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BEING THE

Twenty-Fourth Report

ON

Food Products

AND

Twelfth Report on Drug Products.

PART I.

By E. M. BAILEY.

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CONTENTS.

FOODS.

	Page
Ice cream	214
Baking powder	217
Gelatin	221
Tea	222
Cereal Products:	
Breakfast foods	224
Bread	224
Prepared and other flour	225
Fats and Oils:	
Olive oil	225
Cooking fats	226
Butter	226
Oleomargarine	227
Milk and Milk Products:	
Market milk	227
Condensed milk	231
Cream	231
Human milk	232
Soups, bouillons, etc.	233
Jams and jellies	234
Non-intoxicating cereal beverages	237
Carbonated soft drinks	239
Cider	239
Wine	240
Vinegar	240
Chocolate and cocoa	240
Miscellaneous:	
Foods, etc.	240
Foods suspected of containing poison	243
Other materials examined for poison	243

DRUGS.

Spirit of Camphor	243
Tincture of Iodine	244
Tincture of Ferric Chloride	245

Page
Witch Hazel Water 246
Acetylsalicylic Acid 247
Toilet preparations 248
Proprietary remedies 252
Miscellaneous drugs, etc. 256
Summary 259

The Twenty-fourth Report on Food Products and the Twelfth Report on Drug Products, 1919.

PART I.

BY E M. BAILEY.

The work here discussed and summarized comprises the results of food and drug inspection during the past year. Practically all of this work is called for by statute requirement. In addition, however, it is our aim and purpose to do, each year, something of an investigative nature which shall be of interest and value and which is outside of the immediate field of police duty. In harmony with this idea considerable attention has been given during the past year to a resurvey of the diabetic food market and approximately one hundred diabetic preparations have been examined. These are chiefly commercial products, but include also several types of preparations of direct interest and application in the treatment of diabetic patients. The results of this investigation will be published later as Part II of this report.

Of chief interest in control work has been the inspection of ice cream carried on under the act pertaining to the manufacture and sale of ice cream which was passed by the last Legislature.

At the Farmers' Week Fair held in Hartford in January 1919 the food work done by this Station was represented by an exhibit made by this laboratory.

The chemist in charge has been called upon during the year for attendance at legislative and other hearings in connection with proposed food laws on the administration of those now in force; he has continued to act as expert on diabetic foods for the American Medical Association, also as A. O. A. C. referee on tea; and, by appointment of the Governor dated August 4th, 1919, as a state chemist.

The resignation of Mr. Street, formerly chemist in charge, and of Messrs. Morison and D'Esopo will be duly noted in the annual report of this Station. To them and to the remaining members of the staff acknowledgment is made of their contributions to the work herein reported.

I. FOODS.

ICE CREAM.

Legislation. Chapter 260 of the Public Acts of 1919 concerning the manufacture and sale of ice cream fixes the standard for milk fat in plain ice cream at not less than eight per cent.; and in fruit and nut ice creams at not less than six per cent. The act prohibits in the manufacture of this product the use of boric acid, salicylic acid, formaldehyde, saccharin or any substance deleterious to health, or any coloring matters deleterious to health; but the use of harmless colors permitted to be used in foods, and harmless imitation flavors is allowed, provided that the presence of the same is declared.

Preliminary Inspection. A preliminary survey of the State was made by the Dairy and Food Commissioner and four hundred and sixty-nine samples were collected from forty-five towns. Two hundred and forty-eight samples were examined in this laboratory and the remainder of the tests were made by inspectors of the Dairy and Food Department who hold licenses to test milk and cream, and who used methods approved by this laboratory.

Of the total number of samples examined one hundred and seventy-three or 36.9 per cent. were found to be below the required standard for ice creams of their respective types.

On the basis of these results the Commissioner held hearings in those cases where deficiencies were found, to call attention to the law now provided, and to suggest, if necessary, ways and methods for meeting its requirements.

It was found that, as might be expected, the larger manufacturers were well informed as to the fat content of the ingredients entering into the mix, but, in the majority of cases, smaller dealers were ignorant both of the fat content of the ingredients composing the mix and of that of the finished product.

The point was also raised that the fat content in ice cream dispensed in bulk from one, three or five gallon cans would show a variable composition according to whether the sample was taken from the top, middle or bottom of the container.

It can readily be understood that ice cream which has softened or "weakened" will lose uniformity of composition. The extensive study of ice cream making carried on at the Vermont Station[1] has shown the possibilities in this direction. It appeared however that the product held for a week in a thoroughly frozen condition showed no difference in fat content in portions taken from the top, middle and bottom zones.

Uniformity of fat distribution in bulk ice cream. Several of the larger ice cream manufacturers in New Haven cooperated by supplying us with ice cream as it would be delivered to the consumer or retailer, in gallon and two and a half gallon lots,

When received the containers were warmed just enough to permit the cream to be removed from the can in a solid mass, and cross sections were taken from the top, middle and bottom zones. The several portions were melted at room temperature, well mixed and tested for fat by the Babcock method as modified by Grigsby.[2]

A. This was a one gallon can of chocolate ice cream thoroughly frozen when received. The tests on the several portions were as follows:

Top	9.1%
Middle	9.1%
Bottom	9.2%

B1. This was a two and one half gallon sample of vanilla cream in a hard condition when received and tested.

B2. This was a two and one half gallon sample of vanilla cream held over night in the container as delivered before tests were made. The cream had softened to such an extent that it could not be removed from the can intact; the middle portion was hard but the top and bottom portions were considerably softened. Tests on the two samples were as follows:

	B1	B2
Top	9.9%	9.6%
Middle	9.6%	9.3%
Bottom	9.4%	9.4%

The results on sample B2 show greater uniformity than would be predicted with the mechanical condition of the sample in mind. The explanation is that the product is homogenized, or

[1] Vermont Agr. Exp. Sta., Bull. 155 (1910).
[2] Jour. A. O. A. C., 2, 4, p. 242.

made from homogenized materials, and therefore the stratification of fat is very markedly prevented.

C. This was a one gallon can of vanilla cream. The non-uniformity of the product was apparent as soon as it was removed from the container. Melting the sample representing the top portion at room temperature, a frothy liquid resulted which separated a creamy layer on standing and which it was very difficult to effectively mix either by stirring or pouring. After considerable manipulation a mixture was obtained which was reasonably uniform. The middle and bottom portions were not so troublesome but were sampled with difficulty. The results obtained on the three portions were as follows:

Top	15.2%
Middle	11.5%
Bottom	12.4%

The results show what was quite evident in the beginning, viz., that the product was very ununiform as regards fat distribution. They cannot be accepted as proving that only homogenized products will show uniformity because sample A was not homogenized; but it is no doubt true that homogenized products will remain uniform longer than unhomogenized products. This sample was quite different from any met with either in the preliminary survey or the official inspection, which included twenty or more samples from this same source.

Altogether the results indicate that there is but little variation in fat distribution in ice cream kept in a thoroughly frozen condition. Uneven distribution of fat will result if the cream becomes "weakened," i. e. soft; but this is much less pronounced in homogenized products.

In taking the official samples under the ice cream law the mechanical condition of the cream, i. e. hard, soft, partially melted, etc., should be noted as well as the relative position in the container, i. e. top, middle or bottom, from which the sample was drawn.

Methods of testing ice cream. In testing ice cream the preparation of the sample is of the greatest importance. Samples which had liquified and which had been held for several days gave unsatisfactory tests which were attributed to difficulties in sampling. Creams delivered in a fresh, frozen condition, with

no opportunity to churn were found to yield uniformly satisfactory results. If the cream has separated fat by churning or otherwise, gentle heat must be applied to melt the fat and it must then be evenly mixed by pouring or stirring.

The Roese-Gottlieb method for the determination of fat is regarded as the standard method for such products as condensed milk, ice cream and other milk products, but for rapid work of routine inspection some of the modified Babcock methods are necessarily employed. Besides the Grigsby method already mentioned we have used one described by Lichtenberg[1] with generally satisfactory results. When, occasionally, we have found disagreement in results we have used the Roese-Gottlieb procedure as the deciding test. A few unexplained disagreements have occurred but in case of fresh, well frozen creams, tested promptly, we have found good agreement between the three above mentioned methods.

Official Inspection. Eighty-two samples were collected by agents of the Dairy and Food Commissioner's Department. Arranged on the basis of milk fat content the samples may be classified as follows:

	Samples.	Per cent.
Fat 8 to 9 per cent.	15	18.3
9 to 10 per cent.	10	12.2
10 to 12 per cent.	26	31.7
12 to 14 per cent.	15	18.3
14 to 20 per cent.	13	15.8
below 8 per cent.	3	3.7

The samples showing fat deficiencies were as follows: **16025** Chocolate, Joe Crudo, So. Norwalk, 4.16 per cent.; **15988** Vanilla, Geo. Costeine, Bridgeport, 4.56 per cent.; **15987** Chocolate, Wm. H. Whitney, Bridgeport, 5.70 per cent.

Of eighteen samples sent by individuals only one was found below 8 per cent. of fat.

BAKING POWDER.

The following definition and standard for baking powder has been adopted:

Baking powder is the leavening agent produced by the mixing of an acid reacting material and sodium bicarbonate, with or without starch or flour.

[1] Jour. Ind. Eng. Chem., **5**, 9, p. 786 (1913).

TABLE I.—ANALYSES OF

No.	Brand and Manufacturer.	Dealer.
		BRIDGEPORT:
11487	Howco; made for Howland's, Bridgeport	Howlands
11481	Gold Seal; New York Baking Powder Co., New York City	Logan Bros Co.
11486	Cleveland's Superior; Cleveland Baking Powder Co., New York City	Mohican Co.
11482	Purity; Boston Baking Powder Co., Boston, Mass.	Public Market
		HARTFORD:
11472	Imperial; Manhattan Baking Powder Co., New York City	Brown Thompson & Co.
11474	Princine; Southern Manufacturing Co., Richmond, Va.	Hartford Market Co.
11492	Purity; made for the Hartford Market Co., Hartford	Hartford Market Co.
		NEW HAVEN:
11462	Red Front; The Great Atlantic & Pacific Tea Co., Jersey City, N. J.	Atlantic & Pacific Tea Co.
11458	Reliable; made for Chas. S. Bernstein, New Haven	C. S. Bernstein
11468	Ryzon; General Chemical Co., New York	M. C. Dingwall
11457	Benefit, Direct Importing Co., Boston	Direct Importing Co.
11246	Davis O. K.; R. B. Davis Co., Hoboken, N. J.	Logan Co.
11499	Our Own; Loveday's, New Haven	Loveday's Tea Store
11244	Rumford; Rumford Chemical Works, Providence, R. I.	Mohican Co.
11242	Van Dyke Pure; Jas. Van Dyke Co., 50 Barclay St., New York City	Van Dyke Co.
11249	Snow Ball; W. A. Higgins, New York	D. M. Welch & Son
		NEW LONDON:
11488	Grand Union; Grand Union Tea Co., Brooklyn, N. Y.	Grand Union Tea Co.
		NORWICH:
11491	Disco; made for Disco Bros., Norwich	Disco Bros.
11490	Mohican Cream of Tartar; The Mohican Co., New York City	Mohican Co.

BAKING POWDER.

No.	Ingredients Claimed.	Net Weight. Claimed.	Net Weight. Found.	Available carbon dioxide.
		oz.	oz.	%
11487	Acid phosphate of calcium, bicarbonate of soda and corn starch	16.0	16.0	14.61
11481	Acid phosphate of calcium, bicarbonate of soda, carbonate of magnesia and corn starch	4.0	3.9	5.45
11486	Cream of tartar, bicarbonate of soda, tartaric acid (the acid of grapes) and corn starch	8.0	7.9	10.39
11482	Bicarbonate of soda, phosphate of calcium, calcined sulphate of alumina and corn starch	8.0	8.6	11.31
11472	Acid phosphate of calcium, bicarbonate of soda, sodium aluminum sulphate and corn starch	8.0	8.5	11.65
11474	Granular bicarbonate of soda, refined granular phosphate and refined and redried corn starch	8.0	8.7	12.41
11492	Acid phosphate of calcium, sodium aluminum sulphate, bicarbonate of soda and corn starch	8.0	7.8	8.79
11462	Acid phosphate, bicarbonate of soda and corn starch	8.0	8.5	12.06
11458	Acid phosphate of calcium, bicarbonate of soda, sodium aluminum sulphate and corn starch	16.0	17.0	13.66
11468	Monosodium phosphate, sodium bicarbonate and starch	4.0	4.6	9.50
11457	Bicarbonate of soda, carbonate of magnesia, acid phosphate of calcium and best refined corn starch	4.0	4.1	8.65
11246	Acid phosphate, bicarbonate of soda, sodium aluminum sulphate and corn starch	6.0	6.1	11.94
11499	Acid phosphate of calcium, bicarbonate of soda, sodium aluminum sulphate and corn starch	16.0	15.7	9.52
11244	Phosphate, bicarbonate of soda and starch	8.0	8.5	12.52
11242	Phosphates of soda and lime, bicarbonate of soda and corn starch	8.0	8.1	10.20
11249	Sodic aluminic sulphate, phosphate of calcium, bicarbonate of soda and corn starch	8.0	7.9	12.31
11488	Mono-calcium phosphate, basic aluminum sulphate, bicarbonate of soda, corn starch	16.0	15.7	13.07
11491	Acid phosphate of calcium, bicarbonate of soda, sodium aluminum sulphate and corn starch	16.0	15.9	14.32
11490	Cream of tartar, tartaric acid (the acid of grapes), bicarbonate of soda and corn starch	8.0	8.0	11.02

It yields not less than twelve per cent. (12%) of available carbon dioxide.

The acid reacting materials in baking powder are: (1) tartaric acid or its acid salts, (2) acid salts of phosphoric acid, (3) compounds of aluminum, or (4) any combination in substantial proportions of the foregoing.

Announcement of the amounts of calcium sulphate and salts of phosphoric acid which react in baking powder, and of the limits for impurities (arsenic, lead, zinc and fluorides) is reserved pending further investigation.[1]

The modern baking powder is an elaboration of the sour milk—saleratus combination used in the earlier days for "raising" biscuits, bread or cake. Sour milk has been replaced by more convenient materials such as cream of tartar, acid phosphates or alums, while the saleratus (bicarbonate of soda) remains.

The leavening power of baking powder is due to the evolution of carbon dioxide gas which results from the action of the acidic element of the powder upon the bicarbonate. This action does not take place except in the presence of moisture. It follows then that baking powders tend to depreciate in leavening capacity because it is difficult to protect them completely from atmospheric moisture. It is to protect them so far as possible from deterioration from this source that starch, flour or other moisture-absorbing material is generally found as a third ingredient of commercial baking powders.

Low available carbon dioxide content may be the result of faulty preparation of the powder originally, but is more likely due to subsequent deterioration occasioned by long storage or storage under unfavorable conditions. Moisture, once having gained access to a preparation, causes it to decompose rapidly.

Nineteen brands have been examined in the past year and the results appear in Table 1.

Eleven samples contained less than 12 per cent. of available carbon dioxide; in seven of these the deficiency exceeded 10 per cent. of the standard.

Excessive amounts of arsenic have been cited in food products by British and other food journals during the past year. These have been attributed to impurities in the baking powder ingredients resulting from the pressure of greatly increased production of chemicals during the war period.

[1] Food Inspection Decision 174.

We have not found arsenic in excess in any baking powder examined, none of them containing more than one part per million of this impurity.

GELATIN.

The standard for edible gelatin is as follows:

Gelatin (edible gelatin) is the purified, dried, inodorous product of the hydrolysis, by treatment with boiling water, of certain tissues, as skin, ligaments and bones, from sound animals, and contains not more than two (2) per cent. of ash and not less than fifteen per cent. of nitrogen.

In addition to these requirements good gelatin should be clear in water solution; it should show appreciable jelly strength in 2 per cent. solution; it will not show ordinarily more than 1 part of arsenic in 700,000; and the fat and keratin content should not greatly exceed 0.08 per cent. each. Last-run gelatins have been found to average 0.39 per cent. fat and 0.30 per cent. keratin while first-run glues average 1.00 per cent. fat and 0.69 per cent. keratin.[1]

Gelatin is not a tissue builder but it is of indirect value in the diet on account of its protein-sparing power which is greater than that of carbohydrates.

Gelatin is sold as such for domestic jelly making; and it is largely used in commercial jelly powders and as a stabilizer in ice cream.

The method[1] used for the determination of fat and keratin is as follows:

Digest a 10 gram sample for three or four hours in a mixture of 100 cc. of water and 10 cc. of conc. HCl, cool, introduce into a separatory funnel and extract with 50 cc. of ether. The substance insoluble in dilute acid and in ether (so-called keratin) will separate completely from the acid solution, and will collect as an apparent emulsion in, or below, the ether layer. Discard the clear acid solution. Filter the ether through a dried and weighed filter paper, into a weighed beaker. Wash the residue in the separatory with ether and filter into the same tared beaker. Evaporate the ether and dry the beaker for one hour in a water oven. Weigh the fat.

Wash the "keratin" from the separatory funnel with HCl of about 2%

[1] Information furnished by A. F. Seeker, Chief, New York Station, U. S. Bureau of Chemistry.

TABLE II.—ANALYSES

Station No.	Brand and Manufacturer.	Net weight of package.	Price of package.	Price per oz.
		ozs.	cts.	cts.
11477	Baker's. Baker & Co., Washington, D. C.	1.25	10	8.0
11455	Benefit. Direct Importing Co., Boston, Mass.	1.32	9	6.8
11454	Cooper's. Peter Cooper's Gelatin, Gowanda, N. Y.	1.53	15	9.8
11459	Crystal. Crystal Gelatine Co., Boston, Mass.	1.08	13	12.0
11460	Grandmother's. The Great Atlantic & Pacific Tea Co., Jersey City, N. J.	1.52	10	6.6
11471	[1]Knox. Chas. B. Knox Co., Johnstown, N. Y.	1.44	20	13.8
11456	[1]Minute. Minute Tapioca Co., Orange, Mass.	1.22	10	8.2
11461	Plymouth Rock. Plymouth Rock Gelatine Co., Boston, Mass.	1.14	15	13.1
11470	[2]Swampscott. Swampscott Gelatine Co., Boston, Mass.	1.06	15	14.1
11476	[2]Williams	1.69	10	5.9

[1] Color accompanying package was a harmless lichen color.
[2] Color accompanying package was a permitted coal tar color, amaranth.

strength, running the washings through the weighed filter. Wash the filter thoroughly with the dilute HCl and dry to constant weight in a water oven.

The results of analyses of ten samples of commercial gelatins examined in the past year are given in Table II.

The analyses show that all samples satisfy the standard requirements as regards nitrogen and ash with the exception of **11476** which exceeds the ash limit by 0.15 per cent. The gelatins in hot water solution were generally not entirely clear; they also possessed a faint odor but it was not in any case offensive. Neither arsenic nor copper were found in objectionable quantities. Judging by the fat and keratin figures, most of the samples may be regarded as first grade products; none can be classed as distinctly inferior.

TEA.

In the course of the work done on tea last year methods for the determination of caffein were studied, the Stahlschmidt and Fendler-Stuber methods being compared.[1] Further results have

[1] Conn. Agr. Exp. Station, Bull. 210, p. 184 (1918).

OF GELATIN.

Water.	Ash.	Nitrogen.	Gelatin (N. x 5.55)	Fat.	Keratin.	Undetermined.	Gelatinizing power, 2% solution at 10° C.	Arsenic, parts per million.	Copper.	Appearance and odor of hot water solution.
%	%	%	%	%	%	%				
14.54	1.66	15.12	83.91	0.08	0.05	+0.19	positive	2—	trace	Slightly cloudy; faint odor.
14.44	0.71	15.38	85.36	0.06	0.04	+0.57	positive	1	trace	Slightly cloudy; faint odor.
15.15	1.55	15.02	83.36	0.09	0.05	+0.15	positive	1	trace	Slightly cloudy; faint odor.
16.25	1.17	15.08	83.69	0.12	0.05	+1.23	positive	1	trace	Slightly cloudy; faint odor.
14.85	1.31	15.24	84.58	0.22	0.06	+0.96	positive	1	trace	Slightly cloudy; faint odor.
15.03	1.58	15.06	83.58	0.05	0.04	+0.24	positive	2—	trace	Clear; faint odor.
15.42	0.96	15.24	84.58	0.06	0.04	+1.02	positive	1	trace	Slightly cloudy; faint odor.
15.32	0.67	15.40	85.47	0.07	0.03	+1.53	positive	1	trace	Clear; faint odor.
15.37	1.47	15.04	83.47	0.19	0.07	+0.50	positive	2+	trace	Cloudy; faint odor.
13.75	2.15	15.08	83.69	0.16	0.09	—0.25	positive	2—	trace	Cloudy; faint odor.

been obtained this year by the same methods and a modification[2] of the Fendler-Stuber method has also been tried. The U. S. Standard teas of 1918-1919 have been employed.

The complete data, including results previously obtained, are given in Table III.

TABLE III.—CAFFEIN IN TEA.

Kind of tea.	Modified Stahlschmidt method. By wt.	Modified Stahlschmidt method. From N.	Fendler-Stuber method. By wt.	Fendler-Stuber method. From N.	Modified Fendler-Stuber method. By wt.	Modified Fendler-Stuber method. From N.
	%	%	%	%	%	%
Formosa Oolong, 1	2.20	2.03	2.16	2.12	....	....
Foochow Oolong, 2	2.54	2.44	2.57	2.54	....	....
Congou, 3	1.97	1.89	1.97	1.93	....	....
Ceylon, 4	2.96	2.77	2.81	2.79	....	....
Gunpowder Green, 5	1.86	1.73	1.81	1.76	....	....
Young Hyson Green, 6	1.68	1.54	1.65	1.63	....	....
Pan Fired Japan, 7	2.00	1.94	2.07	2.00	2.11	2.11
Basket Fired Japan, 8	2.07	2.01	2.13	2.11	2.15	2.13
Japan Dust, 9	2.09	1.94	2.18	2.13	....	....
Scented Orange Pekoe, 10	2.71	2.63	2.82	2.73	....	....
Scented Canton, 11	2.93	2.81	2.96	2.91	....	....
Canton Oolong, 12	3.10	2.96	3.27	3.20	....	....

[2] Due to H. A. Lepper, A. O. A. C., Referee on Coffee.

The modifications made in the Fendler-Stuber method are chiefly to correct errors due to evaporation of chloroform during the manipulation.

Further work with these and other methods for caffein will be done during the coming year.

CEREAL PRODUCTS.

Breakfast Foods, etc.

Three samples of Sunseal Brand Cereals have been analyzed, viz., **13163,** Sunseal Sunny Corn; **13164,** Sunseal Cream Corn Meal; and **13165,** Sunseal Improved Hominy Grits.

The analyses are as follows:

Station No.	13163	13164	13165
	%	%	%
Water	12.25	12.02	11.60
Ash	0.38	0.54	0.54
Protein	8.31	8.94	8.50
Fiber	0.35	0.37	0.42
Nitrogen-free extract	78.30	77.10	77.71
Fat	0.41	1.03	1.23

Two samples of corn meal were submitted by the Stoddard Gilbert Co., New Haven for determination of moisture and fat. The products were intended for overseas shipment. **12153,** yellow meal, contained 11.42 per cent. of moisture and 2.55 per cent. of fat. **12154,** white meal, contained 11.22 per cent. of moisture and 3.68 per cent. of fat.

Bread.

Four samples of bread have been submitted by individuals for examination as to their suitability for the dietary of a diabetic patient. The samples were **12884; 12426,** Loeb's Gluten Bread; **12425,** Loeb's Casein Bread; and **12604,** Health Food Co.'s Glutosac Bread.

The analyses are as follows:

Station No.	12884	12426	12425	12604
	%	%	%	%
Water	34.46	7.85	39.73	23.10
Ash	1.94	1.80	4.35	1.95
Protein (N x 6.25)	26.49	46.65	41.05	32.62
Fiber	0.22	0.22	0.09	0.84
Fat	2.28	11.14	11.07	2.57
Nitrogen-free extract	34.61	32.34	3.71	38.92
Starch	26.81	27.71	trace	29.53

The Casein bread, **12425,** is practically starch-free, and the carbohydrate (nitrogen-free extract) content of the other products is considerably lower than in ordinary wheat bread; but whether or not bread containing from 25 to 30 per cent. of starch is suitable for a diabetic patient is entirely a question of the patient's carbohydrate tolerance.

Prepared and Other Flour.

As stated in the discussion of baking powders, excessive amounts of arsenic have been reported in leavening materials due to faulty manufacture. Nine samples of prepared or self-raising flours have been examined with this feature in mind, but the tests for arsenic in all cases were either negative or inconsiderable, no sample showing in excess of one part per million.

The brands examined were the following:

Station No.	Brand.	Manufacturer.
11245	Aunt Jemima,	Aunt Jemima Mills Co., St. Joseph, Mo.
11247	D. & C.,	D. & C. Co., New York City.
11250	Hecker's,	The Hecker Cereal Co., New York City.
11251	Jim-Dandy,	The D. & C. Co., New York City.
11483	Kaple-Quality,	Cobleskill Milling Co., Cobleskill, N. Y.
11252	Mohican,	Mohican Co., New York City.
11478	Presto,	The H. O. Co., Buffalo, N. Y.
11463	Reliable,	Reliable Flour Co., Boston, Mass.
11453	Victory,	Reliable Flour Co., Boston, Mass.

Seven samples of various flours, sent by individuals, were examined to identify the type of flour or to detect suspected adulteration. None of the samples require particular comment.

FATS AND OILS.

Olive Oil.

Four samples of olive oil submitted by the Dairy and Food Commissioner have been examined. Two were passed and two were adulterated.

The adulterated samples were **14565,** Brand Termini Imerese, sold by Angelo Bergano, 191 Hamilton St., Waterbury and **14579,** no brand, sold by Chas. Barber, 909 E. Main St., Waterbury. Both contained cotton seed oil.

Two samples submitted by individuals were found to be genuine.

Cooking Fats.

A number of cooking fats were examined last year and the analyses were published.[1] One product of this class, viz., *Covo,* has been examined this year as follows:

Halphen test (for cottonseed oil)	Positive
Baudouin test (for sesame oil)	Negative
Refraction at 15.5°, Butyro-refractometer degrees	72.3
Refractive index at 15.5°	1.4737
Reichert-meissel number	0.14
Iodine number	103.2
Renard's test for peanut oil	Positive

The amount of crude arachidic acid obtained from Covo was about 44 per cent. of the amount obtained from a sample of pure peanut oil. The melting point of the arachidic acid as obtained from Covo was 71°-72° and that from pure peanut oil 71°-71.5°. The neutralization value in both cases was 331.

Covo appears to be essentially a mixture of peanut and cotton-seed oils.

Butter.

Twenty seven samples of butter have been examined. Of these twenty-one were sold for butter and were found to be as represented. Six were either misrepresented or sold without proper display of notice as to their nature and quality. These samples are as follows:

D. C. No.	Sold for.	Dealer.	Remarks.
		Ansonia	
15111	Sweet Butter	M. Divorkin, 421 Main St.	Renovated butter
		Bridgeport	
14409	Cooking Butter	Bridgeport Public Market. 110 State St.	Renovated butter
		Greenwich	
14402	No. 2 Process Butter	Finklestein's Butter and Egg Store, 255 Greenwich Ave.	Renovated butter
		New Britain	
14430	Print Butter	Frank Mantner, 54 Rockwell St.	Renovated butter

[1] Conn. Agr. Exp. Station, Bull. 210, p. 200.

D. C. No.	Sold for.	Dealer.	Remarks.
		South Norwalk	
013	Butter	Standard Butter and Egg Co., 12 North Main St.	Renovated butter
14403	Process Butter	H. Scherer, 27 South Main St.	Renovated butter

Of two samples submitted by individuals, one was found to be renovated and the other genuine.

Oleomargarine.

One sample of oleomargarine was submitted and found to be illegal. It was colored with annatto. It was sold by H. C. Tracy, 161-167 Albany Ave., Hartford.

MARKET MILK.

Eleven hundred and ninety-seven samples of milk submitted by the Dairy and Food Commissioner have been examined. The results of analyses permit the following classification:

Not found adulterated	730	61.0%
Adulterated by dilution with water	138	11.5
Adulterated by skimming	22	1.8
Adulterated by reason of being below standard, in solids and solids-not-fat	207	17.3
in solids and fat	7	0.6
in solids, fat and solids-not-fat	93	7.8
Total	1,197	100.0

One hundred and nineteen samples have been received from individuals. Nine were found to be watered, four were skimmed and six were below standard.

We have commented before upon the dangerous practice of diluting milk with water. Both the substance and quality of the milk are lowered from the standpoint of food value; and the danger of introducing the germs of disease, through the medium of a doubtful water supply, into otherwise clean and wholesome milk is too apparent to need elaboration.

The following quotation taken from a very valuable paper[1] on

[1] The Food Value of Milk, by Edna L. Ferry, Conn. Agr. Exp. Sta., Reprint from the Thirty-eighth Report of the Conn. Dairymen's Association (1919).

the food value of milk is a forceful commentary on the practice of watering milk.

"Undiluted milk contains all the vitamine necessary for young animals, but in feeding babies it is the practice to dilute cow's milk with water and to reinforce the mixture with milk sugar. By this procedure the vitamine content of the original mik is so far reduced that the bottle fed baby may get enough of this essential food factor only when it takes a liberal quantity of the food. Whenever appetite fails, the food intake and consequently the vitamine intake is reduced. The effect of this is to further reduce the appetite because the amount of food eaten depends on the vitamine content of the diet. It is thus evident that under such circumstances the child goes from bad to worse and all the endless troubles so familiar to mothers ensue."

This refers to the practice of preparing modified milk for infant feeding which is done on the theory that the modified mixture more closely approximates the composition of human milk. The reduction in vitamine content can perhaps be compensated by increased consumption in some cases. But in families where the supply of milk is kept at a minimum on account of its cost, the seriousness of feeding milk containing 15 to 30 per cent. or more of added water is strikingly apparent, and watchfulness over our milk supply by State and other food officials should in no wise be abated.

In Table IV will be found those official samples of milk found to be adulterated, exclusive of those which were below standard.

TABLE IV.—ADULTERATED MILK.

No.	Dealer.	Solids.	Fat.
	Containing Added Water.		
	BETHEL.		
12724	W. H. Boardman	11.00	3.5
15065	R. Edmunds	10.27	2.7
13567	G. Finke	10.62	3.2
15725	F. K. Wood	11.35	3.7
15726	F. K. Wood	10.51	2.9
15727	F. K. Wood	11.37	3.8
	BLOOMFIELD.		
16378	John Conrey	11.65	3.8
15826	D. Miselli	10.93	3.5
	BRANFORD.		
14905	Lewis Sparico	11.06	3.3
	BRIDGEPORT.		
14382	Frank Hatch	10.37	3.1
14375	B. Kitain	10.89	3.3
14373	William Schatz	10.40	3.1
	BROOKFIELD.		
14934	Robt. Folliott	10.81	3.3
14126	John Hoachman	9.54	2.8
14936	Paul Kanmack	10.51	2.9
14133	Star Kustoss	10.48	3.0
14147	Steve Piskura	10.32	3.1
14148	Steve Piskura	10.19	3.2
12535	Alex Tiburski	10.75	3.5
12536	Alex Tiburski	10.99	3.8
12538	C. S. Williams	10.95	3.5
14931	Edward Waldo	8.92	3.0
14932	Edward Waldo	7.36	2.4
14933	Edward Waldo	8.46	2.7
	CANAAN.		
14495	S. Barbieri	11.90	4.2
14498	B. Frink	11.30	3.7
15601	S. Sirlin	7.88	2.4
	CHESHIRE.		
14370	Pasquale Guarino	10.87	3.6
14371	Pasquale Guarino	10.00	3.0
14351	Wm. Pavieck	9.89	2.8
	CLINTONVILLE.		
16375	Michael Adinolfi	8.79	2.7
16376	Michael Adinolfi	9.45	2.6
16377	Michael Adinolfi	9.91	2.9
	Containing Added Water —continued.		
	COLLINSVILLE.		
16287	G. A. Codaire	11.35	3.8
16370	G. A. Codaire	11.45	3.7
16371	G. A. Codaire	11.18	3.5
16372	G. A. Codaire	11.08	3.6
16373	G. A. Codaire	11.09	3.4
	DANBURY.		
15763	J. G. Abbott	10.51	3.3
16299	Hotel La Bate	3.90	1.1
15753	W. N. Durgy	11.12	3.4
15752	W. N. Durgy	10.65	3.0
15094	C. C. Hatch	13.68	5.6
15758	C. H. Heck	11.86	4.1
15737	K. F. Kaidy	10.26	2.9
15099	Edwin H. Kellogg	11.98	4.2
16296	Robert V. Lears	12.57	6.5
15769	H. S. Rogers	10.83	3.5
16293	W. R. Smith	11.14	3.4
15331	Universalist Church	11.38	3.9
15779	E. K. Wood	10.50	3.1
15759	P. G. Woodin	10.55	3.1
	DERBY.		
14104	Peter Zabouski	11.93	4.1
	EAST BERLIN.		
15014	G. Menthi	10.40	3.6
15015	G. Menthi	10.41	3.5
15016	G. Menthi	9.80	2.9
	EASTON.		
14334	William J. Burr	10.84	3.3
14308	Ernest E. Ferry	10.00	3.0
14309	Ernest E. Ferry	10.65	3.0
14310	Ernest E. Ferry	10.05	2.8
14311	Ernest E. Ferry	10.25	3.1
14312	Ernest E. Ferry	10.29	3.0
14336	G. E. Finke	9.39	2.7
13562	S. Kochis	10.72	3.2
13563	S. Kochis	10.47	3.2
15446	Homer Logan	11.05	3.5
15445	Homer Logan	10.35	3.1
	FAIRFIELD.		
14372	John Vayor	11.01	3.3

TABLE IV.—ADULTERATED MILK.—*Continued.*

No.	Dealer.	Solids.	Fat.
	Containing Added Water —continued.		
	GUILFORD.		
14969	Gustave Anderson	6.79	2.2
14970	Gustave Anderson	8.40	3.4
	HAMDEN.		
14348	Antone Pascarelle	9.41	3.4
14916	John Skapnit	10.39	2.8
14917	John Skapnit	11.68	4.4
	HAWLEYVILLE.		
15922	H. J. Galpin	9.74	3.1
15923	H. J. Galpin	10.01	2.9
15924	H. J. Galpin	10.13	3.4
15925	H. J. Galpin	9.89	3.2
	HOTCHKISSVILLE.		
15461	Howard E. Dayton	10.47	3.1
	LONG HILL.		
14982	Miss H. B. Wells	10.90	3.6
	MELROSE.		
15946	C. A. Thompson	11.00	3.5
15947	C. A. Thompson	11.26	3.6
	MERIDEN.		
15839	Chas. Greenbacker	10.81	3.3
15840	Chas. Greenbacker	11.19	3.4
14944	Ryan & Forrest	11.19	3.8
	NEW BRITAIN.		
13986	T. S. McMahon	11.10	3.5
13994	T. S. McMahon	11.24	3.5
	NEW HAVEN.		
14120	Apens Lunch	9.82	2.6
14354	Diamond Resturant	12.21	4.5
	NEWTOWN.		
14298	Michael Fesch	6.29	1.7
14300	L. W. Whitehead	12.56	4.6
	NORTH HAVEN.		
14918	Antonio Sanzo	10.48	3.4
14919	Antonio Sanzo	9.91	3.0
	OXFORD.		
14349	Louis Perot	6.76	2.7
	Containing Added Water —continued.		
	PATTERSON, N. Y.		
15730	E. T. Haviland	10.73	3.2
	REDDING.		
14328	L. O. Peck	11.23	3.7
14329	L. O. Peck	11.83	4.2
14330	L. O. Peck	11.96	4.1
14325	Geo. P. Williams	12.08	4.2
14326	Geo. P. Williams	10.86	3.4
14327	Geo. P. Williams	9.88	2.5
15742	G. P. Williams	10.91	3.4
15743	G. P. Williams	10.75	3.5
15744	G. P. Williams	10.27	3.2
15745	G. P. Williams	9.74	2.7
	SANDY HOOK.		
14980	Sam Goldstein	11.18	3.6
14981	Sam Goldstein	10.11	2.9
	SIMSBURY.		
16271	R. H. Robertson	12.36	4.6
	SOUTH MERIDEN.		
15843	Wm. Raven	10.82	3.8
15842	Wm. Raven	10.75	3.5
	SOUTHINGTON.		
15717	Mrs. A. E. Vincent	11.96	4.1
	SUFFIELD.		
15948	A. G. Hinkley	10.84	3.3
15949	A. G. Hinkley	10.96	3.4
16252	A. G. Hinkley	10.35	3.0
16253	A. G. Hinkley	10.11	2.8
16254	A. G. Hinkley	10.50	3.1
16255	A. G. Hinkley	10.02	2.7
16256	A. G. Hinkley	10.62	3.2
16257	A. G. Hinkley	10.91	3.3
	TORRINGTON.		
15039	Thomas Hogan	11.23	3.7
15800	W. J. Twining	11.69	3.9
15803	W. J. Twining	11.68	4.1
	TRUMBULL.		
15524	Leonard Pabelke	11.79	3.9
15085	John Treadwell	9.61	2.9
15086	John Treadwell	10.60	3.1

TABLE IV.—ADULTERATED MILK.—*Concluded.*

No.	Dealer.	Solids.	Fat.
	Containing Added Water —concluded.		
	WALLINGFORD.		
15422	Alex Paskiewicz	11.38	3.6
	WATERTOWN.		
16352	T. E. Parker	10.95	3.6
	WEST HARTFORD.		
15846	Egan and Williams	10.74	3.3
15848	George LaRose	9.38	5.8
	WESTPORT.		
16390	W. G. Wakeman	11.81	4.0
16391	W. G. Wakeman	10.45	3.5
16392	W. G. Wakeman	9.98	3.0
	WOODBURY.		
15454	Chas P. Brown	11.13	3.5
15296	Austin Isham	10.76	3.8
15451	Albert P. Olsen	11.47	3.9
15452	Albert P. Olsen	11.09	3.8
15453	Albert P. Olsen	11.49	3.9
	NO ADDRESS.		
14350	Antone Pascarelle	8.22	2.6
X500	.....	11.12	3.4
	Skimmed Milk.		
	DANBURY.		
16353	Presto Restaurant	9.64	1.7
16300	Star Restaurant	10.32	2.1
	Skimmed Milk— concluded.		
	FABYON.		
14610	Wilfred Bissonnette	10.75	2.1
14611	Wilfred Bissonnette	12.01	3.1
	HARTFORD.		
13886	Crown Restaurant	11.82	2.9
13889	Crystal Lunch	10.44	1.8
13888	Hartford Lunch	9.96	1.8
15849	W. E. Johnson	10.57	2.2
13890	Middlesex Lunch	10.85	2.1
	NEW BRITAIN.		
13893	Arcade Lunch	10.19	1.7
	NEW HAVEN.		
15324	Louis Allison	10.53	2.4
14362	Busy Bee Lunch	9.80	1.6
14592	Heinrich's	10.74	2.3
14367	Longley Lunch, Elm St...	10.38	2.0
14595	Longley Lunch, Church St.	10.02	1.7
14108	J. F. Markham	11.31	2.5
14357	Restaurant, 421 State St.	10.93	2.4
14353	Restaurant, 209 State St.	10.46	1.8
14352	Restaurant, 190 State St.	10.53	2.0
15325	Tony Rollio	10.93	2.5
15316	B. Smirnoff	9.59	1.2
14599	Tien Tsin	10.37	2.2

CONDENSED MILK.

Fourteen samples of condensed milk have been examined and the results are included in a special bulletin[1] from this laboratory.

CREAM.

Seventeen samples of cream sent by individuals to be tested for milk fat or for thickeners require no particular comment.

[1] Conn. Agr. Exp. Station, Bull. 213. Economy in Feeding the Family, V.

Twelve samples were submitted by the Dairy and Food Commissioner to check candidates for a testers' license.

HUMAN MILK.

Twelve samples of breast milk, submitted chiefly by physicians and the Visiting Nurse Association of New Haven, have been examined. The value of these analyses is entirely dependent upon whether or not the samples are representative. That is to say the composition of the first portion drawn by the breast pump may be very different from that of the last portion, so that an adequate idea of the milk elaborated by the mother can only be obtained by drawing all of the supply available at one time and properly mixing the same before sampling.

The analyses are given in Table V together with the maximum, minimum and average of two hundred samples as given by Leach.[1]

TABLE V.—ANALYSES OF HUMAN MILK.

Station No.	Solids.	Protein (N. x 6.38).	Fat.	Milk Sugar.	Ash.
	%	%	%	%	%
11815	12.92	1.28	4.5	6.91	0.23
12030	11.65	1.75	2.4	7.27	0.23
12175	10.64	1.12	2.6	6.70	0.22
12179	13.82	1.67	4.7	7.19	0.26
12489	10.12	0.97	2.3	6.71	0.14
12498	....	0.84	1.4	....	....
12789	12.05	0.97	4.0	6.94	0.14
12904	11.90	1.28	2.8	7.57	0.25
13242	12.72	1.25	4.0	7.27	0.20
13340	12.32	1.17	3.7	....	....
13377	10.37	1.66	2.2	6.24	0.27
M. L. D.	10.07	1.44	1.4	7.03	0.20
ANALYSES ACCORDING TO LEACH.					
Maximum	18.91	4.70	6.8	8.34	1.90
Minimum	8.60	0.69	1.4	3.88	0.12
Average	12.59	2.29	3.8	6.21	0.31

[1] Food Inspection and Analysis, p. 127.

SOUPS, BOUILLONS, ETC.

The food value of soups, broths and similar preparations is qualitative rather than quantitative; they are valuable not for the actual amount of food material they contain but rather for their palatability, the stimulation they give to the production and flow of digestive juices and the desirable water-soluble constituents of meats and vegetables which they may include. Quantitatively their food value rarely exceeds from 25 to 100 calories per serving.

In our analyses of these products the nitrogenous matter has been expressed as protein, but it is understood that considerable non-protein nitrogen may be present. Smith's[1] analyses of meat broths, which suggest the distribution of nitrogen in products of this type, show protein, extractive and amino nitrogen in varying proportions.

The undetermined constituents, otherwise called nitrogen-free extract, include carbohydrates if present, but except in those products prepared from vegetables or reinforced with cereals or legumes the amounts of such material are very small. Glycogen, a carbohydrate resembling starch, is present in oysters and probably also in clams and other mollusks.

Analyses of twenty-two samples of products of this class, including two samples of beef cubes and one of clam extract, have been made. The composition of the cubes and extract is given both as purchased, and as prepared for serving.

The analyses are given in Table VI.

The clam extract, **13100,** is made by the Gorton-Pew Fisheries Co., and said to be the juice of steamed clams of the finest quality, concentrated in glass-lined containers in vacuum at reduced temperature to retain the original flavor, and to contain no preservative other than the natural salt of the juice, no extra salt being added.

The beef cubes and clam extract when prepared as directed contain but a small amount of actual nutrients, resembling in this respect thin soups and bouillons, but the clam extract was particularly palatable.

Rex Brand Clam bouillon, **13145,** bore no declaration of net weight.

[1] Joslin, E. P., Treatment of Diabetes Mellitus, p. 272.

TABLE VI.—ANALYSES OF

Station No.	Brand.
	Soup.
13123	Consomme, Campbell's. Jos. Campbell Co., Camden, N. J.
13140	Consomme, Crest. Edw. D. Depew & Co., New York City, Distr...
13120	Consomme, Benefit. Direct Importing Co., Boston, Mass., Distr...
13127	Consomme, Readymaid. Franco-Amer. Food Co., Jersey City, N. J.
13124	Mock Turtle, Franco-Amer. Food Co., Jersey City, N. J.
13153	Mock Turtle, Mohican. The Mohican Co., New York City, Distr.
13109	Mock Turtle, Van Camp's. The Van Camp Packing Co., Indianapolis, Ind.
13139	Mock Turtle, Epicure. John T. Sills & Sons, New York City
13133	[1]Ox Tail, Campbell's. Jos. Campbell Co., Camden, N. J.
13121	[1]Ox Tail, Benefit. Direct Importing Co., Boston, Mass., Distr.
13125	[2]Ox Tail, Clear. Franco-Amer. Food Co., Jersey City, N. J.
	Beef Bouillon.
13119	Benefit. Direct Importing Co., Boston, Mass., Distr.
13138	Crest. Edw. D. Depew & Co., New York City, Distr.
13135	Frank's Beef Broth with Barley. L. Frank & Son Co., Milwaukee, Wis.
13134	Campbell's. Jos. Campbell Co., Camden, N. J.
	Clam Bouillon.
13110	Moose-a-Bec, with Clams. Wm. Underwood Co., Boston, Mass.
13145	Rex. The Cudahy Packing Co. South Omaha, Neb.
13122	Campbell's. Joseph Campbell Co., Camden, N. J.
13126	Readymaid. Franco-Amer. Food Co., Jersey City, N. J.
	Beef Cubes.
13136	In bulk. As purchased
	Prepared as usually directed[4]
13128	In bulk. Steero. As purchased
	Prepared as usually directed[4]
	Clam Extract.
13100	Gorton-Pew Fisheries Co., Gloucester, Mass. As purchased
	Prepared as directed

[1] 97.8% edible, 2.2% waste (bone). Analysis is of edible portion.
[2] 96.7% edible, 3.3% waste (bone). Analysis is of edible portion.

JAMS AND JELLIES.

Nine samples of jams and fifteen samples of jellies have been examined with reference to total acidity, total ash, and phosphoric acid content of the ash. It is common practice in the manufacture of jellies of the cheaper grades to use certain acids

SOUPS, BOUILLONS, ETC.

Station No.	Weight of contents. Declared.	Weight of contents. Found.	Cost per can.	Cost per lb.	Water.	Ash.	Ether extract.	Protein (N. x 6.25).	Nitrogen-free extract.	Salt (NaCl).	Nitrogen.
	ozs.	ozs.	cts.	cts.	%	%	%	%	%	%	%
13123	10.5	11.2	10.0	14.4	94.52	1.65	0.07	3.31	0.45	1.50	0.53
13140	10.5	10.2	10.0	15.5	97.23	2.11	0.06	0.44	0.16	1.98	0.07
13120	10.5	10.7	10.0	14.9	96.72	2.25	0.09	0.63	0.31	2.08	0.10
13127	10.5	10.7	13.0	19.4	96.22	2.00	0.03	1.25	0.50	1.82	0.20
13124	10.5	11.1	12.0	17.3	91.56	1.38	0.42	2.94	3.70	1.10	0.47
13153	10.5	10.4	10.0	15.4	87.76	2.73	0.88	3.25	5.38	2.24	0.52
13109	10.5	10.0	10.0	16.0	85.61	2.23	1.38	3.94	6.84	2.01	0.63
13139	10.5	11.4	10.0	14.0	86.43	3.41	1.18	2.00	6.98	3.14	0.32
13133	10.5	11.4	12.0	16.8	82.85	2.78	0.96	3.81	10.60	2.24	0.61
13121	10.5	11.2	10.0	14.4	83.36	3.20	1.35	3.13	8.96	2.64	0.50
13125	8.0	8.6	12.0	22.4	91.48	1.41	1.07	4.06	1.98	0.67	0.65
13119	10.5	10.4	10.0	15.4	97.10	2.14	0.18	0.75	+0.17	1.70	0.12
13138	10.5	9.4	10.0	17.0	97.56	1.98	0.14	0.38	+0.06	1.77	0.06
13135	12.0	11.0	12.0	17.4	92.85	1.87	0.03	1.06	1.94	1.76	0.17
13134	10.5	10.9	12.0	17.6	93.94	2.24	0.03	3.31	0.48	2.05	0.53
13110	10.0	10.7	13.0	19.4	88.13	1.31	1.01	7.06	2.49	0.51	1.13
13145	....	11.2	10.0	14.4	94.52	4.13	0.06	0.88	0.41	3.68	0.14
13122	10.5	11.1	10.0	14.4	94.75	3.01	0.07	1.31	0.86	2.32	0.21
13126	10.5	10.7	13.0	19.4	96.64	2.17	0.02	0.81	0.36	2.05	0.13
13136	....	1.6	20.0[3]	200.0	5.99	77.48	1.29	7.69	7.55	74.72	1.23
	....	....	....	....	98.51	1.23	0.02	0.12	0.12	1.18	0.02
13128	....	1.0	14.9[5]	238.4	9.13	69.68	2.16	15.06	3.97	65.60	2.41
	....	....	....	....	98.56	1.10	0.03	0.24	0.07	1.04	0.04
13100	2.0	2.0	....	....	35.83	29.00	0.19	23.19	11.79	20.80	3.71
	....	....	....	....	98.67	0.60	trace	0.48	0.25	0.43	0.08

[3] One dozen cubes weighed 1.6 ozs. and cost 20 cents.
[4] One average cube weighs 3.8 gms. and a cup of broth is taken to weigh 240 gms.
[5] One cube cost 2 cents; 1 oz. cost 14.9 cents.

to give body or stiffness to the products. Sulphuric, phosphoric, citric or tartaric acids may be used for this purpose but phosphoric acid is said to be preferred. The use of phosphoric acid results in an excess of phosphorus in the ash. According to

TABLE VII.—ANALYSES OF JAMS AND JELLIES.

Station No.	Material.	Manufacturer or Distributor.	Total acidity, as sulphuric acid.	Total ash.	Total phosphoric acid, P_2O_5.	Proportion of P_2O_5 in ash.
	Jam.		%	%	%	%
11530	Apple and Raspberry	Jos. Middleby, Jr., Boston, Mass. ..	0.22	0.374	0.031	...
11531	Apple and Strawberry	Jos. Middleby, Jr., Boston, Mass. ..	0.31	0.334	0.030	...
11535	Cherry, pure red	Francis H. Leggett & Co., N. Y. City	0.53	0.275	0.026	...
11536	Currant, pure red	Francis H. Leggett & Co., N. Y. City	0.73	0.366	0.047	...
11523	Grape Fruit Marmalade ...	Commercial Groves Co. of Florida, Orlando, Fla.	0.15	0.151	0.007	...
11532	Raspberry and Apple Juice	Humbert & Andrews, Brookl'n, N. Y.	0.30	0.145	0.022	...
11533	Strawberry and Apple Juice	Humbert & Andrews, Brookl'n, N. Y.	0.29	0.172	0.019	...
11529	Strawberry and Apple	Kelley-Clark Co., New York City ..	0.35	0.255	0.032	...
11954	Strawberry and Apple	Jos. Middleby, Jr., Boston, Mass. ..	0.27	0.380	0.035	...
	Jelly.					
11539	Apple	Armour & Co., Chicago, Ill.	0.62	0.155	0.008	5.
11541	Apple	P. J. Ritter Conserve Co., Phila., Pa.	0.25	0.180	0.009	5.
11956	Apple	The Whipple Co., Natick, Mass.	0.31	0.260	0.009	4.
11524	Apple and Currant	Wilson & Co., Chicago, Ill.	0.60	0.140	0.009	6.
11528	Crabapple and Apple	Humbert & Andrews, Brookl'n, N. Y.	0.27	0.175	0.013	7.
11540	Crabapple	P. J. Ritter Conserve Co., Phila., Pa.	0.22	0.175	0.009	5.
11537	Currant, red	Francis H. Leggett & Co., N. Y. City	1.12	0.340	0.022	6.
11527	Currant and Apple	Humbert & Andrews, Brookl'n, N. Y.	0.49	0.160	0.013	8.
11526	Grape and Apple	Humbert & Andrews, Brookl'n, N. Y.	0.25	0.180	0.013	6.
11957	Grape and Apple	Armour & Co., Chicago, Ill.	0.75	0.140	0.015	10.
11534	Grape and Apple Pectin ...	Dawson Bros. Mfg. Co., Lynchburg, Va.	0.22	0.082	0.005	6.
11525	Grape, Concord	Pacific Coast Syrup Co., San Francisco, Cal.	0.51	0.410	0.022	5.
11538	Raspberry and Apple	Armour & Co., Chicago, Ill.	0.76	0.130	0.009	6.
11955	Raspberry Flavor Apple ...	The Whipple Co., Natick, Mass.	0.48	0.380	0.032	8.
11958	Strawberry and Apple	Armour & Co., Chicago, Ill.	0.69	0.158	0.012	7.

Condon,[1] the proportion of phosphorus pentoxide in the ash of jellies made from pure fruit juices should not exceed 5 to 6 per cent. Analyses by Tolman, Munson, and Bigelow[2] show the acidity and ash content of pure fruit jams and jellies.

Our analyses are given in Table VII.

The results for acidity and total ash appear to be within the usual limits for products of the respective kinds. The proportion of phosphorus pentoxide in the ash of the jellies generally

[1] No. Dakota Agr. Exp. Sta., Special Bull., 3, 8 (1914).
[2] Jour. Am. Chem. Soc., 23, 5, 349-351 (1901).

exceeds the limits defined above. The actual amounts of each are so small in some cases that comparatively slight variations in either result in marked changes in the relative proportion, but figures approximating 10 per cent. would seem to be suggestive of added phosphoric acid.

As regards labels, several require particular criticism.

The law requires descriptive matter upon the label to be free from any statement, design, or device regarding the article, or the ingredients thereof, which shall be false or misleading in any particular.[1] This does not permit an article containing a mixture of food products to be named after one of them, even if it be labeled "compound."[2] It does permit prominence to be given to the preponderating ingredient by naming it first on the label;[3] but undue prominence is clearly outside the intent and letter of such regulations.

In case of sample **11532,** a conspicuous legend around the neck of the jar states "Raspberry" while the main label further declares the contents to consist of raspberry and apple juice. Sample **11533** is similar, substituting the word "Strawberry" in place of raspberry.

Samples **11526, 11527,** and **11528,** are jellies composed of grape and apple, currant and apple, and crabapple and apple respectively; but in each case the words grape, currant and crabapple are emphasized by larger and different colored type in a prominent position.

All these are products of the same manufacturer, viz., Humbert & Andrews, Brooklyn, N. Y.

NON-INTOXICATING CEREAL BEVERAGES OR NEAR BEERS.

Seventeen so-called near beers collected by this Station and nine by the Dairy and Food Commissioner were examined for alcohol content. The brands and manufacturers are as follows:

[1] Conn. General Statutes, Chap. 128, Sec. 2439.
[2] Conn. Regulation 16, par. d.
[3] Conn Regulation 17.

SAMPLED BY STATION AGENT.

Sta. No.	Brand.	Manufacturer.
13115	*Anzac.*	Anzac Co., Boston, Mass.
13117	*B. B.*	American Beverages Co., Canandaigua, N. Y.
13105	*Bevo.*	Anheuser-Busch Brew. Assoc., St. Louis, Mo.
13132	*Bunny Dry.*	Ropkins & Co., Hartford.
13161	*Cerva.*	Lemp, St. Louis, Mo.
13152	*Colda.*	St. Louis Brewing Assoc., St. Louis, Mo.
13112	*Delphia.*	Anzac Co., Boston, Mass.
13104	*Eblings Extra.*	Ebling Brewing Co., New York City.
13151	*E-Moh.*	The Home Brewing Co., Bridgeport.
13106	*Fifty-Fifty.*	The Fifty-Fifty Corp., Bridgeport.
13166	*Hormo.*	Rubsam & Harrmann Brew. Co., New York City.
13144	*Kovar.*	Piel Bros., East New York.
13142	*Mello.*	John Eichler, New York City.
13131	*Moro.*	The Moro Co., Bridgeport.
13130	*Nebco.*	The New England Brewing Co., Hartford.
13116	*Pablo.*	Pabst, Milwaukee, Wis.
13113	*Sterling.*	Evansville Brewing Co., Evansville, Ind.

SAMPLED BY THE DAIRY AND FOOD COMMISSIONER.

D. C. No.		
15903	*Bevo.*	Anheuser-Busch Brew. Assoc., St. Louis, Mo.
14686	*Bunny Dry.*	Ropkins & Co., Hartford.
15564	*Bunny Dry.*	Ropkins & Co., Hartford.
14687	*Bunny Dry.*	Ropkins & Co., Hartford.
15442	*Fifty-Fifty.*	Fifty-Fifty Corp., Bridgeport.
15906	*Fifty-Fifty.*	Fifty-Fifty Corp., Springfield, Mass.
15905	*Kovar.*	Piel Bros., New York City.
14688	*Nebco.*	The New England Brewing Co., Hartford.
1400	*We-No.*	F. & M. Schaefer B. Co., New York City.

None of these products contained alcohol in excess of 0.5 per cent. except **13151,** *E-Moh,* which contained 0.53 per cent.

B.B., **13117,** *Bunny Dry,* **13132, 14686, 14687, 15564,** and *Pablo,* **13116** are declared to be non-alcoholic. *B.B.* contained 0.15 per cent. alcohol and *Bunny Dry* contained in the 4 samples 0.05, 0.35, 0.44 and 0.40 per cent. respectively. No alcohol was found in *Pablo.* However it is not reasonable to expect beverages of this type to be without traces of alcohol and the declaration "non-intoxicating," which is usually made, is more correct. The manufacturers of *Bunny Dry,* Ropkins & Co., Hartford have changed their declaration to "non-intoxicating."

Two samples of home made beers sent by individuals to be examined for alcohol were found to contain 1.57 per cent. and 1.54 per cent. of alcohol by volume.

CARBONATED SOFT DRINKS.

One hundred carbonated soft drinks submitted by the Dairy and Food Commissioner have been examined for saccharin.

Twelve such products collected by the Station agent and one sent by Miss Bixby of the Bridgeport Health Department have been examined for the same substance.

State Regulation 7 prohibits the use of saccharin in normal foods even if its presence is declared on the label.

Saccharin was found in nineteen samples, all collected by the inspectors of the Dairy and Food Commissioner's Department, as follows:

D. C. No.	Brand.	Dealer or Manufacturer.
15580	Cream Soda.	Harry Owens, Myrtle Ave., Ansonia.
15376	Cream Soda.	Jos. Kent & Son, Elmville.
14657	Cream Soda.	Morris Alterwitz, 20 Court St., Stamford.
15104	Ginger Ale Soda.	G. Luippold, 285 Pembroke St., Bridgeport.
14685	Lemon Soda.	Hamilton Bot. Wks., Hamilton St., New Haven.
14676	Lemon Soda.	New York Bot. Wks., 55 Silver St., New Haven.
14658	Lemon Soda.	Morris Alterwitz, 20 Court St., Stamford.
15105	Lemon Soda.	Morris Alterwitz, 159 Franklin St., Stamford.
15368	Orange Soda.	N. P. White, Danielson.
15109	Orange Soda.	Shanbron Bottling Works, New Haven.
15100	Sarsparilla Soda.	Grey & Lights, Bridgeport.
14659	Sarsparilla Soda.	Morris Alterwitz, 20 Court St., Stamford.
15578	Soda, plain.	I. Dworkin & H. Bogrod, 51 Front St., Ansonia.
14664	Strawberry Soda.	Standard Bottling Works, Bridgeport.
15557	Strawberry Soda.	Chas. Gunning, 19 Grand St., Hartford.
15110	Strawberry Soda.	Golden Eagle Bottling Works, New Haven.
14675	Strawberry Soda.	New York Bottling Works, New Haven.
14666	Strawberry Soda.	I. Silver Bottling Works, Stamford.
15575	Strawberry Soda.	B. H. Godwin, Terryville.

CIDER.

Eleven samples of cider were submitted by individuals and by the Dairy and Food Commissioner. Ten of these were examined for alcohol and one for poisonous or injurious substances. The latter contained no toxic material so far as our examination could discover. Alcohol, by volume, in the other samples ranged from 1.8 to 7.97 per cent.

WINE.

Six samples of wine were examined, chiefly for alcohol content in connection with suspected illegal sales of alcoholic liquors. One of these which was sold at the rate of $70.00 per gallon, contains only 0.47 per cent. of alcohol by volume. Another sample was artificially colored with amaranth.

VINEGAR.

Twenty-five samples of cider vinegar were sent by individuals for examination. Eleven met the requirements of the state standard, viz., 1.6 per cent. of solids and 4 per cent. acidity. Fourteen were below standard in one or both particulars.

Twelve samples were submitted by the Dairy and Food Commissioner. Nine of these were passed and three found to be below standard.

CHOCOLATE AND COCOA.

One sample of chocolate and two of cocoa were examined for the Dairy and Food Commissioner and found to meet the requirements of State Regulation 37 which defines the substance and quality of these products.

MISCELLANEOUS MATERIALS.

Foods, etc.

13137. *Orangeade Paste.* Prepared by Emma Curtis, Melrose, Mass. Fruit flavor for beverages, jellies, frostings and sauces. Artificially colored.

The preparation had the flavor of natural fruit and contains 77.95 per cent. of solids of which 62.11 per cent. was sugar, calculated as cane and invert sugar. The color was Orange 1, a permitted color, and no preservative was found.

11522. *Borden's Coffee* with milk and sugar. Borden's Condensed Milk Co., New York. Stated to contain a small amount of chicory to improve color and flavor.

This is really a sweetened condensed milk with coffee and chicory added. A similar sample labeled Borden's Condensed Coffee, Eagle Brand, is noted in an earlier report.[1]

[1] Conn. Agr. Exp. Station, Bull. 200, p. 140 (1917).

Analyses of both these products are as follows:

Station No.	11522	1917 sample
	%	%
Water	34.02	30.12
Ash	2.19	2.25
Protein (N. x 6.38)	6.83	6.76
Fat	5.70	6.38
Lactose	8.09	9.24
Sucrose	43.17	45.25
Caffein	0.35	0.37

The caffein in both cases is about one third the amount found in ordinary coffee.

13234. *Baking Powder.* The sample contained 10.45 per cent. of available carbon dioxide whereas 12 per cent. is required by the federal standard.

Candy. Caramels, **12751,** were suspected of containing paraffin but no evidence of paraffin was obtained. Tango Kisses, **13407,** were thought to contain considerable amounts of alcohol, but only a trace was found, probably due to the flavoring extract used.

12788. *Canning Compound.* Mrs. Price's Compound, made by the Price Compound Company, Minneapolis, Minn. Other analyses have shown this preparation to consist chiefly of boric acid with a small amount of common salt. The sample submitted to us was tested qualitatively and found to contain boric acid. The sale of this compound itself, as a drug, involves some technical points of law; but clearly the use of such a preservative in food would make such food illegal if sold or offered for sale.[1]

Coffee. Two samples were examined. One, **11672,** was not found to be adulterated. The other, **13406,** was found to consist largely of chicory and cereal products. It was sold as "combination coffee" but later was labeled to show its true composition.

Concentrated Fruit Products. Four samples of concentrated fluid preparations were examined, viz., **11964,** Ideal Concentrated Pineapple Cider; **11965,** Ideal Concentrated Orangeade; **11966,** Ideal Concentrated Grape Cider; and **11967,** Ideal Concentrated Lemonade. The preparations were put up by the American

[1] Conn. General Statutes, Chap. 128, Sec. 2438; Rules and Regulations, Reg. 7, p. 10, par. 3.

Fruit Products Co., New Haven, and stated to be pure fruit products with added coloring.

Examination and partial analyses showed the products to be essentially colored solutions of organic acid or acids, largely or entirely citric acid.

Citric acid is a fruit acid to be sure, but the substance and quality of these preparations is not that indicated by their labels and they are in violation of Chapter 128, Section 2439 of the General Statutes and various State Regulations in connection therewith.

The colors were of the permitted class except that in the case of orangeade, **11965,** the tests were not wholly satisfactory for the permitted orange shade.

It should be noted that these products were not secured in the open market but were sample packages, our information being at that time that they were not in the general trade.

12176. *Condensed Milk.* The sample was examined to explain, if possible, the deep violet color produced when the milk was added to tea. It was found that fresh, whole milk to which a little iron in the form of chloride or sulphate had been added gave a similar color with tannin solutions. This is a recognized reaction between tannins and iron salts in presence of certain phosphates. This sample of condensed milk appeared to have an unexplained excess of iron which combined with the tea tannins to produce the color noted.

13032. *Dried Egg.* The sample contained moisture 8.94 per cent., ash 3.85 per cent., protein 45.56 per cent., and fat 35.87 per cent. It had the appearance and general composition of genuine dehydrated egg.

13232. *Fish* was examined for preservatives but none were detected.

12475. *Honey,* said to be buckwheat honey, was found to be of normal composition.

13211. *Ice Cream Powder* contained no starch and little if any gelatin. Sugar was present and probably vegetable gums.

13627. *Molasses* was of normal sugar content and contained only a small amount (15 milligrams per kilo.), of sulphur dioxid.

12989. *Peanut Oil.* Clarke's Virgin Peanut Oil was examined. It had a refractive index of 1.4723 at 15.5°C. and no foreign oils were detected.

12131. *Prunes* were examined to identify a white deposit on surface which proved to be sugar.

12416. *Salt.* This was sent as an unknown substance for identification. It was practically pure sodium chloride or common salt.

13554, *Soap,* and **13341,** *Washing Powder,* were both submitted for examination for free alkali. The soap contained 0.02 per cent. of alkali (as Na_2O) and the washing powder contained none.

13496. *Sugar* which showed nearly 100 per cent. sucrose, but was not sufficiently refined to make it pure white.

13384. *Syrup,* Rock Candy. The syrup contained 68.77 per cent. of solids of which 65.81 per cent. was sucrose. There was no evidence of glucose.

15551, *Maple Syrup,* was found to be of standard quality.

FOODS SUSPECTED OF CONTAINING POISON.

Six samples of various food products were submitted to be examined for poisonous substances. One of these was candy, **11819,** which was found to contain bichloride of mercury.

MATERIALS OTHER THAN FOOD EXAMINED FOR POISON.

Nine samples, chiefly stomachs or stomach contents, were examined. The samples were submitted by individuals, health or other authorities to explain, if possible, the sickness or death of animals.

In one case considerable amounts of strychnine and another distinct traces of copper and arsenic were found. In the remaining cases the results of analyses did not indicate the probable cause of death.

II. DRUGS.

SPIRIT OF CAMPHOR.
(*Spiritus Camphorae.*)

"One hundred mils of Spirit of Camphor yield not less than 9.5 gm. nor more than 10.5 gm. of camphor."—*U. S. Pharm. IX.*

Seventeen samples, collected by the Dairy and Food Commissioner, were examined as follows:

TABLE VIII.—ANALYSES OF SPIRIT OF CAMPHOR.

D. C. No.	Dealer.	Grams camphor per 100 mils.
14819	W. J. Madden, Bristol	8.78
14847	Barnum Pharmacy, Danbury	9.55
14875	W. B. Noble, East Hartford	8.41
13882	T. Sisson & Co., Hartford	10.39
14561	H. F. Ruby & Co., Hartford	9.64
14722	S. S. Nelson, Hartford	10.12
14788	Balch & Brown, Manchester	10.79
14777	W. H. Sill, Rockville	5.04
14785	Thomas Pharmacy, Rockville	7.60
14817	A. V. Oxley, Southington	10.61
14799	Thompsonville Drug Co., Thompsonville	14.46
14857	Apothecaries Hall Co., Waterbury	9.27
14752	Bay State Drug Co., Willimantic	10.00
14758	J. W. Lavallie & Co., Willimantic	10.66
14766	Wilson Drug Co., Willimantic	9.54
14773	J. H. Lockwood, Willimantic	9.83
14805	R. J. Keefe, Windsor Locks	9.09

The above samples are quite unsatisfactory. There are few drug preparations of simpler manufacture than spirit of camphor, and yet we find seventeen samples ranging from 5.04 to 14.46 gms. per 100 mils, and ten of these outside the U. S. P. limits. Nos. **14819, 14875, 14777, 14785, 14857**, and **14805** are below the minimum limit, while **14817, 14788,** and **14758** are slightly above, and **14799** very much above, the maximum. No. **14785** was labeled "Tr. Camphor." There is no such U. S. P. preparation and if this was intended to represent a product different from the official article its strength should have been declared on the label.

TINCTURE OF IODINE.
(*Tinctura Iodi.*)

"An alcoholic solution of iodine and potassium iodide. One hundred mils contains not less than 6.5 gm. nor more than 7.5 gm. of I (126.92) and not less than 4.5 gm. nor more than 5.5 gm. of KI (166.02)."—*U. S. Pharm. IX.*

Seventeen samples, collected by the Dairy and Food Commissioner, have been examined as follows:

TABLE IX.—ANALYSES OF TINCTURE OF IODINE.

D. C. No.	Dealer.	Grams per 100 mils. I	KI
14820	W. J. Madden, Bristol	7.89	5.78
14848	Barnum Pharmacy, Danbury	6.96	5.35
14874	W. B. Noble, East Hartford	7.41	6.94
13883	T. Sisson & Co., Hartford	6.22	4.54
14560	H. F. Ruby & Co., Hartford	5.87	3.89
14720	S. S. Nelson, Hartford	6.74	4.68
14787	Balch & Brown, Manchester	6.85	5.09
14776	W. H. Sill, Rockville	6.79	5.64
14784	Thomas Pharmacy, Rockville	7.19	5.21
14791	Geo. R. Steele Est., Thompsonville	7.06	4.94
14798	Thompsonville Drug Co., Thompsonville	8.03	4.91
14856	Apothecaries Hall Co., Waterbury	7.46	4.85
14751	Bay State Drug Co., Willimantic	7.22	5.02
14761	J. W. Lavallie & Co., Willimantic	6.78	4.76
14764	Wilson Drug Co., Willimantic	7.06	5.04
14774	J. H. Lockwood, Willimantic	6.78	5.05
14806	J. R. Keefe, Windsor Locks	6.96	4.76

These samples were fairly satisfactory, twelve satisfying the U. S. P. requirements in both respects. The iodine content ranged from 5.87 to 8.03, and the potassium iodide from 3.89 to 6.94 gms. per 100 mils. No. **14820** showed an excess of both ingredients, **14874** an excess of potassium iodide, **13883** a deficiency in iodine, **14560** a deficiency in both ingredients and **14798** an excess of iodine. No. **14560** is the only sample of marked inferiority.

TINCTURE OF FERRIC CHLORIDE.
(*Tinctura Ferri Chloridi.*)

"A hydro-alcoholic solution containing ferric chloride [Fe $Cl_3 = 162.22$] (about 13 per cent.), corresponding to not less than 4.48 per cent. of Fe."—*U. S. Pharm. IX.*

Twelve samples, collected by the Dairy and Food Commissioner, were examined as follows:

TABLE X.—ANALYSES OF TINCTURE OF FERRIC CHLORIDE.

D. C. No.	Dealer.	Iron. %
14822	W. J. Madden, Bristol	4.48
14876	W. B. Noble, East Hartford	4.74
13884	T. Sisson & Co., Hartford	4.78
14562	H. F. Ruby & Co., Hartford	3.68
14790	Balch & Brown, Manchester	4.86
14783	Thomas Pharmacy, Rockville	4.65
14792	Geo. R. Steele Est., Thompsonville	4.66
14855	Apothecaries Hall Co., Waterbury	4.83
14765	Wilson Drug Co., Willimantic	5.00
14753	Bay State Drug Co., Willimantic	5.00
14762	J. W. Lavallie & Co., Willimantic	4.80
14775	J. H. Lockwood, Willimantic	4.56

All of the above are satisfactory except No. **14562**, which contains only 3.68 per cent. of iron, or 82 per cent. of minimum U. S. P. strength.

WITCH HAZEL WATER.
(*Aqua Hamamelidis.*)

"A saturated aqueous liquid obtained by distilling with steam or water the bark, twigs, smaller stems or the entire shrub of *Hamamelis virginiana* Linne, collected in the autumn, and adding 150 mils of alcohol to each 850 mils of the distillate. It contains not less than 14 per cent. of absolute alcohol by volume."—*U. S. Pharm. IX.*

Fourteen samples, collected by the Dairy and Food Commissioner, were tested for alcohol as follows:

TABLE XI.—ANALYSES OF WITCH HAZEL WATER.

D. C. No.	Manufacturer or Dealer	Spec. gr. @ 15.6° C.	Ethyl alcohol by vol.
14821	E. E. Dickinson & Co., Essex	.9821	13.88*
14846	E. E. Dickinson & Co., Essex	.9825	13.80*
14767	E. E. Dickinson & Co., Essex	.9823	14.10
14558	E. E. Dickinson & Co., Essex	.9830	13.70*
14854	E. E. Dickinson & Co., Essex	.9819	14.24
14877	E. E. Dickinson & Co., Essex	.9826	13.76
14754	Gould Witch Hazel Co., Boston, Mass.	.9817	14.56
14719	S. S. Nelson, Hartford	.9824	15.36*
14801	Wm. J. O'Brien, Thompsonville	.9824	13.94
14793	Pond's Extract Co., New York City	.9804	15.10†
14816	A. V. Oxley, Southington	.9823	13.84*
14810	Riker Laboratories, New York City	....	13.88
14804	Sisson Drug Co., Hartford	.9824	13.80
13881	T. Sisson & Co., Hartford	.9825	14.18*

* 15 per cent. claimed. † 16 per cent. claimed.

No wood alcohol was found in any of the samples, and the content of grain alcohol corresponds well with the U. S. P. requirements.

ACETYLSALICYLIC ACID.
("*Aspirin.*")

Until within a few years this useful and valuable drug was a trade-mark preparation and was best known by its proprietary name "aspirin." The German originators of the drug by an extensive advertising campaign continue in their attempt to make consumers believe that "aspirin, Bayer" possesses virtues not shared by other brands. As a matter of fact "aspirin" is simply pure acetylsalicylic acid and has no virtues not equally common to other pure preparations of this acid, and the latter are generally sold at a much lower price.

Twenty-three samples of the 5 grain tablets, collected by the Dairy and Food Commissioner, have been examined.

TABLE XII.—ACETYLSALICYLIC ACID (ASPIRIN) TABLETS.

Station No.	Manufacturer.	No. of tablets in sample.	Acetylsalicylic acid. Per cent.	Maximum.	Minimum.	Average.
				grs.	grs.	grs.
14721	The Bayer Co., New York City	12	78.96	5.18	4.79	4.97
14729	The Bayer Co., New York City	12	81.90	5.41	4.92	5.18
14756	The Bayer Co., New York City	12	79.12	5.17	4.87	5.01
14772	The Bayer Co., New York City	12	80.00	5.16	4.70	4.99
14818	The Bayer Co., New York City	12	77.50	4.97	4.70	4.82
14879	The Bayer Co., New York City	12	78.68	5.44	4.78	5.04
14832	Bristol Myers Co., Brooklyn, N. Y.	12	83.56	5.09	4.81	4.90
14750	Dusal Chem. Co., New York City	12	78.10	5.00	4.38	4.79
14807	Lehn and Fink, New York City	*8	87.22	5.17	4.81	4.93
14839	Lehn and Fink, New York City	12	80.44	4.96	4.74	4.83
14878	Lehn and Fink, New York City	12	84.20	5.10	4.88	4.99
14782	Eli Lilly, Indianapolis, Ind.	12	78.84	5.31	4.97	5.01
14802	Eli Lilly, Indianapolis, Ind.	10	74.32	4.88	4.63	4.70
14853	Eli Lilly, Indianapolis, Ind.	12	74.06	4.98	4.82	4.90
14780	The Merrill Chem. Co., Cincinnati, Ohio	12	75.84	5.00	4.78	4.91
14781	The Norwich Pharmacal Co., Norwich, N. Y.	12	78.64	5.03	4.85	4.93
14728	Preston Chem. Co., Brooklyn, N. Y.	12	84.84	4.75	3.86	4.31
		12	84.82	4.47	3.87	4.19
14771	Preston Chem. Co., Brooklyn, N. Y.	12	82.92	5.85	4.74	5.18
14800	Smith, Klein & Clough, Phila, Pa.	12	76.74	5.07	4.83	4.95
14826	Smith, Kline & French Co., Phila., Pa.	12	75.20	5.34	4.50	4.82
14794	United Drug Co., Boston, Mass.	12	79.92	4.94	4.70	4.81
14838	United Drug Co., Boston, Mass.	12	80.68	4.92	4.21	4.66
14858	United Drug Co., Boston, Mass.	12	80.62	5.10	4.57	4.84

* In the same package with these eight tablets were four of quite different size and composition but yielding about the same amount of the drug. These contained 79.74 per cent., or from 4.85 to 4.98, average 4.90 grs. per tablet.

While there is a general tendency towards a slight deficiency in the drug, with the exception of No. **14728,** made by *Preston Chemical Co.,* the samples are quite satisfactory. The twenty-four tablets in this sample all showed a deficiency, ranging from 0.25 to 1.44 grs. per tablet.

TOILET PREPARATIONS.

Seventy-five samples, collected by the Dairy and Food Commissioner, have been examined solely as regards their alcohol content. The quantity of alcohol has been determined, and in all cases tests made for wood alcohol. The amounts of alcohol are expressed in terms of per cent. by volume.

The following contain no alcohol:

14718. *A. D. S. Liquid Shampoo,* American Druggists Syndicate, New York.

14578. *Witch Hazel Face Lotion,* E. A. & W. E. Child, East Hampton.

The following contain alcohol approximately as declared:

14824. *A. D. S. Almond Cream Compound,* American Druggists Syndicate, New York. Claimed 7, found 7.48 per cent.

14779. *Ayer's Hair Vigor,* J. C. Ayer Co., Lowell, Mass. Claimed 15, found 14.50 per cent.

14851. *Barry's Tricopherous for the Hair,* A. C. Barry, New York. Claimed 81, found 80.70 per cent.

14829. *Colgate's Cashmere Bouquet,* Colgate & Co., New York. Claimed 79, found 77.15 per cent.

14830. *Colgate's Shampoo Mixture,* Colgate & Co., New York. Claimed 34, found 31.16 per cent.

14563. *Danderine,* Knowlton Danderine Co., Chicago. Claimed 9, found 8.10 per cent.

14717. *Danderine Hair Tonic,* Knowlton Danderine Co., Chicago. Claimed 9, found 8.78 per cent.

14827. *Dearco Scalp and Hair Tonic,* Davies, Rose & Co., Boston. Claimed 20, found 20.18 per cent.

14725. *Gill's Lustro for Growth of Hair.* Claimed 40, found 37.40 per cent.

14726. *Guilmartin's Violet Toilet Water,* T. F. Guilmartin, Hartford. Claimed 40, found 40.60 per cent.

14797. *Hobson's Dandruff Remedy,* Pfeiffer Chemical Co., New York. Claimed 3.50, found 4.06 per cent.

14835. *Ilasol,* Riker-Hegeman, New York. Claimed 15, found 14.84 per cent.

14833. *Jergen's Benzoin & Almond,* Andrew Jergen Co., New York. Claimed 10, found 11.86 per cent.

14831. *Jergen's Violet Glycerine Shampoo,* Andrew Jergen Co., New York. Claimed 9, found 8.90 per cent.

14769. *Kickapoo Sage Hair Tonic,* The Kickapoo Indian Medicine Co., Clintonville. Claimed 25, found 24.96 per cent.

14576. *Merton's Hair Tonic,* The Bonheur Co., Syracuse, N. Y. Claimed 48, found 50.25 per cent.

14841. *Nyal's Hirsutone,* Nyal Co., Detroit, Mich. Claimed 8, found 7.46 per cent.

14840. *Nylotis Shaving Lotion,* Nyal Co., Detroit, Mich. Claimed 16, found 15.04 per cent.

14778. *Parisian Sage Hair Tonic,* The Giroux Mfg. Co., Buffalo, N. Y. Claimed 12, found 11.80 per cent.

14755. *Parke, Davis & Co.'s Larkspur Lotion,* Parke, Davis & Co., Detroit, Mich. Claimed 13, found 13.34 per cent by weight, 16.44 by volume.

14825. *Phoebe Snow Eau Vegetal,* Phoebe Snow Laboratories, New York. Claimed 50, found 50.88 per cent.

14843. *Pinaud's Eau de Quinine Hair Tonic,* Ed Pinaud, Paris. Claimed 68, found 66.65 per cent.

14849. *Pompeian Hair Massage,* Pompeian Mfg. Co., Cleveland, Ohio. Claimed 17, found 16.56 per cent.

14770. *Rexall Hair Tonic,* United Drug Co., Boston. Claimed 24, found 23.90 per cent.

14814. *Rexall Tooth Wash,* United Drug Co., Boston. Claimed 35, found 32.46 per cent.

14763. *Royal Ibis Hair Tonic,* Associated Pharmacies, New York. Claimed 16, found 14.40 per cent.

14789. *San-Tox Scalp Wonder,* De Pree Chem. Co., Chicago. Claimed 10, found 10.06 per cent.

14844. *Schieffelin's Florida Water,* Schieffelin & Co., New York. Claimed 60, found 57.75 per cent.

14573. *Seidman's Carnation Hair Tonic,* Nathan Seidman, Hartford. Claimed 10, found 9.70 per cent.

14577. *Seidman's Genuine Sage Head Tonic,* Nathan Seidman, Hartford. Claimed 20, found 21.70 per cent.

14812. *Whitman's Quinine Hair Tonic,* Whitman Chem. Co., Boston. Claimed 30, found 29.00 per cent.

14768. *Wildroot Dandruff Remedy,* Wildroot Chem. Co., Buffalo, N. Y. Claimed not over 40, found 33.06 per cent.

The following contain wood alcohol:

14724. *Gill's Sage Lotion,* sold by T. F. Guilmartin, Hartford. Claimed 50 grain alcohol, found 48.48 per cent. total alcohol, 30.30 per cent. of which is wood alcohol.

14723. *Guilmartin's Eau de Quinine Hair Tonic,* Compound, T. F. Guilmartin, Hartford. Claimed 50 grain alcohol, found 40.58 per cent. total alcohol, 15.50 per cent. of which is wood alcohol.

The following contain alcohol in amounts varying widely from claims:

14842. *Colgate's Quinol Hair Tonic,* Colgate & Co., New York. Claimed 35, found 29.16 per cent.

14813. *DeWitt's Toilet Cream,* E. C. DeWitt & Co., New York. Claimed 6, found 2.64 per cent.

14850. *Graham's Hair Color,* Mrs. Gervaise Graham, Chicago. Claimed 25, found 14.02 per cent.

14796. *Hale's Ton-A-Quin Hair Tonic,* H. R. Hale Co., Hartford. Claimed 29, found 32.46 per cent.

14811. *Hall's Vegetable Sicilian Hair Renewer,* R. P. Hall, Nashua, N. H. Claimed 15, found 13.16 per cent.

14852. *Hay's Cocoanut Oil Shampoo,* Philo Hay Specialties Co., Newark, N. J. Claimed 10, found 1.20 per cent.

14867. *Hoffman's Hair Tonic,* F. J. Mangini, Waterbury. Claimed 45, found 40.30 per cent.

14828. *Hudnut's Liquid Green Soap,* Richard Hudnut, New York. Claimed 20, found 16.10 per cent.

14837. *Jayne's Denteen,* Jaynes Drug Co., Boston. Claimed 27, found 22.40 per cent.

14759. *Lavallie's Special Pine Needle Shampoo,* J. W. Lavallie & Co., Willimantic. Claimed 4, found 0.20 per cent.

14559. *Lowe's Liquid Green Soap,* Willis H. Lowe Co., Boston. Claimed 10, found 1.43 per cent.

14873. *Newbro's Herpicide,* The Herpicide Co., Detroit, Mich. Claimed 40, found 35.31 per cent.

14823. *Packer's Liquid Tar Soap,* The Packer Mfg. Co., New York. Claimed 10, found 8.02 per cent.

14757. *Qban Hair Tonic,* Hessig-Ellis Drug Co., Memphis, Tenn. Claimed 25, found 20.96 per cent.

14836. *Riker's Septone Soap,* Riker-Hegeman, New York. Claimed 20, found 17.40 per cent.

14862. *Royal Pearl,* The H. R. Hale Co., Hartford. Claimed 29, found 32.52 per cent.

14786. *San-Tox Hair Tonic,* The De Pree Chem. Co., Chicago. Claimed 15, found 12.66 per cent.

14572. *Seidman's Eau de Quinine Compound Hair Tonic,* Nathan Seidman, Hartford. Claimed 30, found 25.38 per cent.

14574. *Seidman's Compound Hair Tonic,* Nathan Seidman, Hartford. Claimed 30, found 26.80 per cent.

14575. *Seidman's Germicide Famous Hair Tonic.* Nathan Seidman, Hartford. Claimed 30, found 18.70 per cent.

14863. *Toiletine,* The Toiletine Co., Greenfield, Mass. Claimed 15, found 12.84 per cent.

14815. *Vernas Lotion,* Vernas Chem. Co., New York. Claimed 10, found 8.26 per cent.

14834. *Vivandon Lotion Vegetole,* sold by Louis K. Liggett Co., New Britain. Claimed 76, found 70.60 per cent.

14760. *Wyeth's Sage & Sulphur Compound,* Wyeth Chem. Co., New York. Claimed 5, found 4.36 per cent.

14795. *Westphal's Auxiliator,* Paul Westphal, New York. Claimed 55, found 46.30 per cent.

The following contain alcohol without declaration:

14872. *Colgate's Lily of the Valley Toilet Water,* Colgate & Co., New York. Found 67.65 per cent.

14727. *Gill's Lilac Toilet Water,* sold by T. F. Guilmartin, Hartford. Found 33.70 per cent.

14861. *Highby's Witch Hazel and Almond Lotion,* Higby Lotion Co., New Haven. Found 5.86 per cent.

14870. *Ideal Face Cream,* Mark W. Allen, Detroit, Mich. Found 12.78 per cent.

14860. *Kelton Emulsified Cocoanut Oil Shampoo.* Found 3.74 per cent.

14869. *Mangini's Bay Rum,* F. J. Mangini, Waterbury. Found 33.02 per cent.

14865. *Mangini's Lavender Toilet Water,* F. J. Mangini, Waterbury. Found 30.10 per cent.

14866. *Mangini's Lilac Toilet Water,* F. J. Mangini, Waterbury. Found 33.42 per cent.

14845. *Palmer's Violet Toilet Water,* Palmer, New York. Found 92.35 per cent.

14803. *Robertson's Velvet Skin Lotion,* Robertson, Hartford. Found 13.10 per cent.

14808. *San-Tox Liquid Green Soap,* De Pree Chem. Co., Chicago. Found 0.76 per cent.

13885. *Sisson's Quinine Hair Tonic,* T. Sisson & Co., Hartford. Found 51.55 per cent. Quinine present.

14859. *Virginia Clover Toilet Water,* Leigh, New York. Found 69.25 per cent.

14871. *Williams' Khush-Amadi Toilet Water,* The J. B. Williams Co., Glastonbury. Found 72.71 per cent.

Of the 75 samples 2 contained no alcohol, 32 contained grain alcohol in approximately the amounts claimed, 2 contained wood alcohol, 25 contained grain alcohol in amounts at variance with the claims of the label, while 14 contained grain alcohol when none was declared. There is some question as to the necessity of a declaration of alcohol in preparations not making specific curative claims, and probably these samples come within the law.

Gill's Sage Lotion and *Guilmartin's Eau de Quinine Hair Tonic* are distinctly dangerous preparations to use because of their content of wood alcohol and their sale is illegal in this State.

PROPRIETARY REMEDIES.

11518. *Capudine.* (Hicks' Capudine Liquid). Capudine Chemical Co., Raleigh, N. C. For headaches, neuralgia, sciatic rheumatic and periodic pains, sea sickness, train nausea, colds, grippe and nervousness from the use of tobacco.

Examination and analysis showed the following composition:

A brown liquid with a sweet saline taste and the odor of menthol and aromatics. Specific gravity at 15.6° 1.1861; alcohol none; solids 32.46 per cent.; ash 9.16 per cent., containing potassium 2.61 per cent., sodium 0.64 per cent., bromine 5.14 per cent., carbon dioxide present; salicylic acid 2.26 per cent.; caffein 0.71 per cent.; cane sugar 19.10 per cent.; total nitrogen 0.30 per cent.; nitrogen as ammonia 0.08 per cent.

The preparation is essentially a non-alcoholic syrupy liquid containing caffein, bromides and salicylates.

11521. *Diabetina.* Diabetina Company Inc., 3785 Broadway, New York City. Price $2.00 per bottle; contents 8 ounces. Literature accompanying the preparation states: "It is made chiefly from the leaves of certain plants indigenous to South America; contains no habit-forming drug, and only as much alcohol as is absolutely necessary for its preparation. As regards its physiological effects it may be said that it contains one of the very best liver stimulants known to medical science, and is not irritating to the kidneys." Weekly examinations of the urine are recommended and the patient advised to consult a physician at once on the appearance of any sudden increase in sugar elimination. It is suggested that the best way to begin treatment with Diabetina is to live one week on a strict diet of meat soup, beef tea, fish of all kinds, butchers' meat (no liver), poultry, game, eggs, approved green vegetables (a diet list is appended), salads, milk, cream, butter, cheese, cream cheese, tea, coffee, and mineral waters, excluding sugar. Diabetina is to be taken simultaneously as directed and the urine examined for sugar at the end of one week. If the sugar excretion is low carbohydrates may be taken sparingly. It is claimed that while taking Diabetina, carbohydrates may be indulged in moderately and with great benefit in preserving the body albumin and in markedly diminishing acetonuria.

The diet recommended above must, of itself, result in decreased sugar elimination if rigidly adhered to; and the patient looking for evidence as to the merits of Diabetina will want to compare the results of the diet alone with those obtained together with the supplementary treatment.

Examination and analysis showed the following composition:

A dark brown fluid of bitter and astringent taste. Specific gravity at 15.6° 1.1047; alcohol 8.24 per cent.; glycerin none; total solids 27.80 per cent.; reducing sugar as dextrose, before inversion 6.96 per cent., after inversion 7.17 per cent.; total nitrogen 0.257 per cent.; ash 3.14 per cent. (includes calcium oxide 0.15 per cent.; magnesium oxide 0.20 per cent.; sodium oxide 0.22 per cent.; potassium oxide 1.31 per cent.; sulphates, chlorides, and phosphates, traces; carbon dioxide, much); acetates none; citrates trace; ether extract from acid soln. 1.28 per cent. (includes bitter and astringent principles but no emodin-like substances); alkaloid or alkaloids present, unidentified; tannins relatively high.

11519. *Freezone.* The Edward Wesley Co., Distributors, Cincinnati, Ohio. For corns, calluses and warts. Stated to contain alcohol 20 per cent. and ether 300 minims per fluid ounce.

Qualitative examination showed the following ingredients:

Ethyl alcohol; ether; collodion; zinc chloride; salicylic acid.

11514. *Iro-Nux.* Manufacturer not stated. Sold by The Gillespie Drug Co., New Haven, Conn. A laxative iron. Seventy-five tablets cost 75 cents.

Examination and analysis showed the following composition:

Uncoated tablets with bitter taste. Average weight tablet 6.08 grains. Loss at 100° 2.38 per cent.; ash 18.38 per cent. (contains talc 4.78 per cent., iron oxide 10.39 per cent., aluminum oxide 0.37 per cent., calcium oxide 0.64 per cent., and small amounts of potassium, phosphates, chlorides, sulphates and carbonates); ash of water soluble solids 1.28 per cent.; water soluble iron equivalent to 0.22 per cent. Fe_2O_3; total nitrogen 0.09 per cent.; invert sugar 1.80 per cent.; cane sugar 58.14 per cent.; total alkaloids 0.21 per cent. (strychnine and brucine identified); emodin-like substances present, rhubarb identified.

The medicament in these tablets appears to be chiefly saccharated ferrous carbonate, nux-vomica and vegetable cathartics. There is not enough nitrogen to indicate any considerable amount of iron as peptonate.

11513. *Ki-moids.* Scott and Browne, Bloomfield, N. J. For indigestion. Thirty tablets cost 25 cents.

Examination and analysis showed the following composition:

Oval, black tablets with wintergreen odor. Average weight per tablet 4.94 grains. Loss at 100° C. 29.96 per cent.; ash 53.16 per cent.; ash insoluble in acid 0.24 per cent.; total sodium (Na_2O) 30.38 per cent.; sodium bicarbonate 80.64 per cent.; methyl salicylate and rhubarb present.

Protein-digesting power was tested for, using egg albumin in 1 per cent. salt solution as substrate. Ten cc. of this solution were found to contain 0.1044, 0.1024, average 0.1034 gm. protein.

A. Ten cc. egg white solution digested at 80° C. for 15 min. Total nitrogen in coagulum equivalent to 0.1038 gm. protein.

B. Ten cc. egg white solution + 0.3202 gm. tablet powder (equivalent to average weight of one tablet) digested as in A, the enzyme being previously killed by heat. Total nitrogen in coagulum equivalent to 0.1044 gm. protein.

C. Same as B except that enzyme was not destroyed. Total nitrogen in coagulum equivalent to 0.1063 gm. protein.

D. Same as C except that 0.6404 gm. of tablet powder (equivalent to two tablets) was used. Total nitrogen in coagulum equivalent to 0.1088 gm. protein.

We find no evidence that the tablets possess any protein-digesting capacity.

9906. *Tescum Powders.* H. J. Brown Medicine Co., Cleveland, Ohio. A treatment for the liquor habit. Fourteen powders cost $1.00.

Examination and analysis showed the following composition:

Average weight per powder 6.74 grains. Total nitrogen 4.55 per cent.; total chlorine 11.30 per cent.; lactose 76.00 per cent.; gold none found; alkaloid trace, unidentified.

Milk sugar and ammonium chloride constitute over 93 per cent. of each powder.

11520. *Tongaline and Quinine Tablets.* Mellier Drug Company, St. Louis. For malarial conditions and especially those of rheumatic and neuralgic character, etc. Fifty tablets cost 55 cents.

Examination and analysis showed the following composition:

Average weight per tablet 5.78 grains. Loss at 100° 5.09 per cent.; ash 30.12 per cent.; ash insoluble in hydrochloric acid 10.65 per cent.; acid-soluble ash contains mixed iron and aluminum oxides 0.53 per cent.; calcium oxide 1.35 per cent., magnesium oxide 1.61 per cent., potassium oxide 1.01 per cent., sodium oxide 1.43 per cent., sulphate (SO_4) 10.10 per cent. and carbonate small amount; salicylic acid 3.31 per cent.; quinine 4.66 per cent.; emodine-like substances present.

The tablets contain salicylates and quinine. The name suggests, and the tablets probably contain tonga, a mixture of various barks, or an extract thereof, long since recognized as therapeutically inert. The ash constituents are attributable largely to the vegetable drugs present.

11515. *Vitalitas.* Vital Remedies Co., Houston, Texas. "Exclusively produced from our deposit of natural vitalitas mineral." Eight ounces cost $1.00. Stated to be a family remedy for rheumatism, chronic indigestion, impoverished blood and many other disorders.

Examination and analysis showed the following composition:

A light brown liquid with astringent, ferruginous taste. Specific gravity at 15.6° 1.0390; alcohol, glycerin, alkaloids or vegetable extractives none; total iron (Fe) 0.51 per cent., of which 0.42 per cent. is ferrous, and 0.09 per cent. is ferric iron; aluminum (Al) 0.34 per cent.; total sulphate (SO_4) 2.85 per cent.; lime, magnesium, sodium, and potassium slight amounts.

The preparation is an aqueous solution of ferrous, ferric and aluminum sulphates.

11515. B. *Vitalitas Laxatives.* A package of six chocolate coated tablets was included in the carton with the liquid vitalitas described above. Examination showed them to contain vegetable cathartics, cascara being identified. No phenolphthalein was present.

MISCELLANEOUS DRUGS, ETC.

Seven samples of miscellaneous drug preparations were submitted by physicians or individuals for examination.

13369. *Welch's Aegopodium,* was examined for alcohol and found to contain 12.10 per cent. by volume.

13486. *Elixir of Catnip and Fennel Compound.* This is not a U. S. P. or National Formulary preparation but as usually prepared it contains fennel, spearmint, catnip and bicarbonate of soda. Qualitatively the sample appeared to be normal except as regards color and a pronounced peppermint odor.

12574. *Citrate of Magnesia.* The preparation contained 1.29 grams of magnesium oxide and 7.13 grams of citric acid per 100 cc. and had therefore only 86 per cent. of the magnesia and 75.6 per cent. of the citric acid required by the U. S. Pharmacopoeia.

13414, *Goldine, Formula No. 1,* and **13415,** *Goldine, Formula No. 2.* The Goldine Mfg. Co., Buffalo, N. Y., Albany, N. Y. and Bridgeburg, Canada.

Examination and analysis showed the following results:

13414. A brown liquid with sweet vinous odor and a bitter after taste. Specific gravity at 15.6° 1.0295; alcohol by volume 10.95 per cent. The following constituents are in grams per 100 cc.: total solids 11.44; total sugars 9.74; ash 0.32 (contains only slight amount of iron); total nitrogen 0.018; ether extract 0.0576 (contains yellow coloring matter and a bitter principle resembling *coptis* or golden thread); chloroform extract 0.0052 (faint test for alkaloids but no specific alkaloid identified. Tests for strychnine and quinine negative.)

13415. A dark brown liquid with aromatic odor and a sweet vinous taste suggesting wintergreen and sarsaparilla. Specific gravity at 15.6° 1.0225; alcohol by volume 10.92 per cent. The following constituents are in grams per 100 cc.; total solids 9.02; total sugars 7.38; ash 0.34 (contains only slight amount of iron); total nitrogen 0.024; ether extract 0.146 (contains oil of wintergreen, sarsaparilla, coloring matter and bitter principle resembling *coptis*), chloroform extract 0.0116 (alkaloids present but no specific alkaloid identified; tests for strychnine and quinine negative).

According to information on the cartons there are some twenty-five diseases or disorders for which each of these preparations "has been used with success." We find nothing to convince us of their efficacy against such an array of diseases and believe the chief results will be derived from the alcohol and from the laxative pills with which they are directed to be used.

12653. Medicine sent for identification if possible. The preparation was a pale reddish solution with an orange odor and a saline taste. It contained sugar and the bromides of ammonium, sodium and potassium. Quantitatively it corresponded closely, and was probably intended to be, the National Formulary preparation known as Elixir of Three Bromides.[1]

12586. A white odorless powder with faintly sweet taste. It consisted of 97.6 per cent. of milk sugar but no evidence of mineral or vegetable medicament could be obtained. The powder may have been treated with some of the dilutions of the homeopathic pharmacopoeia.

Seven samples of drugs were sent by physicians, or prosecuting attorneys for identification or analysis, none of which require particular comment.

Other miscellaneous materials, eleven in number, were as follows:

13350, identified as arsenate of lead. **12675,** arsenate of lead, contained 32.11 per cent. of arsenic oxide and 63.17 per cent. of lead oxide. **11771,** bricketts used for fuel, contained moisture 2.54 per cent., volatile and combustible matter 9.56 per cent., fixed carbon 70.70 per cent., and ash 17.20 per cent. **12963** lime-sulphur concentrate, contained lime and sulphur in normal proportions for a solution of high density. **12964** was arsenate of lead which was low in water-soluble arsenic and not excessive in water soluble impurities.

Three samples of water were examined for chlorine content: **13245** was spring water and contained 0.0025 gram of chlorine per litre. **13246** was well water and contained 0.0800 gram per litre. This high chlorine was thought to be due to drainage from road treated with chloride of lime. **13247** was well water

[1] National Formulary, 4th edition, p. 39.

which showed no appreciable chlorine content (0.0025 gram per litre), and the water from which was unobjectionable.

A compound called *"Carbokill,"* **13396,** for use in gasoline to give increased power and prevent carbon accumulation, appeared from the analysis to be commercial naphthaline. The powdered tablets melted at 79°C. and the picric acid derivative melted at 150°C. These figures are in accord with those given by Allen, Mullikin and Scudder and others for pure naphthaline.

Two samples of linseed oil were examined and not found to be adulterated.

SUMMARY.

Materials.	Sampled by			From all sources.	Found adulterated, below standard or otherwise illegal.
	Station Agent.	Dairy and Food Commissioner.	Individuals.		
Foods.					
Baking powder	19	....	...	19	11
Beverages:					
Non-intoxicating	17	9	...	26	6
Home-made beer	...	....	2	2	...
Soft drinks	12	100	1	113	19
Cider	...	1	10	11	...
Wine	...	....	6	6	...
Cereal products:					
Breakfast foods	3	....	2	5	...
Bread	...	....	4	4	...
Flour	9	....	7	16	...
Chocolate and cocoa	...	3	...	3	...
Fats and Oils:					
Olive oil	...	4	2	6	2
Cooking fats	1	....	...	1	...
Butter	...	27	2	29	6
Oleomargarine	...	1	...	1	1
Gelatin	10	....	...	10	...
Ice cream	...	330	18	348	35
Jams and jellies	24	....	...	24	5
Milk and Milk Products:					
Market milk	...	1,197	119	1,316	486
Condensed milk	14	....	...	14	...
Cream	...	12	17	29	...
Human milk	...	....	12	12	...
Soups and bouillons	22	....	...	22	...
Vinegar	...	12	25	37	17
Miscellaneous	6	1	32	39	...
Total	137*	1,697	259	2,093	588
Drugs.					
Aspirin	...	23	...	23	1
Proprietary remedies	9	....	...	9	...
Spirit of Camphor	...	17	...	17	10
Tincture of Ferric Chloride	...	12	...	12	1
Tincture of Iodine	...	17	...	17	5
Toilet preparations	...	75	...	75	27
Witch Hazel	...	14	...	14	...
Miscellaneous	...	....	25	25	...
Total	9	158	25	192	44
Total, foods and drugs	146	1,855	284	2,285	632

* Exclusive of diabetic food products examined.