misunderstanding and fraud have been unearthed by inspectors of this department when this method has been followed.

Several cities of central and northern Wisconsin have enacted ordinances requiring the measurement of wood by sealers of weights and measures at the city market before offering for sale by the cord or fractional part thereof. This has eliminated fraud and short measure within the corporate limits of these cities. It is not advisable to require what is known as "mill-wood" which consists of odds and ends of varying lengths to be sold in this manner. The increased labor due to piling would add greatly to the cost and millwood should therefore be exempted from the provisions of any statute regulating the sale of fire wood by the cord.

NEED OF BETTER TRANSPORTATION FACILITIES FOR INSPECTORS.

With the present force of weights and measures inspectors dividing their entire time to the inspection of weights and measures, the examination of food supplies and the investigation of sanitary conditions in grocery stores and meat markets, it has been found impossible to cover the state in a year's time. The state law requires that all weighing and measuring appliances be tested at least once each year. This can be readily accomplished in cities of over 5000 inhabitants having local sealers of weights and measures. An examination of the tables of inspections given

elsewhere in this report will show that the 36 city sealers of weights and measures tested 131,377 weighing and measuring appliances and that the 8 state inspectors in addition to their other duties made 139,898 inspections.

It will be observed that the number of inaccuracies in tests made in the report of city sealers is five per cent of the total number tested, whereas in the towns of under 5000 inhabitants inspected by the state the number of inaccuracies is fifteen per cent. The higher percentage of correct appliances found in larger cities is due largely to a more frequent inspection. In these cities the sealer is available at almost a moment's notice. State inspectors are required to cover too large a territory. With from seven to ten counties to cover it is impossible for the men under present working conditions to go over their entire territory at least once a year. Some of the smaller cities and villages are visited but once in two years. A longer period having elapsed since the last inspection it is only natural that more discrepancies be found. Many letters calling for inspectors are on file in the office of weights and measures to which it was impossible to respond until months later. In many instances the inspection when finally made showed the scales defective. Consequently their use during the time elapsing between the receipt of the letter and the response to the call often amounted to serious loss either to buyer or seller.

It is our belief that field work in weights and measures can be greatly expedited through the purchase of auto trucks for the men. This will be instrumental in reducing traveling expenses and at the same time greatly increases the efficiency of the department. Sealers carrying approximately 1200 pounds of weights must either hire an automobile or livery. Livery charges are \$4 and \$5 a day and automobile charges range from \$8 to \$12 a day. Inspectors having their own automobiles are allowed ten cents a mile when the automobile is put into state service. If the department owned its own cars these expenses together with charges for freight and excess baggage in transporting the 50 pound weights would be greatly reduced.

There would likewise be a great saving in time which of itself would compensate the state for the initial expense of purchasing cars. Much time is now lost through long country drives, waiting for trains, checking the weights and hiring the teams. Before increasing the number of inspectors the efficiency of the present force should be increased by furnishing each man with proper means of transportation. The use of automobiles by weights and measures departments is no longer an experiment. They are in use in the weights and measures departments of many of our large cities and have proved a success in the states of Massachusetts, Iowa and Minnesota.

RAILROAD TRACK SCALES.

The state law relating to weights and measures clothes the city sealer with authority to inspect and test all weighing and measuring appliances used within the boundaries of his city. This includes the testing of railroad track scales. Now track scales used in determining the weight of freight in carload lots have a rating capacity of from fifty to one hundred

fifty tons, a capacity which is far in excess of any other type of weighing device coming within the jurisdiction of city sealers. The proper testing of these scales requires the services of an expert and the need of special testing equipment. Many city sealers in the state realizing this have paid no attention to track scales. A few sealers have made occasional tests with 1000 pounds of test weights. Such tests are worse than useless inasmuch as they are an official recognition of the accuracy of a scale which cannot be disclosed by the application of so small a load.

It has been the policy of scale builders to test and repair such scales with a ton of test weights. This has been done largely because of the expense and labor attached to handling 50,000 or 60,000 pounds of test weights. In fact where 50 pound weights are used in testing track scales it has been the exception rather than the rule for repairmen to use more than 4000 pounds of weights.

The best authorities on track scale testing advocate the use of test cars of known weight. The most approved practice calls for two short wheel base cars of approximately 40,000 and 80,000 pounds capacity. The weight of these cars will change through wear, exposure to moisture and other causes so that their accuracy can only be maintained by frequent reweighings on a master scale. Master scales are especially constructed scales built for the purpose of determining the accuracy of scale test cars. The purchase of the above equipment involves a rather large initial expenditure of money, an expense which should be borne by the state rather than by the municipality.

The commercial importance of track scales must not be underestimated. No other type of weighing device is used as the basis of settlement of contracts between buyer and seller involving the exchange of such large amounts of money. Attention need only be directed to sales in carload lots of coal, grain, live stock, ore and other commodities. It appears to be one of the anomalies of recent state and national legislation that less attention should have been devoted to track scales than to any other type of weighing device. In Wisconsin railroad track scales are now the only scales not tested by the state.

The whole subject of weighing has been neglected by most railroads because they have not been far-sighted enough to view the same as an agency directly connected with the production of revenue. Until quite recently very few of the railroads in the state maintained a scale testing department and at the present time scale inspection instead of being a staff position commensurate with the traffic department has been side-tracked into maintenance and building departments. The lack of consideration given this matter by the general management of trunk lines must be due to a misunderstanding of the importance of the question. The following quotation from the 1913 report of the American Railway Bridge and Building Association is apropos to the question under consideration inasmuch as the revenue on carload freight is directly proportionate to the weights registered:

"Taking such data as is available, it is estimated that during the year ending June 30, 1912, there were moved by the railroads of the United States 25,000,000 cars loaded in carload lots. The freight charges on these are estimated as \$1,000,000,000. Each track scale weighed 8,300 cars and

measured \$332,000 of revenue. If the scale weighed this amount one-tenth of one per cent under the actual, the road owning it was loser to the amount of \$332. If a scale weighs a car weighing 32,000 pounds and its contents weighing 40,000 pounds, 150 pounds less than the actual weight, it is giving more than double this error. If it weighs such cars 400 pounds short it gives a loss of revenue of 1 per cent. This will pay for an average scale every year and for a very high class scale every two and a half years. The cost between a faulty installment and a good one is about half this estimated possible yearly loss. Ask your scale inspector how the scales on your load average."

Aside from track scales belonging to the railroads which may or may not be tested, there remains a large number of private track scales many of which have never been tested. No accurate statistics are available as to the number of track scales in the state. The total number will probably reach 350 or 400. In the city of Milwaukee there are nearly 100, in Superior 45, in Ashland 12, and many of the smaller towns have from 1 to 6 such scales. Of this number probably not less than one-third belong to the railroads. It is only following some large discrepancy in weights that the owners of these private scales will grudgingly pay the fee charged by the railroads for making the tests. Here is a field therefore that needs correction and it is recommended that sufficient funds be included in the budget of the dairy and food commission to cover the initial cost of the purchase of the necessary equipment for track scale inspection.

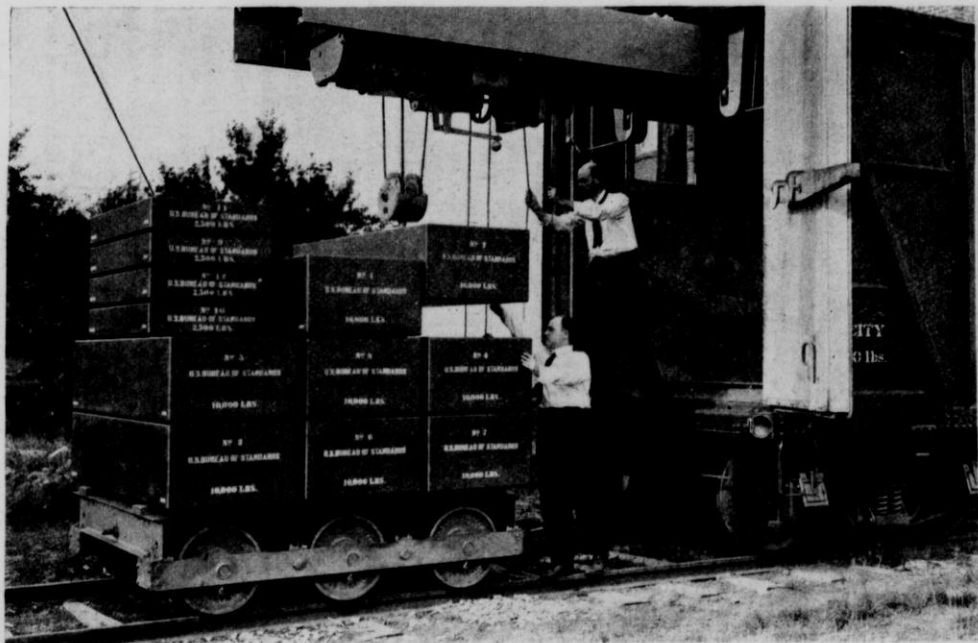
FOR THE PURCHASING PUBLIC.

The legislature of Wisconsin established the weights and measures department for the protection of its citizens from the evils of short weight and measure. One of the methods of accomplishing this purpose lies in educating the public how to buy intelligently and how to avoid the numerous pitfalls that beset the paths of the unwary purchaser. Intelligent purchasing is done upon definite specifications of quality and quantity and the fundamental thing is to know the quantity—how much is received for a certain money's worth.

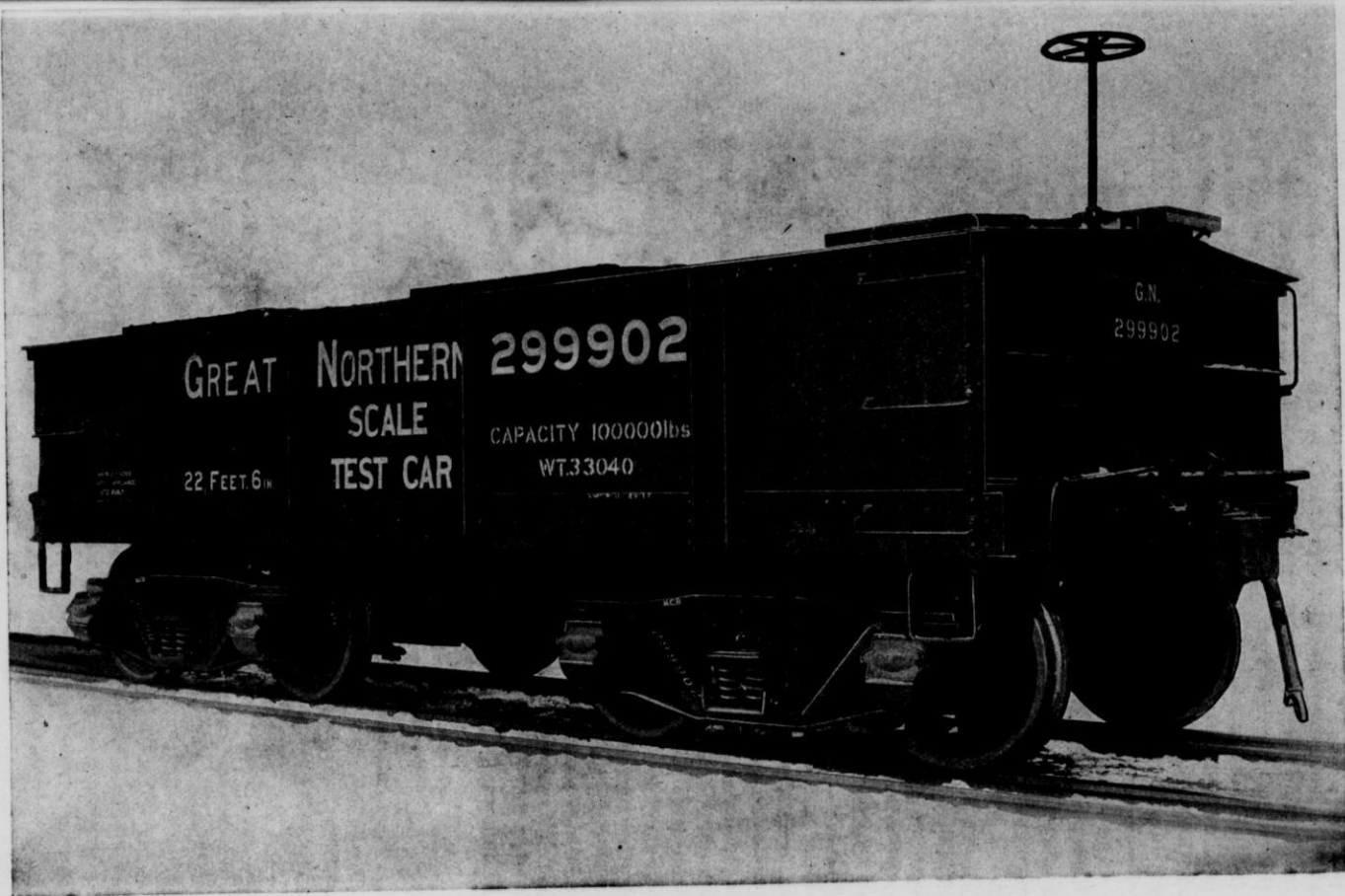
Many careful housewives scrutinize the "apparent" prices charged for various commodities and the "quality" of the goods delivered, but unless the quantity of the goods delivered is determined the actual cost price of the commodity is not ascertained. Housekeeping is a business and the housewife is the head of the purchasing department. It becomes her duty therefore to see that one dollar buys one hundred cents worth. *Correct scales and measures should be installed in the kitchen.* They will pay for themselves many times over and do it honestly. Owing to the increasing high cost of living the purchasing power of the dollar is daily growing less and less. Therefore it behooves housewives to place a careful guard on the family purse string and this can best be done by following the suggestions outlined below.

DECEPTIVE TRADE PURPOSES

It is not our intention to imply, by any means, that all merchants are dishonest. That a dealer may unwittingly give false weight is shown by



No. 4
U. S. BUREAU OF STANDARDS SCALE TESTING EQUIPMENT.



No. 5

A RAILROAD SCALE TEST CAR. THE STATE DEPARTMENT SHOULD BE EQUIPPED WITH AN 80,000 POUND CAR OF THIS TYPE WITH A SHORTER WHEEL BASE AND WITH A DEVICE FOR RAISING THE END AXLES FROM THE TRACK.

the occasional discovery of a merchant whose scales are so out of order that he is cheating himself. Scales, weights and measures wear out and unless tested periodically their accuracy is unknown even to the owner. But whether a merchant uses false scales wittingly or unwittingly the result is the same to the purchaser. He gets less than he pays for. He is defrauded. Fraudulent scales, weights and measures are now the exception rather than the rule in this state. They are seldom used by the established tradesman. They are more likely to be found in the possession of peddlers, vendors, itinerant merchants and other transients.

The dealer who makes a practice of giving short weight is not always, in fact in the majority of cases is not the man with the fraudulent scale or measure but is often found with the most approved types. He relies upon his careful manipulation of the approved scale, or the negligence of the buyer, in securing his illicit gain of a few cents on each purchase. This he accomplishes in many ways, but one of the most common methods is to throw the scale off balance. Therefore the purchaser should learn to read a scale.

Before buying over a scale see that the pointer is at zero. If the pointer of the scale is set ahead the consumer will lose the amount the scale is off balance. *See that the scale comes to rest before the weight is taken.* The dealer who does not wait for his scale to come to rest often charges for the weight as registered when the pointer was heaviest. A scale properly regulated should come to rest after three or four vibrations of the pointer. Some dealers purposely adjust the scale so that it will vibrate freely, thus affording an excuse for placing their hand upon the platter of the scale to bring it to rest. This affords an opportunity for weighing their hand. The purchaser has a valid reason for viewing with suspicion any merchant who weighs with lightning-like rapidity.

Always inquire the price per pound and buy only by weight, measure or numerical count. Never buy by the package, sack, bottle, load, basket, pail or "twenty-five cents worth" unless you know how much you are getting. These terms mean nothing. This department cannot help you if you are not definite in your purchases.

BUTCHERS' TRICKS.

A meat cutter in a butcher shop in one of the cities of Wisconsin is reported as saying: "Did you ever see an honest butcher? If I cannot make my day's wages by giving short weight I am not in the proper place. I aim to make a cent or two on every sale and none of the large shops would have a man unless he was able to do that." Inspectors find that small shortages in meat are by no means uncommon and housewives are urged to use extreme care when ordering from their butcher. Butchers throw meat heavily on sensitive scales, read the weight when the pointer touches the lowest figure, then jerk the meat quickly from the scale. Again, the butcher will steady a projecting piece of meat with his hand. Every time the butcher does this the customer is being cheated for instead of steadying the meat the butcher is bearing down on the scale pan. He covers up his fraud by cutting off some of the trimmings which he throws under the counter. In case of complaint he lays the shortage to these trimmings.

Ask your butcher to reweigh your purchases and have him include the trimmings with the meat. Make your purchases in person. If you must use a telephone in ordering, at least take the precaution of reweighing your purchases on an accurate family scale.

GROCERS' SCHEMES.

Unscrupulous grocers encourage their customers to buy in indefinite terms, that is by the pail, print, bottle, basket, sack or money's worth. The wise housewife will insist on knowing how much the container holds and the price per pound she is being charged. In a large grocery store in Wisconsin an inspector asked a dealer how many pounds of sugar he was giving for one dollar. The dealer's reply was, twelve pounds. The inspector then stepped over to a delivery basket and picked up a package of sugar and started to weigh it. He was immediately informed that the package was a dollar's worth and that it weighed but eleven pounds and was going to a customer who had called over the phone and asked for a dollar's worth of sugar. In certain stores of the state creamery butter is sold only by the print. If the customer asks for a pound the clerk replies: "Our butter sells for 37 cents a print." Many of these prints weigh but fifteen ounces. Remember that there are approximately 50,000,000 pounds of butter consumed in the state of Wisconsin each year and that a shortage of one ounce on each pound would mean a loss to the consumer of \$950,000 per year figuring the selling price of butter at 30 cents a pound.

Insist on receiving a sales slip with each purchase showing the actual weight or measure of the commodity purchased. In several towns of Wisconsin this is required by city ordinance. Ask your council to pass a similar ordinance.

See that your merchant allows for the weight of heavy wrapping paper, manila bags, wooden trays and tinfoil. The state law specifies that full weight must be given. This means net weight. Before the state law on weights and measures was passed hundreds of tons of wood and paper were sold with the meat and groceries purchased at fancy prices.

Read the labels on foods put up by manufacturers. The net weight must appear on all foods in package form. Compare the marked contents of similar brands of food stuffs. The results may be a surprise. Some manufacturers give a proportionately smaller amount in the twenty-five cent size packages than in the ten or fifteen cent sizes. Don't be deceived by the size of the paper carton or the thickness of the glass container. Let the marked weight be your guide.

If you buy vegetables or fruits by the bushel be sure you get the legal weight. A line addressed to the state department of weights and measures at Madison will bring you a card containing the legal weights of dry commodities in Wisconsin. A better way would be to buy by weight only. Measures are going out of use.

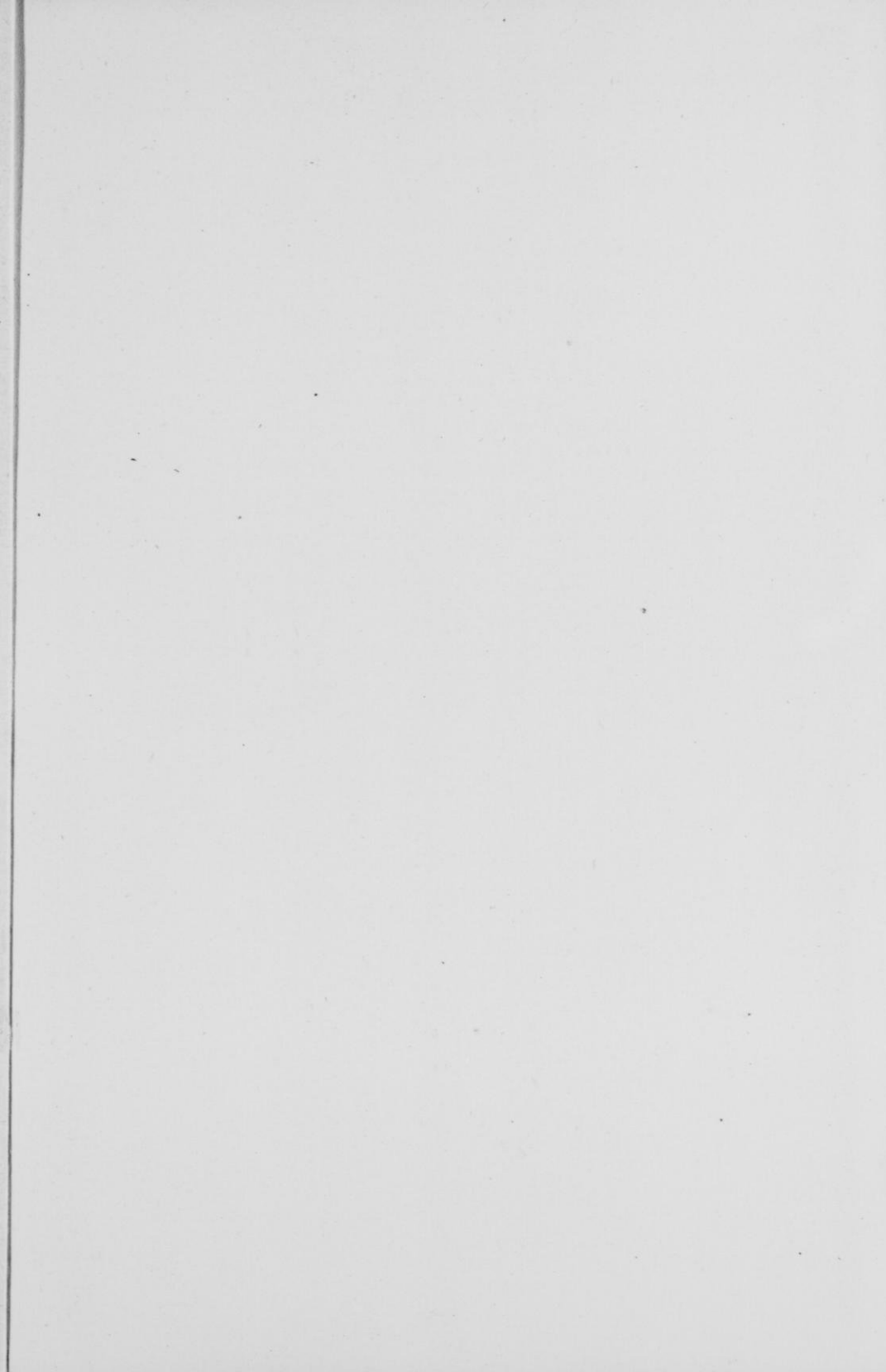
Do not misunderstand cheapness for economy. Let us warn you against the merchant who is always able to sell cheaper than his neighbor. If you do patronize a merchant who is underselling his competitors be on your guard and watchful.

Don't receive coal from your dealer unless the driver presents a ticket with the total weight. If you have any doubt as to the honesty of the driver of the coal wagon or the company itself send the driver to a public scale and insist on his bringing back a weighmaster's certificate showing the weight, or better still, notify the city sealer of your town that you are to receive coal at a certain time and have him attend to the reweighing. If the coal has been delivered and placed in a rectangular bin the approximate weight can be ascertained by multiplying the length by the width by the height of the coal in the bin (all inside dimensions) and then multiply the result in feet by the weight of a cubic foot of the coal. A cubic foot of hard coal, egg, stove or nut size, weighs 58 pounds. Pea coal weighs 53 pounds per cubic foot and buckwheat 54 pounds. The seller should not wet the coal more than enough to prevent its dusting. You are not paying for water.

Don't be afraid to ask questions. Learn your rights and take advantage of them. Why take less in goods any more than you would in money. This department was created for your protection. Don't hesitate to notify this department of any violations of the weights and measures law coming within your observation. Do not, however, be too ready to condemn the tradesman. Mistakes often happen and a mistake need not always be a dishonest one. You can make your relations with this department as confidential as you choose. We invite your coöperation in eliminating the dishonest dealer, protecting the honest one from unfair competition and safeguarding the public from false weights and measures.

F. P. DOWNING,
Chief Inspector of Weights and Measures.

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