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The 57th Report on

# FOOD PRODUCTS

And the 45th Report on

# DRUG PRODUCTS, 1952

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STATION, NEW HAVEN, CONNECTICUT**

## CLARENCE EBER SHEPARD

Clarence Shepard died on December 7, 1952, seven years and two months after he retired as associate analytical chemist at The Connecticut Agricultural Experiment Station on October 1, 1945. He was 69 years old.

Shepard was born in North Guilford, Conn., on June 14, 1883. His parents, Henry and Alice Warner Shepard, moved to Hamden when Clarence was 12 years old, and he lived in the West Woods section of Hamden the rest of his life. After attending the Mix District School in Hamden and Boardman High School in New Haven, he entered the Sheffield Scientific School at Yale in 1903, where he studied for two years. Because of ill health he left college in 1905 and practiced farming for two years, after which he worked in the laboratory of the Winchester Arms Company until he entered the laboratory of this Station under John Phillips Street in 1909.

Like all of the Analytical Chemistry Department chemists even up to the present day, Shepard began his apprenticeship by analyzing feeds and fertilizers, but in later years he specialized in toxicology and drug analysis. He made something of a hobby of the study of native plants responsible for the poisoning of cattle, and grew a number of these plants in his garden. Specimens from this collection supplied some of the material for the photographs in Station Bulletin 470, "Notes on Livestock Poisoning in Connecticut", which he published jointly with E. M. Bailey and D. C. Walden in 1937. He was active in collaborative work in the Association of Official Agricultural Chemists, and originated one of their official methods for the determination of methyl alcohol in the presence of ethyl alcohol. During Prohibition he made most of the alcohol analyses for the New Haven Police, and frequently appeared in court to testify on liquor and narcotic cases.

Clarence Shepard was a very careful and extremely accurate analyst, and implicit confidence could always be placed in any of his results. He was also a very kindly person, always eager to be of help to anyone, and his presence was sorely missed when he retired in 1945.

## CONTENTS AND SUMMARY

Material	Page	From		Total	Adulterated, misbranded or otherwise questionable
		Food and Drug Commission	Other sources		
<i>Foods</i>					
Baked products:					
Cookies, cupcakes and doughnuts ..	8	8	....	8	6
Egg noodles and macaroni .....	9	7	....	7	5
Ravioli .....	10	....	1	1	1
Beverages, carbonated, etc.:					
Alcoholic beverages .....	10	...	76	76	76
Beverage concentrate .....	11	1	....	1	1
Beverages suspected of containing saponin .....	11	61	2	63	37
Carbonated beverages .....	18	12	....	12	2
Orange drinks .....	18	2	....	2	...
Coffee .....	18	2	2	4	...
Confectionery .....	18	20	1	21	14
Contaminated or decomposed foods ..	21	101	40	141	46
Dairy products:					
Butter .....	24	26	....	26	18
Cheese .....	24	4	2	6	4
Cream .....	26	...	5	5	1
Evaporated milk .....	26	3	....	3	...
Ice cream .....	26	1	4	5	2
Unfortified fluid milk .....	26	...	92	92	...
Vitamin D milk .....	26	...	245	245	31
Deceptively packed foods .....	29	14	....	14	10
Eggs .....	30	2	1	3	...
Extracts and flavors .....	30	...	1	1	...
Fresh fruit .....	30	...	86	86	...
Fruit, canned .....	30	1	....	1	...
Fruit juices .....	30	4	16	20	1
Meat and meat products:					
Frankforts .....	33	1	5	6	5
Hamburg .....	34	350	32	382	34
Other meat products .....	35	3	3	6	3
Oils and fats, vegetable:					
Blended oils .....	38	4	....	4	3
Oleomargarine .....	38	3	3	6	...
Olive oil .....	38	3	2	5	1
Peanut oil .....	40	1	....	1	...
Pickles .....	40	...	3	3	...
Popcorn .....	40	2	....	2	...
Preservatives .....	40	5	1	6	3
Preserves .....	41	2	....	2	...
Salad dressings and mayonnaise .....	41	7	....	7	1
Shellfish .....	43	3	....	3	...
Spices .....	43	11	1	12	3
Spray residues .....	44	20	34	54	7
Syrups .....	45	3	....	3	...

## CONTENTS AND SUMMARY (Concluded)

Material	Page	From		Total	Adulterated, misbranded or otherwise questionable
		Food and Drug Commission	Other sources		
Vegetable products .....	45	9	17	26	6
Vinegar .....	46	36	...	36	26
Water .....	46	...	32	32	6
Miscellaneous .....	50	3	93	96	53
<b>Totals .....</b>		<b>735</b>	<b>800</b>	<b>1,535</b>	<b>406</b>
<i>Drugs</i>					
Ammoniated mercury ointment .....	53	5	....	5	3
Boric acid solution .....	53	26	....	26	5
Dextro-amphetamine sulfate tablets ..	53	5	....	5	4
Diluted hydrochloric acid .....	55	13	....	13	2
Neo-Silvol solution .....	55	12	....	12	1
Miscellaneous drugs .....	56	27	43	70	23
Prescriptions .....	62	81	6	87	49
<b>Totals .....</b>		<b>169</b>	<b>49</b>	<b>218</b>	<b>87</b>
Cosmetics .....	70	6	3	9	4
Devices .....	72	1	2	3	1
Collaborative .....	72	...	1,378	1,378	...
<b>Total for all .....</b>		<b>911</b>	<b>2,232</b>	<b>3,143</b>	<b>498</b>
Babcock glassware, etc. ....	72	...	4,227	4,227	8

## The Fifty-Seventh Report on FOOD PRODUCTS and the Forty-Fifth Report on DRUG PRODUCTS 1952

H. J. Fisher

This report summarizes examination of foods, drugs, cosmetics and miscellaneous materials submitted by the Food and Drug Commissioner and the Commissioner of Farms and Markets during the calendar year 1952, as well as like materials analyzed for health departments and others. The numbers of samples of all kinds analyzed for Federal, State and Station departments and not reported in other bulletins are also listed.

Seventeen hundred and sixty-five samples of foods, drugs, cosmetics and miscellaneous materials were examined during the year. This was an increase of 542 samples over the previous year, and exceeded by 59 the previous record set in 1946. Meat and meat products led the list in number of samples analyzed with 394 samples (of which 382 were hamburgs analyzed chiefly for their fat contents), but dairy products were close behind with 382 samples, 245 of which were vitamin D milks. Carbonated and other beverages were third with 151 samples, and foods suspected of insect or rodent infestation or contamination with foreign materials were fourth with 141 samples.

There were four changes in personnel during 1952. Because the increased load of food samples required the services of another chemist, Mr. Sherman Squires was assigned to food and drug analysis and Mrs. Janice Lewis was hired on November 1 to replace him as feed and fertilizer analyst. Mr. James J. Smith had been on sick leave most of the time for several months and retired on February 1, 1953. On November 1 Mr. John Sprague was transferred from outside work as gardener to take over Mr. Smith's duties in the grinding room. On December 31 Mrs. Marion C. Thorpe resigned as secretary.

The death of Clarence E. Shepard, a former member of this department, is referred to at the beginning of this bulletin.

The writer wishes to express his gratitude to all the members of the staff for their loyal and efficient work. The quantity of samples submitted with demands for immediate analysis was at times so great as to threaten to overwhelm our chemists, but they always came through

and got the work done. All of our scientific staff were responsible for some of the analyses listed in this bulletin, but especial mention should be made of Mr. Merwin's work in analyzing most of the drug and cosmetic samples (aided by Mr. Squires and Miss Kocaba in some chemical analyses and by Mr. Mathis in infrared analyses of prescription samples), Mr. Wickroski's many accurate analyses of foods (including the determination of fat in hundreds of hamburgs and tests for saponin in many beverages), and the responsibility of Dr. Hubbell and her staff for the vitamin D assays. Miss Shepard's microscopic examinations for insect and rodent infestation and Mr. Keirstead's testing of the vinegar samples should not be overlooked.

Last of all, it should be acknowledged that the credit for protecting the public against adulterated foods and drugs is owed at least as much to Commissioners Richard and Christensen and their divisional chiefs and staffs of inspectors who located the samples as it is to the Station chemists who analyzed them.

## FOODS

### Baked Products

Fifteen samples of baked products, including six of cookies, six of egg noodles, and one each of cupcakes, doughnuts and macaroni, were submitted by the Commissioner. One sample of ravioli was examined for a manufacturer. Of the total 16 samples, four were passed and 12 were misbranded or otherwise objectionable.

#### Cookies, Cupcakes and Doughnuts

*T.C.-36, Butter Maid Coconut Sticks Quality Pastries*, made by Richard Baking Co., Southbridge, Mass., was labelled "Ingredients—Patent flour, pastry flour, hydrogenated shortening, fresh eggs, milk solids, sugar, salt, U. S. certified color, pure lemon flavor, honey and coconut". Analysis showed 28.23 per cent of fat with a butyro refraction of 45.2 at 40°C. and a Reichert-Meissl value of 2.38, indicating the presence of little if any butter fat. The sample was therefore misbranded because the name "Butter Maid" was misleading.

*T.C.-312, Butter Maid Cup Cakes*, baked by Richard Baking Co., Southbridge, Mass., contained 16.26 per cent of fat with a Reichert-Meissl value of 0.71 in the cake proper, and 12.70 per cent of fat with the same Reichert-Meissl value in the frosting. Since this analysis indicated no butter fat, the brand name "Butter Maid" was misleading.

*K.C.-393, Exquisite Cookies*, made by Exquisite Cookie Co., Boston, Mass., consisted of two separate open-faced boxes of cookies mounted side-by-side on a sheet of cardboard, with one cellophane wrapping covering both boxes. A label pasted over one box read "Butter Spritz Cookies", while a label over the other box read "Delicious Ginger Wafers". No manufacturer's name or address nor declaration of ingredients could be seen on inspection of the unopened package, but when the wrapper was removed and the boxes were lifted off their cardboard base, each box was found to bear an identical ingredient statement and the name "Exquisite Cookie Co., Boston, Mass.". The

ingredient statement was as follows: "Flour, Sugar, Vegetable Shortening, fresh Creamery Butter, fresh eggs, Vanilla, Salt, Leavening, pure Spices.—IF USED Cocoa, Jam, Molasses, Oatmeal."

Analysis of this sample showed respectively 19.35 per cent of fat (dry basis) with a Reichert-Meissl value of 1.80 in the "Butter Spritz" cookies, and 6.67 per cent of fat with a Reichert-Meissl value of 2.14 in the "Ginger Wafers"; coal tar dye was present in candy balls on top of some of the "Butter Spritz" cookies. Because of the undeclared artificial color and the fact that the ingredient statement and manufacturer's name and address were not visible on the unopened package, this sample was misbranded.

*K.C.-424, Home Style Cookies Chocolate Cremes*, sold by the Barry Co., Bridgeport, Conn., was misbranded because the package bore an almost illegible ingredient statement and no manufacturer's name or address.

*K.C.-425, Home Style Cookies Duplex Cremes*, also sold by the Barry Co., Bridgeport, was misbranded for the same reasons.

*K.C.-404, Kiddie Kookies with Arrowroot*, made by Ripon Foods, Inc., Ripon, Wis., declared "arrowroot flour" as one of the ingredients. Because microscopic examination indicated that a small proportion of arrowroot might be present, this sample was passed.

*K.F.-1075, Pure Chocolate Tip Top Dipped Donuts*, made by Ward Baking Co., New York, N.Y., was analyzed as follows: Fat in chocolate coating, 46.02 per cent; butyro refraction of this fat, 47.5 at 40°C. Passed.

*K.C.-420, Zion America's Finest Butter Flavored Cookies*, made by the Zion Bakers, Zion Industries, Inc., Zion, Ill., was labelled: "Ingredients: Wheat flour, sugar, shortening, dextrose, butter, powdered milk, eggs, salt, flavor, and leavening." The words "Butter" and "Cookies" were in conspicuous large type, while the "Flavored" between them was in much smaller and less conspicuous type. Analysis was as follows: Total fat, 16.15 per cent; butyro refraction of fat, 40°C., 52.3; Reichert-Meissl value of fat, 3.21.

Although the analysis indicated that as much as 11 per cent of the total fat might be butter fat, the sample was considered to be misbranded because of the misleading typographical arrangement and the inconspicuousness of the net weight declaration.

#### Egg Noodles and Macaroni

*K.C.-416, Goodman's Pure Egg Products Unsalted*. A. Goodman and Sons, Inc., Long Island City, N. Y. Labelled "Made of durum patent flour & selected eggs". Sample misbranded because it was not a "pure egg product" and because it did not bear the name "Noodle Product" required by Federal regulations.

*K.C.-415, Goodman's Toasted Pure Egg Barley Unsalted*. A. Goodman and Sons, Inc., Long Island City, N. Y. Misbranded because no barley was present and because the label did not bear the name "Noodle Product".

*K.C.-414. Goodman's 2X Noodles.* A. Goodman and Sons, Inc., Long Island City, N. Y. Labelled "Unsalted, TWICE the EGGS", and "Containing Twice the Eggs required by U.S. Government Standards." Analysis was as follows: Moisture, 10.44; lipoids, 8.12; lipid  $P_2O_5$ , 0.198, and estimated egg solids (dry basis), 14, per cent. The net weight was 4.83 ounces, as against 5 oz. declared.

Since Federal Regulation 16.6(a) requires that noodle solids contain "not less than 5.5 per cent by weight of the solids of egg, or egg yolk", and this sample contained more than twice this percentage, it was passed.

*A.L.-132. Pure Eggs Home-Way Real Egg Noodles, Not Colored.* Home-way Real Egg Noodle Co., Bronx, N. Y. Labelled: "Ingredients: Semolina No. 1 Durum Flour, Egg Yolk—Contains No Salt." Analysis showed: Moisture, 10.56; lipoids, 6.52; lipid  $P_2O_5$ , 0.126, and egg yolk solids (dry basis), 5.8, per cent. Passed.

*A.L.-74. Pure Eggs Home-Way Real Egg Spaetzle (Egg Drops).* Home-way Real Egg Noodle Co., Bronx, N. Y. Labelled: "Ingredients: Semolina No. 1 Durum Flour, Egg Yolk—Contains No Salt". Analysis showed: Moisture, 10.48; lipoids, 5.37; lipid  $P_2O_5$ , 0.11, and egg yolk solids, 3.9, per cent; artificial color absent. Misbranded because deficient in egg yolk solids and because not labelled "Noodle Product".

*K.C.-419. Mueller's Sea Shells.* C. F. Mueller Co., Jersey City, N. J. Labelled: "Made of the finest semolina and farina"; misbranded because the label failed to bear the standard name "Macaroni Product".

*K.N.-419. Zoo-Mac Pure Egg Animal Noodles.* V. Viviano & Bros., Inc., St. Louis, Mo. Labelled: "Made from High Protein wheat, egg yolks and egg whites. Contains over 51½% Egg Solids. Rich in proteins, vitamins, and minerals." Analysis was as follows: Total solids, 92.25; lipoids (dry basis), 4.81; lipid  $P_2O_5$  (dry basis), 0.091, and egg yolk solids (dry basis), 5.0, per cent. The package was only 56 per cent filled; the net weight was 5.8 ounces (6 oz. declared).

Because the claim "Rich in . . . vitamins" made this product a special dietary food, it was misbranded for failure to declare the proportions of the minimum daily requirements of vitamins contributed by a specific quantity of the noodles.

### Ravioli

1369, six large raviolis in a box, was submitted by the Genoa Ravioli Egg Noodle Mfg. Co. of New Haven for investigation as to why the raviolis broke on cooking. We found that these raviolis had to be boiled for 30 minutes for the rather thick crimped edges to be done, at the end of which time the sheet of dough covering the cream-cheese stuffing had begun to fall apart. The causes of this breaking apart were probably a combination of the thickness of the edges and steam pressure from excess moisture in the cream cheese.

### Beverages, Carbonated, Etc.

#### Alcoholic Beverages

Seventy-six samples of alcoholic beverages were analyzed for State and local police, mostly in connection with sales at illegal hours.

### Beverage Concentrate

*K.F.-1091, Loeb Dietetic Sucaryl and Saccharin Sweetened Beverage Concentrate, Raspberry Flavor,* manufactured by Loeb Dietetic Food Co., Inc., New York, N.Y., was labelled "Specially prepared for the sugar restricted and starch restricted diet". It was submitted by the Commissioner for an opinion on whether it came under the non-alcoholic beverage law, and if so whether it could legally be sold in Connecticut. This was an artificially sweetened product: 0.02 per cent of saccharin and 0.05 per cent of Sucaryl Sodium were declared. While normally the beverage law does not require out-of-state manufacturers to take out bottlers' licenses, this product probably does come under the section of the law (G.S. 867b) requiring special permits for the sale of beverages containing "saccharin, dulcin or other artificial sweetening agent".

### Beverages Suspected of Containing Saponin

Leach's "Food Inspection and Analysis"<sup>1</sup> lists three materials that were commonly used in beverages to produce a "head" in 1920 and earlier: Soapbark, commercial saponin and glycyrrhizin. Soapbark is the dried inner bark of *Quillaja Saponaria*, a large evergreen tree, native to Chile and Peru but also cultivated in Bolivia, Southern California and Northern Hindostan; it is recognized in the National Formulary, although probably very little used in medicine nowadays. It contains about 10 per cent of saponins, the chief of which is quillaic acid or "quillain". Commercial saponin is made from *Saponaria officinalis*, known as "soapwort", "soaproot", "fuller's herb", "bruisewort" and "bouncing bet", a plant native to Europe and Middle Asia but naturalized in the United States. Glycyrrhizin is the active constituent of licorice; it occurs in the root as the calcium and potassium salts of glycyrrhizic acid, a very sweet compound whose structure has not yet been completely established but which is probably related to the saponins.

The term "saponin" is a generic name for a class of compounds, all of which chemically are combinations of sugars with alcohols or phenols, that possess the properties of frothing with water and hemolyzing (i.e., dissolving) blood corpuscles. While not all are equally toxic, they are generally considered to be poisonous. Sollmann's "Manual of Pharmacology" says that saponins "tend to alter the permeability of the protoplasmic surface of cells, and are generally protoplasmic poisons".<sup>2</sup> The U. S. Dispensatory states that quillaic acid, the active principle of soapbark or *Quillaja*, is extremely poisonous, and says of soapbark itself that "It was formerly largely used in the production of foam on non-alcoholic carbonated beverages; this use is prohibited by law in most, if not all jurisdictions".<sup>3</sup> Sollmann confirms this with the statement that "The use of quillaja in medicinal emulsions or for producing foam in soda water, etc., is not admissible."<sup>4</sup>

The statement in the Dispensatory that the use of soapbark in beverages "is prohibited by law in most, if not all, jurisdictions", is unfortu-

<sup>1</sup>4th Ed., p. 1014 (1920).

<sup>2</sup>6th Ed. (1942), p. 556.

<sup>3</sup>24th Ed. (1947), p. 948.

<sup>4</sup>6th Ed. (1942), p. 557.

nately unduly optimistic; soapbark is not mentioned in the Connecticut beverage or food, drug and cosmetic laws, and we were unable to find that any of the neighboring States either had such a prohibition or were paying any attention to the possibility that soapbark might be present in beverages sold in their jurisdictions. The only statement by the U. S. Food and Drug Administration on the subject is the so-called "T.C.-No. 201" of March 21, 1940, which reads as follows:

"When toxic saponins are used in amounts that render beverages or other food products injurious to health or when the use of saponin has the effect of concealing damage or inferiority, the finished article if shipped within the jurisdiction of the law is classed as adulterated. Manufacturers who use saponin must do so on their own responsibility, but before they use any particular saponin in food they should first assure themselves that it is entirely wholesome and suitable for food use, and second, that as the product is used it does not serve to conceal inferiority or make the product appear better or of greater value than it is."

According to the Connecticut Food, Drug and Cosmetic Act, any food is adulterated if it contains an added deleterious substance "which is unsafe within the meaning of Section 3942". One criterion of unsafeness in Section 3942 is that a product shall not be required in good manufacturing practice; if any substance is dispensible in good manufacturing practice and is known to be toxic in *any* concentration, it is not necessary to establish that it is actually poisonous at the concentration used in the finished food. Since a product that will dissolve blood cells will obviously be poisonous if it gets into the blood stream, and since carbonated beverages can be and are being made without the addition of foaming agents, we believe that any foaming agent or finished beverage containing a hemolytic ingredient is adulterated within the meaning of the Connecticut Food, Drug and Cosmetic Act.

In order to find out the extent of the present-day use of saponins and other hemolytic agents in beverages and to remove them from the market where found, the Commissioner submitted 61 samples of carbonated beverages and beverage bases in 1952. These and two other unofficial samples were tested with results shown in Table 1. Twenty-six samples were passed; 17 beverages were found to contain saponin and one to contain a synthetic hemolytic agent; of 19 beverage bases considered illegal, 15 contained saponin and four contained an unidentified synthetic hemolytic agent or agents variously listed on labels as "paraffine alcohols" or "sulfonated hydrocarbons". Methods of analysis used were those given in Leach's "Food Inspection and Analysis,"<sup>1</sup> and were essentially as follows: The sample was extracted with phenol in the presence of ammonium sulphate and the saponin was then transferred back from the phenol into water by shaking with ether and water; the aqueous extract so obtained was evaporated, and the residue submitted to a color test and tested for its foaming properties with water and its hemolytic properties. If under the conditions of the test defibrinated rat blood was hemolyzed by the extract, and this hemolytic property disappeared when cholesterol was added, saponin was considered to be present; if

<sup>1</sup>4th Ed., p. 1015 (1920).

TABLE 1. BEVERAGES SUSPECTED OF CONTAINING SAPONIN

No.	Manufacturer or dealer and brand	Declared ingredients	Hemolysis test		Remarks
			No cholesterol	Cholesterol added	
K.N.-502	Airline Food Corp., Linden, N.J. <i>Sparkoffee</i> .....	Freshly roasted coffee and other natural flavors, carbonated water, sugar syrup, caramel color, and 1/10 of 1% benzoate of soda	negative	negative	No saponin; passed.
K.C.-391	Allen Beverages, Bridgeport, Conn. <i>Allen Beverages Root Beer</i> .....	None	positive	negative	Saponin present; adulterated.
K.F.-1099	Ansonia Bottling Co., Ansonia, Conn. <i>Root Beer Soda</i> .....	None	positive	negative	Saponin present; adulterated.
K.F.-1100	Ansonia Bottling Co., Ansonia, Conn. <i>Root Beer</i> .....	None	positive	negative	Saponin present; adulterated.
K.N.-455	Avery Bottling Works, New Britain, Conn. <i>Root Beer</i> .....	None	negative	negative	No saponin; passed.
K.N.-454	Avery Bottling Works, New Britain, Conn. <i>Sarsaparilla</i> .....	None	negative	negative	No saponin; passed.
W.M.-472	Blue Ribbon Beverage Co., New Haven, Conn. <i>Blue Ribbon Creamy Root Beer</i> .....	None	negative	negative	No saponin; passed.
W.M.-531	Blue Ribbon Beverage Co., New Haven, Conn. <i>Blue Ribbon Creamy Root Beer</i> .....	Carbonated water, cane sugar, flavors, choice roots and herbs	negative	negative	No saponin; passed.
2868	Blue Ribbon Beverage Co., New Haven, Conn. <i>Blue Ribbon Creamy Root Beer</i> .....	None	negative	negative	No saponin; passed.
K.N.-486	Brewer Co., Inc., Worcester, Mass. <i>Glycyrrhiza Fluidextract U.S.P.</i> .....	Licorice root fluidextract, alcohol 22%	negative	negative	No saponin; passed.
K.C.-417	Castle Products Co., Irvington, N.J. <i>Heads for Cocktails</i> .....	Water, paraffine alcohols, vegetable extractives, citric acid, and 1/10 of 1% benzoate of soda	negative	negative	No saponin; passed.
K.N.-438	Cherry Blossoms Co., St. Louis, Mo. <i>Kreemo Foam Solution</i> .....	Vegetable compound, propylene glycol and water	positive	negative	Saponin present; adulterated.
			positive	positive	Non-saponin hemolytic agent present; adulterated.

TABLE 1. BEVERAGES SUSPECTED OF CONTAINING SAPONIN—(Continued)

No.	Manufacturer or dealer and brand	Declared ingredients	Hemolysis test		Remarks
			No cholesterol	Cholesterol added	
K.F.-1005	Colonial Beverage Co., Waterbury, Conn. <i>Twitche'll's Birch Beer Extract</i>	None	positive	negative	Saponin present; adulterated.
K.F.-961	Cott Beverage Corp., New Haven, Conn. <i>Cott's Root Beer</i>	Carbonated water, flavor, caramel color, and cane sugar	negative	negative	No saponin or benzoate; passed.
K.N.-437	DeLamar-Hendrey Chemical Co., Chicago, Ill. <i>Fomon-10GM.</i>	Hydrolyzed soy protein, 1/10 of 1% benzoate of soda	negative	positive	No saponin; passed.
K.N.-485	Dyballa's Spring Beverages, Woonsocket, R.I. <i>Dyballa's Spring Beverages Root Beer</i>	Carbonated spring water, flavor, citric acid, and sugar	positive	negative	Saponin present; adulterated.
K.F.-960	Elco Beverage Co., Bristol, Conn. <i>Smooth Root Ale</i>	None	positive	negative	Saponin present; adulterated.
K.F.-952	Flavorx Co., Baltimore, Md. <i>Gem Root Beer Creamy Foam Type Beverage Base</i>	Oil of sassafras, sweet birch, natural extractive and other flavor, vegetable foam extractives, caramel color, vegetable gum and water	positive	negative	Saponin present; adulterated.
K.F.-1062	Flavorx Co., Baltimore, Md. No. 1672 <i>Foam Solution</i>	None	positive	negative	Saponin present; adulterated.
K.N.-452	Granite Spring Beverage Co., Thomaston, Conn. <i>Creamy Foam Type Beverage Base</i>	Water, caramel color, propylene glycol, veg. gum, oil of sassafras, sweet birch, wintergreen, anise, lemon, fennel, vanillin, coumarin and veg. foam extractives	positive	negative	Saponin present; adulterated.
K.N.-433	Gra-Rock Ginger Ale Bottling Co., Wethersfield Conn. <i>Gra-Rock Root Beer</i>	Carbonated water, cane sugar, citric acid, flavor, caramel	negative	negative	No saponin; passed.
K.N.-434	Great Atlantic & Pacific Tea Co., Wethersfield, Conn. <i>Yukon Club Root Beer</i>	Carbonated water, sugar, flavor and caramel color	doubtful	doubtful	Passed.
K.N.-424	Hurty-Peck & Co., Indianapolis, Ind. <i>Superb Brand No. 523 Sparkling Soda Foam.</i>	Quillaja root, glycyrrhiza, citric acid and water	positive	negative	Saponin present; adulterated.
K.N.-439	Knobby Bottling Co., New Britain, Conn. <i>Root Beer</i>	None	.....	.....	Not tested.
K.F.-966	H. Kohnstamm & Co., Inc., New York, N.Y. <i>Atlas Flavors N1298 Foam Blender.</i>	Physiologically tested non-toxic sulfonated hydrocarbons, vegetable extractives and water	positive	positive	Non-saponin hemolytic agent present; adulterated.
K.F.-995	H. Kohnstamm & Co., Inc., New York, N.Y. <i>Atlas Flavors N1298 Foam Blender.</i>	Physiologically tested non-toxic paraffine alcohols, vegetable extractives and water	positive	positive	Non-saponin hemolytic agent present; adulterated.
K.N.-436	H. Kohnstamm & Co., Inc., New York, N.Y. <i>Atlas Flavors N1298 Foam Blender.</i>	Physiologically tested non-toxic paraffine alcohols, vegetable extractives and water	positive	positive	Non-saponin hemolytic agent present; adulterated.
K.N.-458	H. Kohnstamm & Co., Inc., New York, N.Y. <i>N-1272 Licorice Foam Blender.</i>	Licorice gum, propylene glycol and water	negative	negative	No saponin; passed.
J.W.-311	H. Kohnstamm & Co., Inc., New York, N.Y. <i>N-1272 Licorice Foam Blender.</i>	Licorice gum, propylene glycol and water	negative	negative	No saponin; passed.
K.N.-431	Lafayette Bottling Co., New Britain, Conn. <i>Lafayette Club Soda.</i>	None	negative	negative	Trace of saponin present; adulterated.
K.N.-432	Lafayette Bottling Co., New Britain, Conn. <i>Lafayette Root Beer.</i>	None	positive	negative	Saponin present; adulterated.
A.L.-80	Liquid Carbonic Corp., Chicago, Ill. <i>Batch No. 4709H1 Root Beer Beverage Base.</i>	Water, propylene glycol, ethyl vanillin, artificial flavor and foam, and caramel color	positive	negative	Saponin present; adulterated.
K.F.-1101	Liquid Carbonic Corp., Chicago, Ill. <i>Liquid No. 5144 Root Beer Beverage Base, Batch 5256A2.</i>	Water, sugar, ethyl vanillin, vegetable gum, caramel color, artificial flavor and foam	positive	negative	Saponin present; adulterated.
K.F.-1107	Liquid Carbonic Corp., Chicago, Ill. <i>No. 51-418 Regal Root Beer Beverage Base.</i>	Water, sugar, ethyl vanillin, vegetable gum, caramel color, artificial flavor and foam	positive	negative	Saponin present; adulterated.
K.F.-953	Liquid Carbonic Corp., Chicago, Ill. <i>1050 Concentrated Artificial Foam.</i>	Propylene glycol, water and artificial foam	positive	negative	Saponin present; adulterated.
K.F.-1104	C. Mascola Beverage Co., Waterbury, Conn. <i>Kooling Cream Soda.</i>	Pure cane sugar and the finest ingredients with pure artesian well water.	negative	negative	No saponin; passed.



TABLE I. BEVERAGES SUSPECTED OF CONTAINING SAPONIN—(Concluded)

No.	Manufacturer or dealer and brand	Declared ingredients	Hemolysis test		Remarks
			No cholesterol	Cholesterol added	
K.F.-1103	C. Mascola Beverage Co., Waterbury, Conn. <i>Kooling Root Beer</i> . . . . .	Pure cane sugar and the finest ingredients with pure artesian well water	negative	negative	No saponin; passed.
K.F.-1003	C. Mascola Beverage Co., Waterbury, Conn. <i>Top Notch Cream Soda</i> . . . . .	None	doubtful	doubtful	Passed.
K.F.-1105	C. Mascola Beverage Co., Waterbury, Conn. <i>Top Notch Cream Soda</i> . . . . .	None	negative	negative	No saponin; passed.
K.F.-1004	C. Mascola Beverage Co., Waterbury, Conn. <i>Top Notch Root Beer</i> . . . . .	None	doubtful	doubtful	Passed.
K.F.-1102	C. Mascola Beverage Co., Waterbury, Conn. <i>Top Notch Root Beer</i> . . . . .	Caramel color, pure cane sugar and the finest ingredients with pure artesian well water	doubtful	negative	Passed.
E.C.-558	Mason & Mason, Inc., Chicago, Ill. <i>Mason's Old Fashioned Root Beer</i> . . . . .	None	positive	negative	Saponin present; adulterated.
W.M.-506	Mason & Mason, Inc., Chicago, Ill. <i>Mason's Old Fashioned Root Beer</i> . . . . .	None	positive	negative	Saponin present; adulterated.
E.C.-559	Mason & Mason, Inc., Chicago, Ill. <i>Mason's Old Fashioned Root Beer Concentrate</i> . . . . .	None	positive	negative	Saponin present; adulterated.
K.C.-362	Mike's Restaurant, Bridgeport, Conn. <i>Otterstedt's Superior Birch Beer</i> . . . . .	None	positive	negative	Saponin present; adulterated.
K.N.-456	Old Fashion, Inc., Wilkes-Barre, Pa. <i>Ma's Old Fashion Bottlers Beverage Base</i> . . . . .	Natural and synthetic flavor, caramel color, water, propylene glycol, glycerine, saponin, and sodium benzoate	positive	negative	Saponin present; adulterated.
J.W.-369	Old Fashion, Inc., Wilkes-Barre, Pa. <i>Ma's Root Beer</i> . . . . .	Natural and synthetic flavor, caramel color, water, propylene glycol, glycerine, sodium benzoate, gum arabic, citric acid and sorbitan monolaurate derivative	positive	negative	Saponin present; adulterated.

K.F.-1113	Penn Bottling Co., Derby, Conn. <i>Penn Root Beer</i> . . . . .	Sugar, filtered carbonated water and choice flavors	positive	negative	Saponin present; adulterated.
K.F.-1114	Penn Bottling Co., Derby, Conn. <i>Penn Root Beer</i> . . . . .	Sugar, filtered carbonated water and choice flavors	positive	negative	Saponin present; adulterated.
K.N.-425	Perkin's Bottling Works, Bristol, Conn. <i>Twitchell's Foam Jelly</i> . . . . .	Extraction of soap bark, glycerine, sugar and water	positive	negative	Saponin present; adulterated.
K.F.-967	Theall E. Pile, Inc. New York, N.Y. <i>Thesco Products Cream Foam</i> . . . . .	None	positive	negative	Saponin present; adulterated.
K.C.-418	O. Platt & Co., Bridgeport, Conn. <i>Cocktail Topping</i> . . . . .	None	positive	negative	Saponin present; adulterated.
3204	F. Ritter & Co., Los Angeles, Calif. <i>Yuccarome Root Beer Taste Improver</i> . . . . .	None	negative	negative	No saponin; passed.
K.F.-957	Riverside Bottling Co., Waterbury, Conn. <i>Root Beer</i> . . . . .	Aqueous extractions of yucca ( <i>brevifolia</i> ) cactus, sarsaparilla and licorice	positive	negative	Saponin present; adulterated.
K.F.-1001	Riverside Bottling Co., Waterbury, Conn. <i>Root Beer</i> . . . . .	None	positive	negative	Saponin present; adulterated.
K.F.-1002	Riverside Bottling Co., Waterbury, Conn. <i>Root Beer</i> . . . . .	None	positive	negative	Saponin present; adulterated.
K.N.-453	Silver Seal Beverages, New Britain, Conn. <i>Root Beer</i> . . . . .	None	positive	negative	Saponin present; adulterated.
W.M.-587	A. Spiegel & Sons, West Haven, Conn. <i>Paramount Beverages Root Beer</i> . . . . .	None	negative	negative	No saponin; passed.
K.C.-352	Stratford Bottling Works, Inc., Stratford, Conn. <i>Root Beer</i> . . . . .	None	positive	negative	Saponin present; adulterated.
K.C.-358	Varuna Spring Water Co., Inc., Stamford, Conn. <i>Polo Club Creamy Old Fashioned Root Beer</i> . . . . .	None	positive	negative	Saponin present; adulterated.
S.O.-256	Varuna Spring Water Co., Inc., Stamford, Conn. <i>Polo Club Creamy Old Fashioned Root Beer</i> . . . . .	None	positive	positive	No saponin; passed.
W.M.-478	Vess Laboratories, New York, N.Y. <i>Vess Root Beer Compound</i> . . . . .	None	negative	negative	Saponin present; adulterated.
K.N.-484	White Rock Bottling Co. of Boston, Boston, Mass. <i>White Rock Root Beer</i> . . . . .	Carbonated water, sugar, flavor from herbs and roots, caramel color	doubtful	doubtful	Saponin present; adulterated.
			doubtful	negative	Non-saponin hemolytic agent present; adulterated.
			doubtful	negative	No saponin; passed.
			doubtful	doubtful	Passed.
			doubtful	negative	Passed.

hemolysis were equally strong regardless of the presence or absence of cholesterol, the hemolytic agent (since it was not saponin) was considered to be probably a synthetic compound.

### Carbonated Beverages

The carbonated beverage law requires that such beverages (other than club soda) contain at least 5 per cent of sugar. Of 12 samples submitted by the Commissioner for testing for compliance with this law, none contained as little as 5 per cent of sugar: the highest percentage found was 17.80, and the lowest was 7.56. The average sugar content was 12.94 per cent, which is 0.82 per cent higher than the average found in 1951.<sup>1</sup> The following two samples were misbranded because they contained undeclared benzoate of soda:

*K.F.-941. Cott's Quality Chocolate Cream Soda.* Cott Beverage Corp., Ansonia, Conn.

*K.F.-940. Cott's Quality True Fruit Black Cherry Soda.* Cott Beverage Corp., New Haven, Conn.

### Orange Drinks

The two following official samples of orange drinks were both passed:

*J.W.-278. Citrus Orange Drink.* Citrus Fruit Juices, Inc., Lynn, Mass. Ascorbic acid (vitamin C), mgm. half gallon: Declared, 110; found, 219.

*K.F.-1082. Green Spot Orange Beverage, Natural Color.* Green Spot Sales Corp., Worcester, Mass. Test for artificial color negative.

### Coffee

Two samples of coffee were submitted by the Commissioner, and two were received from the Waterbury Health Department; all were passed:

*K.C.-322. Aborn's Hotel and Restaurant Coffee.* Arnold and Aborn, Inc., New York, N. Y. Odor good; no chicory present.

*2761 and 2762. Coffees.* Manufacturer unknown. No evidence of contamination.

*W.M.-456. Santos No. 4 Coffee.* White Coffee Corp., Woodside, N. Y. These were whole unground coffee beans with a normal odor and flavor; no contamination was found.

### Confectionery

Twenty official and one unofficial samples of confectionery were examined, mostly because of labelling defects; seven were passed and 14 were adulterated or misbranded:

*K.C.-354. Brown cardboard box containing six foil-wrapped chocolate-coated marshmallow eggs.* Frantz Candies, Inc. Lancaster, Pa. Average net weight was 1.21 oz; misbranded because only one egg bore the manufacturer's name and address.

<sup>1</sup>Conn Agr. Expt. Sta. Bul. 574, 10 (1953).

*K.F.-1124. Candies in unlabelled plastic bag.* These were orange, yellow and black candies, probably intended for the Hallowe'en or Thanksgiving trade. Sample was misbranded because the bag was not labelled with the manufacturer's name or address and bore no declaration of artificial color.

*K.C.-439. Candy Cigarettes and Holders.* J. Hoegh, Denmark. This sample consisted of three "cigarettes" made of tubes of licorice wrapped in white paper, resting in red holders made of some sort of gum; on one end of each paper wrapper was a narrow orange-red band (to indicate the burning end of a cigarette), while a golden metallic band surrounded the other end. Analysis showed the major constituents of the metallic band to be copper and zinc (i.e., brass). While it is doubtful whether enough brass could be swallowed to produce deleterious effects on children chewing the "cigarettes", the sample was nevertheless considered to be adulterated because brass is a potentially poisonous substance.

*W.M.-580. Champion Fighters - Wrestlers Ringside Picture Card Gum.* This sample consisted of six packages. The declared net weight was 0.50 oz., but since the average net weight was only 0.45 oz. sample was misbranded.

*W.M.-551. Concord Christmas Candy.* Concord Conf. Corp., Brooklyn, N. Y. This candy tasted fresh and was passed.

*K.C.-438. Cornucopia.* Candy Crafters, Inc., Lansdowne, Pa. Misbranded because the labels were inside the three cornucopias, at the bottom under the candies, so that they could not be seen before buying and opening the product.

*2867. Flower Flavored Florals Candy Tablets.* Robertson & Woodcock, Ltd., England. This sample was submitted by the New Haven Health Department because of a complaint that it had a "funny taste" and made children sleepy or "dopey". Examination confirmed that the tablets had a floral flavor, but no deleterious ingredient could be found, and no untoward symptoms were observed on eating the candies. Sample was therefore passed.

*S.O.-229. King's Fine Candies Super Pops.* Wm. D. King, Inc., St. Louis, Mo. The lollipops in this sample had softened to the extent that they fell off the sticks, and were therefore considered no longer to be fit for food.

*K.F.-1126. Lantern.* T. H. Stough Co., Jeannette, Pa. The container of this sample was in the form of a railroad lantern, with colorless glass chimney and red-painted metal top and bottom; inside the lantern were colored candy balls. Misbranded because the only label was pasted to the under side of the lantern, where it was unlikely to be seen.

*K.C.-345. Marlon Cordial Assorted Fruits, Chocolate Triple Treat.* Marlon Confections Corp., New York, N. Y. Labelled: "Ingredients—Chocolate or Milk Chocolate, Sugar, Corn Syrup, Fruits, Cherries, Pineapple, Grapes, Strawberries, Raspberries, Invert Sugar, Citric Acid, Cream of Tartar, Nat. and Art. Flavors, U. S. Cert. Colors, Yeast, 1/10

of 1% Benzoate of Soda or Sulphur Dioxide (in Penn. 1/10 of 1% Benzoate of Soda)."

The package contained only three chocolates, of which two contained cherries and one contained a slice of pineapple; analysis showed no alcohol in the liquid portion. Misbranded because not all the declared fruits were present and because no cordial (which is an alcoholic liquid)<sup>1</sup> was present.

*E.C.-505. Necco Boston Baked Beans.* New England Confectionery Co., Cambridge, Mass. Average net weight (6 packages): Declared, 8.25 oz.; found, 8.61 oz. Passed.

*E.C.-504. Necco Jelly Beans.* New England Confectionery Co., Cambridge, Mass. Average net weight (6 packages): Declared, 9.25 oz; found 9.59 oz. Passed.

*E.C.-503. Necco Lemon Drops.* New England Confectionery Co., Cambridge, Mass. Average net weight (6 packages): Declared, 7.75 oz.; found, 7.83 oz. Passed.

*K.C.-439. Peppermint Candy Canes.* Asher Bros., Inc., Flushing, N.Y. This sample consisted of 12 candy canes, wrapped in colorless cellophane and supported in slots in the top of a large green box. The sides of the box were labelled: "12 Peppermint Candy Canes—Net Weight 12 oz.—Mfd. by Asher Bros., Inc., Flushing, N.Y.—Ingred. Sugar, Corn Syrup, Oil of Peppermint, U.S. Cert. Color." While the box was properly labelled, the individual wrapped canes, which were intended for separate sale, bore no labelling and were consequently misbranded.

*K.C.-442. Plastic Glo-Bal.* Gum Products, Inc., Boston, Mass. This sample consisted of two plastic balls, inside of each of which were seven balls of gum, lying on and covering a circle of cardboard bearing the only label. Because the labels could not be read without opening the balls and removing the candies, sample was misbranded.

An identical product (*W.M.-223*) was examined in 1950.<sup>2</sup>

*K.F.-1125. Plastic Lantern.* J. H. Millstein Co., Jeannette, Pa. This sample was similar to *K.F.-1126* above except that the top and bottom of the lantern were cream-colored plastic instead of metal. Misbranded for the same reason.

*K.C.-440. Pure Candy Toys.* Cocilana, Inc., Brooklyn, N.Y. Passed.

*K.C.-445. Santa on Sled.* Candy Crafters, Inc., Lansdowne, Pa. This sample consisted of two packages: Each was a cardboard sled with a toy Santa Claus sitting in front of a green cellophane bag full of candies. Because the only labels were tucked under the base so as to be invisible, sample was misbranded.

*K.C.-444. Two Candy Cornucopias.* Candy Crafters, Inc., Lansdowne, Pa. Identical with *K.C.-438* above except that there were only two cornucopias; misbranded for the same reason.

<sup>1</sup>See *Conn. Agr. Expt. Sta. Bul.* 549, 9 (1951).  
<sup>2</sup>*Conn. Agr. Expt. Sta. Bul.* 558, 22 (1952).

*K.C.-355. Two silver-foil-wrapped chocolate-coated marshmallow eggs.* Varga Bros., Bridgeport, Conn. Average net weight, 1.20 oz. Misbranded because unlabelled.

*K.C.-344. Valentine Greetings Hollow Milk Chocolate Heart.* A Wilke, Brooklyn, N. Y. Passed.

### Contaminated or Decomposed Foods

One hundred and one samples of foods were submitted by the Commissioner because of suspected insect or rodent infestation or contamination with foreign materials, or because of complaints that they made people ill. Included were 22 samples of carbonated beverages; 17 of flour; 10 of nuts; four each of canned vegetables, cereals, and herring; three each of cookies, meat, strawberry preserves and tea; two each of baby food, cake and waffle mixes, canned lingonberries, corn meal and grapefruit juice; one each of beer, bread, bread dough, butter, cheese, coffee, doughnut mix, egg noodles, macaroni, milk, pickles, sugar and wheat germ; and five miscellaneous non-food materials. Seventy-five samples were passed and 26 were adulterated.

Included among the samples that were passed were six flours and one sample each of bread dough and wheat germ; these were submitted for testing for the presence of mercury because of a newspaper report ("Bridgeport Post" of June 14, 1952) that U. S. Food and Drug Administration inspectors had found several carloads of flour at Minneapolis to be contaminated with seed wheat that had been treated with a mercurial fungicide. No mercury was found in any of our eight samples.

*J.W.-370. Smorgons Imported Australian Rabbits,* packed by Smorgon and Sons Pty., Ltd., Melbourne, Australia, was examined because of a claim by Connecticut rabbit breeders that lead and arsenic had been found in the livers of Australian rabbits to the extent of 200 mgm./100 gm. and 340 mgm./100 gm. respectively. We could detect no lead or arsenic in the liver of this sample.

The 26 adulterated samples were the following:

*J.W.-300. Ballantine Beer.* Portion of a paper match-book present.

*W.M.-505. Crown Brand Bismarck Herrings.* Fischenindustrie von Walkhoff, Hamburg, Germany. Decomposed.

*W.M.-502. Crown Brand Rollmops.* Fischenindustrie von Walkhoff, Hamburg, Germany. Decomposed.

*K.N.-526. Donut Mix.* Kelly Bakery, Middletown, Conn. Insect webbing and dried-up insect present.

*K.F.-1071. Downyflake Coffee Cake Mix.* Doughnut Corp. of America, New York, N. Y. Live larval and adult Indian meal moths, egg masses and insect webbing present.

*K.F.-1070. Downyflake Egg Waffle Mix.* Doughnut Corp. of America, New York, N. Y. Adult Indian meal moths and webbing present.

*K.F.-950. Imported Romano Cheese.* Sal's Market, Waterbury, Conn. Human hair, sand, dirt and lint present.

*K.F.-1072. Indian Head Corn Meal.* Wilkins-Rogers Milling Co., Inc., Washington, D.C. Dead worker ant present.

*W.M.-578. Instant Chase & Sanborn 100% Real Coffee.* Four pieces of brown glass present, obviously from another coffee jar, since the container was intact.

*K.C.-357. Jack Frost Sugar.* Ann's Home Bakery, Bridgeport, Conn. Grease, dirt, mouse feces and urine present.

*J.W.-367. Light Rock Superb Quality Beverages White Birch Soda.* Bacon Bottling Co., Hartford, Conn. Portion of a cork stopper and 1.95 per cent of ammonia (NH<sub>3</sub>) present.

*W.M.-582 and 583. Lingon Berries in Water.* B. Westergaard & Co., Brooklyn, N. Y. The berries were very soft and had begun to ferment.

*K.F.-1007. Marvel Brand Sandwich Loaf.* Jane Parker Bakers. Contained hairs from a brush.

*J.W.-299. Millbrook Orange Soda.* First National Store, Suffield, Conn. Citrus pulp and skin present.

*K.F.-1016 and 1017. Pakneat Gummed Kraft Sealing Tape.* S. S. Kresge, Waterbury, Conn. Average arsenic (As) content, 2.7 parts per million.

*K.F.-1069. Princes La Sagna Golden Lasagna Larghe.* Prince Macaroni Mfg. Co., Lowell, Mass. Several dead adult sawtoothed grain weevils present.

*T.C.-311. Post Grape Nut Flakes.* Post Cereal Division, General Foods Corp. Contained: two pieces of paper wrapping (from candy or chewing gum), one yellow and one white; a human hair; a piece of popcorn; a stone; fragments of broken cookies; and dust and dirt.

*J.S.-207 Red Ring Sweet Peas.* Comstock Canning Corp., Newark, N. Y. Three cans; one opened can (Code 7NOD-ML158) contained two stones, while no foreign material was found in the two unopened cans of a different code number.

*S.O.-232. Sally Ann Cookies Pecan Krunchetts.* Sally Ann Cookies, Fox River Grove, Ill. Several confused flour beetles present.

*S.O.-179. Sunnyfield Corn Flakes.* Great Atlantic & Pacific Tea Co., New York, N. Y. Lubricating grease present.

*W.M.-564. Swift's Brookfield Butter.* Swift & Co., Chicago, Ill. Contaminated with penicillium mold.

*J.W.-285. Tea.* Mrs. Custer, Manchester, Conn. This was not tea but Rhubarb and Soda Mixture or some similar drug.

*J.W.-292. Tea.* Wilfred Ravenelle, Moosup, Conn. Fermenting; much yeast present.

*K.N.-527. Walnut Meats.* Kelly Bakery, Middletown, Conn. Several live beetles present.

Forty unofficial samples were received from State police, local health departments and private citizens with complaints either that they had made someone sick or that a foreign body was present. No contamination was found in 18 of these samples; the other 22 were the following:

*1860 and 1861. Bireley's Drink Orange Flavor.* Fungous growth, partly penicillium mold, present.

*2531. Bourbon de Luxe Kentucky Bourbon Whiskey.* National Distillers Products Corp., Louisville, Ky. Analysis showed 45.56 per cent of alcohol by volume, as against 43 per cent declared; contaminated with perfume or shaving lotion.

*1762. Buttercup Cookies.* Keebler-Weyl Baking Co., Philadelphia, Pa. One dead "Pharaoh's ant" present.

*8808. Buttermilk.* Trace of amyl acetate (possibly from nail polish) present.

*9542. Clams.* Shelton Fish Market, New Haven. Decomposed.

*9394. Cupcake with Chocolate Frosting.* Park and Shop, New Haven, Conn. The frosting contained 10 parts per million of copper.

*1757. Franco-American Spaghetti Tomato Sauce with Cheese (Code CSR-M-6Y251).* Campbell Soup Co., Camden, N. J. More than 500 parts per million of tin present.

*1918. Hires Root Beer with Real Root Juices.* First National Store, Woodbridge, Conn. Contained a clothespin and a few specks of red paint.

*3338. Jack Frost Cane Sugar Midgets.* National Sugar Refining Co., New York, N. Y. The sugar cubes contained 10 parts per million of boron; 250 ppm of boron were present in the loose sugar in the bottom of the box.

*8986. La Rosa Grade A Macaroni Alphabet No. 51.* V. La Rosa & Sons, Inc., Brooklyn, N. Y. Contained: Two cigarettes, a burned match, several human hairs, several pieces of paper, lint, sand and dirt.

*934. Mason's Old Fashioned Root Beer.* Mason & Mason, Inc., Chicago, Ill. Portion of newspaper or magazine page present.

*1908. Material on Paper Towel.* This material was a perfumed pink toilet soap (or shampoo). (See 1907 below.)

*2755. Material Scraped from Teakettle.* Chiefly copper sulphate.

*9740 and 9741. Pepper.* These two samples (in pepper shakers) were contaminated respectively: (1), with a mixture of salt and ground buckwheat hulls; and (2), with salt only.

*882. Pepsi Cola.* Chewed-up fruit and vegetable material, including apple skins, present.

9742. *Pickle*. Contained 25 parts per million of lead.

1243. "*Sealtest*" Milk. Considerable dirt stuck to bottom and sides of bottle.

1907. "*Sealtest*" Milk. Lumps of perfumed pink toilet soap (see 1908 above) present.

860. *Soup*. This sample consisted of two bottles of liquids, both claimed to be soup, that were suspected of having been contaminated with lye. No lye was present, but neither bottle contained soup; both liquids were strongly acid, and one contained 0.19 gm./100cc. of salicylic acid and had an odor like "Sloan's Liniment".

3261. *Yukon Club Pale Dry Ginger Ale*. Gra-Rock Ginger Ale Co., Wethersfield, Conn. Macaroni and dirt present.

### Dairy Products

#### Butter

Twenty-six samples of material sold for butter were submitted by the Commissioner; analyses are given in Table 2. Eight samples were passed and 18 were adulterated.

#### Cheese

Four official and two unofficial samples of cheese were examined; two were passed and four were misbranded:

*K.F.-1073. A. & D. Brand Italian Style Grated Imported Argentine Romano Cheese with Skim Milk Solids Added*. Icco Cheese Co., Inc., Brooklyn, N. Y. No starch or flour; passed.

*K.C.-278. Clearfield Brand Pasteurized Process Cheese*. Clearfield Cheese Co., Inc., Curwensville, Pa. Moisture, 28.01; fat, 35.31, and lactose, 0.00, per cent. Federal Regulation 19.750 requires pasteurized process cheese to contain not more than 43 per cent moisture and not less than 47 per cent of fat on the dry basis. Since this sample contained 49.06 per cent of fat (dry basis), it was passed.

1370. *Cream Cheese No. 3*. Genoa Ravioli Egg Noodle Mfg. Co., New Haven, Conn. Moisture, 73.22 per cent, which considerably exceeded the 55 per cent maximum of Federal Regulation 19.515 (a).

1371. *Cream Cheese No. 10*. Genoa Ravioli Egg Noodle Mfg. Co., New Haven, Conn. Moisture, 68.73 per cent. Misbranded because of excessive moisture.

*K.C.-442. Grade A Mozzarella Cheese*. Gambardella Dairy Products, New Haven, Conn. Water, 58.40; casein, 29.54; fat, 6.30, and lactose, 0.40, per cent. This was a skim milk cheese, and therefore misbranded because labelled "Whole Milk Product".

*R.G.-98. Sharp Cheddar Pasteurized Cheese*. First National Stores, East Hartford, Conn. Water, 28.35; fat, 33.34 (46.61, dry basis), and lactose, 0.00, per cent. Sample was misbranded because it failed to meet the Federal standard (Regulation 19.500) of not less than 50 per cent of fat (dry basis).

TABLE 2. BUTTER

No.	Manufacturer or dealer and brand	Fat, per cent	Constants of fat			Polenske value	Remarks
			Butyro refraction, 40°C	Reichert-Meißel value	Polenske value		
K.C.-430	Arrow Restaurant, Westport, Conn.	...	42.3	28.27	2.38	Passed.	
J.D.-3	Peter Bubuchi, Torrington, Conn. 50% Butter - 50% Oleomargarine	...	51.3	2.02	0.54	Probably not over 5 per cent butter; adulterated.	
K.N.-428	Cudahy Packing Co., Omaha, Nebr.	...	42.2	29.70	3.35	Passed.	
K.N.-429	Cudahy Packing Co., Omaha, Nebr.	...	42.2	26.26	3.56	Passed.	
J.D.-4	Arthur Dionisio	...	48.3	12.24	0.65	Not over 41 per cent butter; adulterated.	
J.D.-10	Frank's Corner Luncheonette, Hartford, Conn.	...	51.0	0.60	0.43	Oleomargarine; adulterated.	
J.D.-5	Gene's Restaurant	...	50.8	0.36	0.32	Oleomargarine; adulterated.	
K.F.-1014	Harding Cream Division, Omaha, Nebr. <i>Capitol Brand</i>	80.36	41.2	29.22	2.59	Passed.	
J.D.-9	Homestead Diner, Hartford, Conn.	...	51.0	0.36	0.43	Oleomargarine; adulterated.	
J.D.-24	Homestead Diner, Hartford, Conn.	...	50.5	1.19	0.54	Oleomargarine; adulterated.	
J.D.-16	Lakewood Lunch, Waterbury, Conn.	...	49.6	1.07	0.43	Oleomargarine; adulterated.	
K.C.-356	Manufacturer unknown	...	40.8	30.18	2.96	Passed.	
J.D.-15	Manufacturer unknown	...	50.6	0.95	0.43	Oleomargarine; adulterated.	
R.G.-96	Manufacturer unknown	89.32	42.5	30.18	3.02	Passed.	
R.G.-97	Manufacturer unknown	85.28	54.2	0.48	0.32	Oleomargarine; adulterated.	
J.D.-19	Mel's Diner, Norwalk, Conn.	...	50.9	1.31	0.76	Oleomargarine; adulterated.	
K.N.-528	New York Bakery, Middletown, Conn.	83.99	41.7	28.87	2.81	Passed.	
A.L.-75	Frank Pilley & Sons, Sioux City, Iowa. <i>Farmfield Creamery</i>	...	43.5	28.86	2.48	Butter, but inedible and contained undeclared coal tar dye.	
J.D.-12	Polk Dot Eat Shop, Hartford, Conn.	...	51.0	0.95	0.43	Oleomargarine; adulterated.	
W.M.-554	Standard Beef Co., New Haven, Conn. <i>Hollybrook Creamery</i>	80.16	43.6	29.34	2.23	Net wt. 16.2 oz.; passed.	
J.D.-18	Steve's Diner, Newtown, Conn.	...	46.4	16.28	1.30	Mixture of butter and oleomargarine; adulterated.	
J.D.-8	M. Tsitsili, Hartford, Conn.	...	50.5	0.60	0.32	Oleomargarine; adulterated.	
J.D.-13	Union Grille, New Haven, Conn.	...	50.9	0.95	...	Oleomargarine; adulterated.	
J.D.-11	Union Restaurant, Hartford, Conn.	...	51.0	0.60	0.65	Oleomargarine; adulterated.	

**Cream**

Butter fat contents of five samples of cream were determined for dairymen; one of these samples, 9495, *Light Cream*, from Augur Dairy, New Haven, contained only 5.6 per cent fat.

**Evaporated Milk**

Three samples of evaporated milk submitted by the Commissioner were all passed:

*J.W.-305 and 306. Carnation Evaporated Milk.* Average net weight: Declared, 14.50 oz.; found, 14.64 oz. Average net volume: Declared; 13 fl. oz.; found, 13.15 fl. oz.

*J.W.-307. White House Evaporated Milk.* Net weight: Declared, 14.50 oz.; found, 14.64 oz. Net volume: Declared, 13 fl. oz.; found, 13.17 fl. oz.

**Ice Cream**

One official and four unofficial samples of ice cream from Marioni's Ice Cream, Hamden, Conn., were analyzed for their butter fat contents with the following results:

No.	Flavor	Fat, per cent
9502	Frozen Pudding	10.61
9482	Maple Nut	6.01
9481	Vanilla	8.22
9501	Vanilla	12.94
F.H.-5916	Vanilla	14.44

Samples 9481 and 9482 were deficient in butter fat.

**Unfortified Fluid Milk**

Ninety-two samples of milk submitted by dairymen were analyzed for their fat contents.

**Vitamin D Milk**

Vitamin D milk is standardized to contain 400 U.S.P. units of vitamin D per quart. Since 1935 this laboratory has checked the vitamin D contents of all brands of vitamin D milk on the market by feeding tests on rats. Samples were submitted by the Dairy and Food Commission until July 1, 1947; since then they have been supplied by the Department of Farms and Markets.<sup>1</sup>

In 1952, 245 samples were examined; this was an increase of 61 over the 184 samples assayed in 1951. Results of the assays are shown in Table 3; 31 samples were definitely below the unitage claimed. The percentage of samples fully or substantially meeting guaranties was 87, which is a little better than the 82 per cent found in 1951, but still below the 94 per cent of 1950.

In the 18-year period, 1935-1952 inclusive, 2,096 samples were tested; 85 per cent contained the unitage claimed for them or were sufficiently close to guaranties to be passed.

<sup>1</sup>The 1953 General Assembly changed the name of this department to the "State Department of Agriculture".

TABLE 3. VITAMIN D MILK

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
Baltic	John Ozga .....	2	1	1	..
Berlin	Johnson's Dairy .....	2	1	1	..
	Ventres Dairy .....	2	1	1	..
Bloomfield	Peter V. Boysen & Son .....	2	1	1	..
	H. E. Holcomb .....	2	2	..	..
	William E. Miller & Sons .....	2	..	2	..
	Chris Neilsen & Sons .....	2	2	..	..
Bridgeport	Beechmont Dairy .....	2	1	1	..
	Borden's (Mitchell Division) .....	2	1	1	..
	Clover Farms, Inc. ....	2	2	..	..
	Dewhurst Dairy .....	2	2	..	..
Bristol	E. H. Elton .....	2	2	..	..
	Roberge Dairy .....	2	2	..	..
Clinton	Burr Dairy, Inc. ....	2	..	2	..
Cromwell	McAllister Dairy .....	2	1	1	..
Danbury	Marcus Dairy .....	2	1	..	1
	Rider Dairy .....	2	1	1	..
East Haddam	Sprecher Dairy .....	2	2	..	..
East Hampton	Woodland View Dairy .....	2	..	1	1
East Hartford	Bergren's Dairy Farms .....	2	2	..	..
East Lyme	Drabik's Dairy .....	1	1	..	..
East Norwalk	Devine's Dairy .....	2	2	..	..
Easton	Marsh Dairy .....	2	2	..	..
Ellington	Cordtsen Dairy .....	1	..	..	1
Fairfield	Supreme Dairy .....	2	1	1	..
	Wade's Dairy .....	2	1	1	..
Forestville	Peplau's Dairy .....	2	2	..	..
Greenwich	Round Hill Farms Dairy ..	2	2	..	..
Guilford	Maple Shade Farm, Inc. ...	2	2	..	..
Hamden	Brock-Hall Dairy .....	2	2	..	..
Hartford	Bayer's Milk .....	1	..	1	..
	Bryant & Chapman- R. G. Miller & Sons .....	2	2	..	..
	Cloverdale Dairy .....	2	2	..	..
	Farmers' Co-Operative, Inc.	3	2	..	1
	H.P. Hood & Sons .....	2	2	..	..
	Lincoln Dairy Co. ....	2	2	..	..
Jewett City	Norman's Dairy, Inc. ....	2	1	1	..
Kensington	Ferndale Dairy, Inc. ....	2	1	..	1
Litchfield	Tollgate Farms .....	2	1	..	1
Manchester	Dart's Dairy .....	2	1	..	1
	Sunshine Dairy .....	2	..	..	2
	A. R. Wilkie .....	3	3	..	..
Meriden	Countryside Dairy .....	2	2	..	..
	Charles Greenbacker & Sons	2	2	..	..
	E. J. Kaemmer & Son .....	2	2	..	..
	W. F. Knapp .....	2	1	1	..
	Lawrence Bros. ....	2	2	..	..
	R. R. Muenchow .....	2	2	..	..
	W. G. Schwink .....	2	1	..	1
	Sievert's Dairy .....	2	2	..	..
	Triple Springs Farm .....	2	..	1	1
Middlefield	S. Coleman .....	2	..	1	1
Middletown	Brookfield Dairy .....	1	..	1	..
	Brock's Lakeview Dairy ...	3	3	..	..
	Daniels Farm .....	2	..	2	..
	Hillside Dairy .....	2	1	..	1
	Pleasant View Dairy .....	2	2	..	..
	Sunshine Dairy .....	3	2	..	1

TABLE 3. VITAMIN D MILK—(Continued)

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
Milford	Clover Dairy	1	...	1	..
	McDermott Dairy	1	1	..	..
Milldale	Riverside Dairy	2	2	..	..
New Britain	Guida-Serbert Dairy Co.	2	1	1	..
	Heslin Dairy Co.	2	2	..	..
	J. J. Shapiro & Sons	2	1	1	..
	A. J. Spring & Sons	2	2	..	..
New Canaan	Miller's Farm Dairy	2	2	..	..
New Haven	General Ice Cream Corp.	2	2	..	..
	H. P. Hood & Sons	3	3	..	..
Newington	Eckert's Dairy	2	1	1	..
	Eddy Dairy	2	1	1	..
	J. William Holt	2	2	..	..
	Meadowbrook Farm	2	1	1	..
	J. A. Moylan & Son Dairy	1	...	1	..
	Spring Brook Farm Dairy	2	1	1	..
New London	Michael's Dairy	1	1	..	..
	New London & Mohegan Dairies	2	2	..	..
	Radway's Dairy	2	2	..	..
Nichols	Parker's Dairy	2	1	1	..
North Haven	Knudsen Bros., Inc.	3	2	..	1
Norwalk	Clover Farms Dairy	2	2	..	..
Norwichtown	Beebe's Dairy	1	1	..	..
Oxford	Great Oak Farm, Inc.	1	1	..	..
Plainville	Peterson's Dairy	2	1	..	1
Pomfret	Fisher Bros.	1	1	..	..
Preston	Broad Brook Dairy	2	2	..	..
	Preston Dairy	1	1	..	..
Rocky Hill	Charles B. Gilbert	2	2	..	..
	Mingo's Dairy	1	...	1	..
	Sunny Crest Farm	2	2	..	..
Salisbury	Salisbury Farm	1	...	1	..
Scotland	Hillyland Dairy	1	1	..	..
Simsbury	Pharo's Farm	1	1	..	..
	Wood Ford Farm	2	2	..	..
Southbridge, Mass.	Southbridge Farmers' Co-op.	1	1	..	..
South Norwalk	Harrick's Dairy, Inc.	2	2	..	..
Springdale	Sheffield Farms Maplehurst Dairy	2	1	1	..
Talcottville	Talcott Dairy	2	2	..	..
Terryville	E. E. Freimuth	2	2	..	..
Thomaston	Fred Wood Dairy	2	1	1	..
Thompsonville	Enfield Dairy	2	1	..	1
	H. S. Reid, Inc.	3	2	..	1
	Skipton Dairy Co., Inc.	2	2	..	..
Torrington	Clover Dairy	2	2	..	..
	Cooperative Dairy Co.	2	2	..	..
	Greenwood's Dairy	2	1	1	..
	Torrington Creamery, Inc.	2	1	..	1
Wallingford	Beaumont Farm Dairy	2	2	..	..
	J. H. Daly Co.	2	2	..	..
	Dorsey's Dairy	3	1	1	1
	Fairview Dairy	2	1	..	1
	J. P. Novak	3	1	1	1
Waterbury	Brookside Dairies, Inc.	2	2	..	..
	Cashin's Dairy Products, Inc.	1	1	..	..
	Tranquility Farm Dairy	2	2	..	..
	R. F. Worden & Sons, Inc.	2	...	..	2

TABLE 3. VITAMIN D MILK—(Concluded)

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
Watertown	Wookey's Dairy	2	...	..	2
Wauregan	Wauregan Dairy	2	1	1	..
Webster, Mass.	Choinière Dairy	1	1	..	..
	Deary Bros.	1	1	..	..
Westfield	Brookfield Dairy	1	1	..	..
West Hartford	A. C. Petersen Farms	2	2	..	..
West Haven	Clark Dairy	1	1	..	..
West Rocky Hill	Niengo's Dairy	1	...	..	1
Wethersfield	Kelly's Dairy	1	...	..	1
Wilton	Orem's Dairy	4	2	..	2
Winsted	Avery's Dairy	1	1	..	..
	J. O. Johnson & Son	1	1	..	..
Woodbridge	Rose Hurst Farm	3	1	1	1
Wolcott	Willow Brook Dairy	1	1	..	..
Yantic	Driscoll's Dairy	2	...	2	..
	Total	245	171	43	31

### Deceptively Packed Foods

A food "whose container is so made, formed or filled as to be misleading" is misbranded under the Food, Drug and Cosmetic Act. What this means in practice is that it is illegal to pack foods in opaque containers that are larger than necessary, and so sell the purchaser waste space instead of food. Fourteen samples were submitted by the Commissioner because of suspected slack fill; four were passed and 10 were misbranded. The deceptively packed samples were the following:

*K.F.-1065. Connecticut Potato Chips.* Connecticut Potato Chip Co., Norwalk, Conn. Fill of container 59 per cent.

*K.C.-443. Guess What? A Lot of Kisses and You'll Be Surprised.* Williamson Candy Co., Chicago, Ill. Fill of container not over 50 per cent.

*K.C.-438. Leader Carnival Surprise and Candy Chews.* Leader Novelty Candy Co., Inc., Brooklyn, N. Y. Average fill of container (four packages) 54 per cent. Products of this company have been found to be continuously deceptively packed since 1950.<sup>1</sup>

*K.F.-1090. Loeb Salt-Free Saccharin Sweetened Dietetic Biscuits, Chocolate Flavored.* Loeb Dietetic Food Co., New York, N. Y. Fill of container 65 per cent.

*K.F.-1074. Real Neopolitan Macaroni Sublime Quality.* Pastificio Silvestro Crudele & Cia., Pantegnano, Italy. Fill of container 64 per cent.

*K.F.-986. "Servit" Instant Mix for Making Hot Chocolate Flavored Drinks.* Servit Foods Corp., New York, N. Y. Fill of container 55 per cent.

<sup>1</sup>Conn. Agr. Expt. Sta. Bul. 558, 28 (1952); 574, 24 (1953).

*A.F.-997. Sweet-Py Creamy Caramel & Egg Whip.* Plantation Chocolate Co., Philadelphia, Pa. Fill of container 45 per cent.

*K.F.-1080 Tilbest Quick Mix Blueberry Muffin.* Tilbest Foods, Milwaukee, Wis. Fill of container 63 per cent.

*K.F.-1068. Tilbest Quick Mix Jelly Roll.* Tilbest Foods, Milwaukee, Wis. Average fill of container (two packages) 50 per cent.

*W.M.-459. What's What—2 Kisses, a Toy and Lots o' Fun.* Lefferts Novelty Co., Brooklyn, N. Y. Average fill of container (six packages) 55 per cent.

**Eggs**

The following two samples of pickled eggs were submitted by the Commissioner because they bore no net weight declaration, but were passed because the number of eggs was readily visible:

*S.O.-258. Farm Fresh Finely Pickled Eggs.* Farm Fresh Products, Wilbraham, Mass.

*S.O.-259. Sunlife Brand Pickled Eggs.* Sunlife Products Co., Springfield, Mass.

*9609, Frozen Whole Eggs,* was analyzed for the New Haven branch of Land O' Lakes Creameries, Inc., Minneapolis, Minn. Total solids found were 25.51 per cent, which is within the normal range for whole eggs.

**Extracts and Flavors**

*1726, Vanilla Extract,* was analyzed for the State Supervisor of Purchases as follows: Vanillin, 0.24, and coumarin, 0.02, gm./100 cc.; Winton lead number, 0.77. Sample was passed.

**Fresh Fruit**

Eighty-six samples of apples were analyzed for our Entomology Department in connection with a study of the effect of different spray treatments on the composition of orchard fruit. Analyses are summarized in Table 4.

**Fruit, Canned**

*K.F.-1081, Sweet Life Strawberries in Heavy Syrup,* distributed by Sweet Life Food Corp., Brooklyn, N. Y., was analyzed as follows: Sucrose, 2.82, and invert sugar, 23.24, per cent; Brix gravity of syrup, 27.7. Passed.

**Fruit Juices**

Four samples of grape juice were examined for the Commissioner, and 12 unofficial samples of cider and four unofficial samples of apple juice were analyzed for our Entomology Department and a private citizen. All except one of the 20 samples were passed.

TABLE 4. FRESH APPLES

Ingredient	Baldwins			Cortlands			Delicious			McIntoshes			Unknown Variety		
	maximum	minimum	average	maximum	minimum	average	maximum	minimum	average	maximum	minimum	average	maximum	minimum	average
pH	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acidity as malic acid, per cent	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total solids, per cent	13.41	13.04	13.22	16.08	12.81	14.86	14.13	13.36	13.72	0.93	3.40	3.13	0.61	0.77	3.28
Ash, per cent	0.26	0.24	0.25	0.32	0.27	0.30	0.29	0.24	0.26	0.49	0.93	0.28	0.28	0.38	0.38
Invert sugar, per cent	6.58	6.49	6.53	8.10	6.54	7.49	7.86	7.10	7.40	7.27	7.27	5.13	5.13	6.47	6.47
Sucrose, per cent	3.35	3.04	3.25	3.33	2.75	3.05	2.82	2.51	2.63	1.84	1.84	0.33	0.33	1.26	1.26
Total sugars, per cent	9.86	9.62	9.77	11.16	9.29	10.54	10.52	9.77	10.03	8.92	8.92	5.92	5.92	7.63	7.63
Potassium, p.p.m.	1,320	1,200	1,247	1,620	1,140	1,365	1,115	690	884	2,090	2,090	760	760	1,368	1,368
Calcium, p.p.m.	78	50	67	100	68	87	31	20	27	180	180	56	56	105	105
Magnesium, p.p.m.	48	42	44	62	45	55	22	15	20	130	130	65	65	95	95
Phosphorus, p.p.m.	120	100	111	142	87	107	95	65	84	190	190	84	84	126	126
Manganese, p.p.m.	...	...	...	...	...	...	...	...	...	0.8	0.8	0.4	0.4	0.6	0.6
Iron, p.p.m.	2.5	1.5	2.0	5.2	2.7	4.0	3.1	0.8	1.8	20.0	20.0	2.0	2.0	5.7	5.7
Aluminum, p.p.m.	...	...	...	...	...	...	...	...	...	77	77	37	37	55	55
Zinc, p.p.m.	1.7	1.5	1.6	3.7	1.7	3.0	2.0	0.8	1.1	18.0	18.0	0.4	0.4	3.5	3.5
Copper, p.p.m.	3.5	2.5	2.9	5.0	2.2	4.1	2.3	1.1	1.8	7.5	7.5	1.0	1.0	4.2	4.2
Boron, p.p.m.	2.4	1.9	2.1	3.2	1.5	2.1	3.0	1.9	2.4	3.7	3.7	0.8	0.8	2.1	2.1



TABLE 5. CIDER AND APPLE JUICE

No.	pH	Total solids, gm./100cc.	Ash, gm./100cc.	Total acidity as malic acid, gm./100cc.	Invert sugar, gm./100cc.	Sucrose, gm./100cc.	Total sugars, gm./100cc.	Alcohol, per cent by volume	Total nitrogen, gm./100cc.	Potassium, p.p.m.	Calcium, p.p.m.	Magnesium, p.p.m.	Phosphorus, p.p.m.	Iron, p.p.m.	Copper, p.p.m.	Zinc, p.p.m.	Boron, p.p.m.		
																		Cider	Apple Juice
9349	3.55	12.19	0.21	0.36	9.14	1.42	10.56	....	....	650	30	40	68	1.9	2.0	5.0	2.0	2.0	2.0
9350	3.58	12.33	0.22	0.35	7.91	1.85	9.75	....	....	580	32	49	68	4.0	1.1	3.3	2.3	2.3	2.3
9351	3.60	12.43	0.23	0.36	9.09	1.61	10.70	trace	....	760	33	50	84	2.7	1.3	5.0	2.0	2.0	2.0
9352	3.50	12.67	0.21	0.36	8.91	1.90	10.81	....	....	540	31	52	84	2.6	2.1	3.9	2.0	2.0	2.0
9353	3.32	1.49	0.17	0.48	0.30	0.00	0.30	5.14	....	770	29	52	68	2.5	1.6	1.9	1.8	1.8	1.8
9354	3.65	11.65	0.19	0.26	7.84	1.22	9.06	....	....	830	31	43	116	2.8	1.6	4.1	4.0	4.0	4.0
9355	3.52	10.64	0.20	0.35	8.26	0.99	9.25	....	....	970	36	38	56	5.4	2.3	5.0	1.8	1.8	1.8
9356	3.53	10.61	0.20	0.36	8.22	0.88	9.10	....	....	860	32	42	56	5.4	2.4	2.5	1.7	1.7	1.7
9357	3.52	11.51	0.20	0.36	8.65	0.11	8.76	....	....	830	30	47	84	4.3	1.5	2.3	1.1	1.1	1.1
9782	3.80	....	0.28	0.36	7.42	0.51	7.93	....	0.021	1500	37	44	100	12.0	0.8	2.2	1.2	1.2	1.2
9783	3.75	....	0.26	0.36	7.70	0.69	8.39	....	0.018	1310	42	48	76	13.0	0.8	2.0	0.6	0.6	0.6
9784	3.75	....	0.24	0.33	8.49	0.89	9.38	....	0.020	1250	39	44	76	16.0	2.6	4.3	0.8	0.8	0.8
9785	3.72	....	0.25	0.34	7.68	0.88	8.56	....	0.018	1350	37	44	72	14.0	1.4	2.4	0.7	0.7	0.7

The four official grape juice samples were the following:

*E.C.-506. Betsy Ross California Pure Grape Juice from Vine-Ripened Grapes, No Sugar Added.* Cella Vineyards, Readley, Calif. Total solids, 18.55; total sugars, 16.68; ash, 0.30, and total acidity (as tartaric acid), 0.73, gm./100 cc.; P<sub>2</sub>O<sub>5</sub>, 46, and K<sub>2</sub>O, 132, mgm./100 cc.

*W.M.-448. Louis Sherry Pure Concord Grape Juice, Sugar Added.* Louis Sherry Preserves, Inc., Long Island City, N. Y. Total solids, 18.36; total sugars, 15.84; ash, 0.29, and total acidity (as tartaric acid) 0.96, gm./100 cc.; P<sub>2</sub>O<sub>5</sub>, 23, and K<sub>2</sub>O, 130 mgm./100 cc.; estimated per cent grape juice, 91.

*W.M.-429. Suncrest Brand Grape Juice, Sweetened.* Gaer Bros., Inc., Hartford, Conn. Total solids, 17.05; total sugars, 14.98; ash, 0.29; total acidity (as tartaric acid), 0.75, and actual tartaric acid, 0.37, gm./100 cc.; P<sub>2</sub>O<sub>5</sub>, 35, and K<sub>2</sub>O, 130, mgm./100 cc.; estimated per cent grape juice, 86.

*E.C.-507. White Rose Pure Concord Grape Juice, Sugar Added.* Seeman Bros., Inc., New York, N. Y. Total solids, 18.55; total sugars, 16.40; ash, 0.22, and total acidity (as tartaric acid), 1.21 gm./100 cc.; P<sub>2</sub>O<sub>5</sub>, 15, and K<sub>2</sub>O, 114, mgm./100 cc.; estimated per cent grape juice, 78.

Three samples of cider were submitted by Richard G. Berger of Bridgeport, Conn., to determine whether arsenic from spray residue on apples were carried over into the cider made from those apples. Only insignificant traces of arsenic were found.

9334 and 9335. *Cider from Aspetuck Valley Orchards, Easton, Conn.* Arsenic trioxide, 0.23 part per million.

9336. *Cider from Ben Silverman's Cider Mill, Easton, Conn.* Arsenic trioxide, 0.10 part per million.

Nine samples of cider from a cider-judging contest held in connection with a meeting of the Connecticut Pomological Society, and four samples of apple juice, both submitted by our Entomology Department, were analyzed with results as shown in Table 5. One sample, 9353, appeared to be hard cider.

### Meat and Meat Products

#### Frankforts

One official and one unofficial sample of frankforts were submitted by the Commissioner, and four by the State Supervisor of Purchases; all except one were misbranded:

*K.F.-1112. All Beef Frankforts.* Great A. & P. Tea Co., New York, N. Y. Water, 56.92; dextrose, 0.85; lactose, 0.63; protein, 14.44, per cent; no soya flour or starch. Estimated per cent dry skim milk, 1.22. Misbranded because dry skim milk was not listed as an ingredient.

1855, 9189, 9255 and 9523. Frankforts. State Supervisor of Purchases. Analyses were as follows:

	1855, per cent	9189, per cent	9255, per cent	9523, per cent
Water .....	51.17	47.01	54.76	49.23
Protein .....	11.69	15.13	13.43	12.81
Lactose .....	3.18	4.64	2.42	2.92
Dextrose .....	0.32	0.10	0.57	0.13
Estimated dry skim milk .....	6.17	9.01	4.70	5.67
Estimated added water .....	4.59	0.00	8.43	0.00

Since Regulation 186-27.13 (a) does not permit more than 3.5 per cent of dry skim milk in frankforts, all four of these samples were misbranded.

9570. Frankforts. Food and Drug Commission. Water, 51.96; protein, 12.79; lactose, 1.35, and dextrose, 0.07, per cent; no soya flour. Estimated per cent dry skim milk, 2.62; per cent added water, 0.80. Passed.

### Hamburg

Since the adoption of the present Connecticut Food, Drug and Cosmetic Act in 1939, protection of the public against fraud and misrepresentation in the sale of meat and meat products had been hampered by lack of legal standards. While the rules and regulations adopted on July 1, 1937 under the old law afforded some help in this respect, these regulations did not go into sufficient detail, and their standards were only advisory at best and could not be enforced as legal requirements. This need for enforceable definitions and standards was finally filled on April 16, 1952 with the joint adoption by Food and Drug Commissioner Richard and Director Horsfall, after proper hearing, of Regulation 186-27, "Definitions and Standards and Labeling Regulations for Meat and Meat Products." This series of regulations included the following definition and standard for hamburg:

"Hamburg, Hamburger. Hamburg, hamburger, is comminuted fresh beef, with or without addition of suet. It contains not more than 30 per cent of fat."

While the addition of sulphites to meat had always been considered to be a form of adulteration, both because sulphites destroy vitamin B<sub>1</sub> (thiamine) and because they redden meat and cover up the odor of decomposition and therefore make the product "appear better or of greater value than it is", this prohibition had never been spelled out in a legal regulation until the new regulations stated that "No preservative may be used in meat or meat products sold as, or required by definition to be, fresh meat". With these standards for hamburg now having the force of law, the Commissioner started a market survey to see how well they were being complied with. Inspectors made on-the-spot tests for added sulphite with field kits supplied by this laboratory, and samples of hamburg were submitted to us chiefly for determining their fat contents. In all, 350 official samples were received; fat was determined in 325 of these samples, 14 were tested only for sulphite, and 11 were checked for the presence of horsemeat. No horsemeat was found

in any of the 11 samples; seven of the 14 samples tested only for sulphite were free of this preservative, while in seven (plus one sample also analyzed for fat) it was found to be present. Twenty-three samples contained fat in excess of 30 per cent. In all, therefore, 319 official samples were passed, and 31, or 9 per cent, were found to be adulterated.

The fat contents of the 325 samples fell into groups as follows:

Per cent fat	Number of samples	Per cent of total samples
4.54 - 10.00	10	3.1
10.01 - 15.00	49	15.3
15.01 - 20.00	88	26.9
20.01 - 25.00	81	24.9
25.01 - 30.00	75	23.0
30.01 - 35.00	12	3.7
35.01 - 40.00	8	2.5
40.01 - 40.23	2	0.6
Total	325	100.0

The 31 adulterated samples are listed individually in Table 6. It should be noted that the City Market, 109 Congress Ave., New Haven, which was selling hamburg with excess fat in 1952, was found to be selling hamburg containing sulphite in 1951.<sup>1</sup>

Besides the official hamburg samples, 32 unofficial samples were analyzed. One sample of cooked hamburg, 9293, submitted by a citizen, gave negative tests for sulphite and horsemeat. The other 31 samples were all submitted by the State Police in a survey of Kosher meat markets to see if any of them were selling non-Kosher meat. Since ground beef prepared according to the regulations of the Orthodox Jewish dietary code is treated with salt, Kosher hamburg must contain more salt than that naturally present in beef. According to Winton and Winton,<sup>2</sup> the normal salt content of beef is 0.23 per cent; our analysis of one sample of non-Kosher hamburg (E.C.-561) showed 0.25 per cent, and of another (1887) 0.27 per cent (all on the dry basis). It can be assumed, therefore, that the average percentage of salt in the solids of beef is not far from 0.25 and that any hamburg that does not contain substantially more than this percentage is not "Kosher". On this basis three of the 30 samples sold for "Kosher" were reported as non-Kosher beef, while 27 were passed. Results are shown in Table 7.

### Other Meat Products

One official sample each of beef pie, breaded veal steaks and chicken pie were examined, together with one sample sold for beef round submitted by the Department of Farms and Markets, and two samples of mince meat submitted by the State Supervisor of Purchases. Three samples were passed and three were adulterated or misbranded:

W.M.-480. Beef Pie. Colonial Inn, East Lyme, Conn. Declared ingredients were: "Beef stock, flour, vegetable shortening, milk, diced potatoes, choice beef, carrots, peas, celery, parsley, salt, pepper, spices." Net weight: Declared, 11 oz.; found, 12.25 oz. Because a large proportion of meat was present, this sample was passed.

<sup>1</sup>Conn. Agr. Expt. Sta. Bul. 574, 32 (1953).

<sup>2</sup>"The Structure and Composition of Foods", vol. III, p. 371.

TABLE 6. ADULTERATED HAMBURG

City or town	No.	Market or restaurant	Fat, per cent	Sulphite	Remarks	
Ansonia	K.F.-1056	Brown's Market	31.76	none	Excess fat.	
Bridgeport	K.C.-368	Chicago Beef and Provision Co.	40.23	none	Excess fat.	
	F.P.-53	Chicago Beef and Provision Co.	31.53	none	Excess fat.	
	F.P.-56	Chicago Beef and Provision Co.	33.42	none	Excess fat.	
	K.C.-375	Food Saver Market	40.10	none	Excess fat.	
	F.P.-54	Plaza Beef and Provision Co.	33.15	none	Excess fat.	
	K.C.-369	Stone Bros.	35.32	none	Excess fat.	
	K.C.-376	Value Beef and Provision Co.	33.32	none	Excess fat.	
	K.C.-398	Value Beef and Provision Co.	36.88	none	Excess fat.	
	F.P.-55	Value Beef and Provision Co.	30.86	none	Excess fat.	
	J.D.-17	West End Kosher Meat Market	22.37	present	Sulphite present.	
	Byram	J.D.-22	Byram Shore Restaurant	....	present	Sulphite present.
	Danielson	T.C.-304	Zip's Diner	....	present	Sulphite present.
		T.C.-305	Zip's Diner	....	present	Sulphite present.
	Greenwich	S.O.-223	First National Stores, Inc.	30.73	none	Excess fat.
	Hartford	J.W.-348	Cut Price Market	31.86	none	Excess fat.
		J.W.-336	Dailey's Super Market	31.12	none	Excess fat.
		J.W.-337	Dailey's Super Market	31.39	none	Excess fat.
A.L.-105		Great Atlantic & Pacific Tea Co.	39.77	none	Excess fat.	
Meriden	W.M.-518	City Market	37.04	none	Excess fat.	
	W.M.-552	City Market	37.05	none	Excess fat.	
New Haven	W.M.-508	Grand Meat Market	30.47	none	Excess fat.	
	W.M.-516	New Haven Packing Co.	37.21	none	Excess fat.	
Norwalk	J.D.-20	Button Ball Snack Bar	....	present	Sulphite present.	
Plainville	J.D.-21	Kieran & Sloane Meat Market	....	present	Sulphite present.	
	K.N.-471	Fulton Markets	35.95	none	Excess fat.	
Seymour	J.D.-6	Bridgeview Restaurant	....	present	Sulphite present.	
	J.D.-7	Legion Restaurant	....	present	Sulphite present.	
Thompsonville	F.P.-19	Alden Ave. Market	37.07	none	Excess fat.	
Waterbury	K.F.-1037	Budget Market	34.94	none	Excess fat.	
	A.F.-31	Linden Market	31.73	none	Excess fat.	
Wilson						

TABLE 7. HAMBURG SOLD AS "KOSHER"

City or town	No.	Market	Sodium chloride, per cent (dry basis)	Remarks
Bridgeport	1953	Julius Aarons	0.59	Not Kosher
	1951	M. Bortz	2.00	Passed
	1949	Goldstein	1.40	Passed
	1948	Irving Mann	3.86	Passed
	1952	State Meat Market	1.08	Passed
	1950	Sunshine Market	1.23	Passed
Hartford	2429	Ideal Meat Market	1.85	Passed
	2430	Irving's Meat Market	2.31	Passed
	2431	Mazny Meat Market	1.77	Passed
	2432	Paramount Meat Market	0.66	Not Kosher
	2433	Rosenstein's Meat Market	1.52	Passed
	2434	Saltzman's Meat Market	2.92	Passed
New Haven	1886	A. Alpert	1.41	Passed
	1896	Bailey	4.51	Passed
	1891	Brayoux Levine	1.62	Passed
	1888	Elm City Meat Market	2.94	Passed
	1889	Elm City Meat Market	3.38	Passed
	1890	Epstein's Market	0.83	Passed
	1894	H & F Meat Market	2.48	Passed
	1892	Hi-Grade	2.16	Passed
	1893	Kahn	1.00	Passed
	1897	New York Meat Market	1.40	Passed
	1895	Whalley Kosher Market	1.06	Passed
New London	1760	Freedman	2.31	Passed
	1761	Soltz	0.69	Not Kosher
Norwich	1936	Heitz Bros.	2.81	Passed
	1935	Norwich Kosher Meat Market	4.29	Passed
Waterbury	3170	Hi Grade Meat Market	1.12	Passed
	3171	Star Market	2.37	Passed
	3172	Wiesman's Market	4.70	Passed

9273. *Beef Round.* Park Avenue Restaurant, Danbury, Conn. Ether-insoluble bromides,<sup>1</sup> 120 mgm. per gram of fat, indicating that the meat was not beef but horsemeat.

W.M.-479. *Chicken Pie.* Colonial Inn, East Lyme, Conn. Declared ingredients were: "Chicken stock, flour, veg. shortening, milk, diced potatoes, selected chicken, carrots, peas, salt, pepper, spices." Net weight: Declared, 11 oz.; found, 11.75 oz. Because a fair proportion of chicken was found present, sample was passed.

W.F.-981. *FAF Savoree Breaded Veal Steaks.* Associated Frozen Foods Corp., New York, N. Y. Declared ingredients were: "Chopped veal, water, flour, eggs, non-fat dry milk solids, salt, spices, monosodium glutamate, baking powder." Analysis was as follows: Moisture, 60.39; lactose, 2.27, and dextrose, 0.33, per cent; estimated per cent dry skim milk, 4.41. Passed.

<sup>1</sup>Crowell, G. K., J. Assoc. Official Agr. Chem., 27,448 (1944).

9448. *Grandmother's Old Town Mince Meat*. Whipple Co., Natick, Mass. Moisture, 55.40; ash, 1.34; sodium chloride, 0.66; invert sugar, 37.14, and acetic acid, 0.11, per cent; starch, apples and raisins present; citrus fruit and meat not detected. Misbranded because of absence of meat, and because moisture content exceeded 30 per cent maximum of State Purchasing specifications.

9449. *Headle's Pure Fruit Products Mince Meat*. Headle Co., Simsbury, Conn. Moisture, 63.55; ash, 1.49; sodium chloride, 0.73; invert sugar, 30.64, and acetic acid, 0.06, per cent; starch, apples and raisins present; citrus fruit and meat not detected. Misbranded because meat was absent and moisture exceeded State Purchasing specification.

### Oils and Fats, Vegetable

#### Blended Oils

Four samples of blended oils were submitted by the Commissioner; one was passed and three were adulterated or misbranded:

*K.F.-1015 and W.M.-458. Boncore Brand 80% Corn and Peanut Oil 20% Pure Olive Oil*. Bon Core Corp., New Haven, Conn. Average analysis was as follows: Butyro refraction, 25°C., 68.4; cottonseed and peanut oils, trace; squalene, 58 mgm./100 gm.; estimated per cent olive oil, 10; net contents, 125.9 fl. oz. Misbranded because only a trace of peanut oil was present and both samples were short volume (average 2.1 fl. oz.). *W.M.-458* also had an unpleasant medicinal flavor.

*W.M.-457. Boncore Brand 90% Corn and Peanut Oil 10% Pure Olive Oil*. Bon Core Corp., New Haven, Conn. Butyro refraction, 25°C., 68.6; trace of cottonseed oil and a very small proportion of peanut oil present; squalene, 48 mgm./100 gm.; estimated per cent olive oil, 7; net contents, 126.3 fl. oz. Adulterated and misbranded because proportion of peanut oil was insignificant, oil had an unpleasant medicinal flavor and sample was short volume 1.7 fl. oz.

*S.O.-180. Castello Brand Peanut Oil and 20% Olive Oil*. Castello Packing Co., Brooklyn, N. Y. Butyro refraction, 25°C., 63.8; peanut oil present; no cottonseed or mineral oil or artificial flavor or color; squalene, 66 mgm./100 gm.; estimated per cent olive oil, 13; net contents, 127.3 fl. oz. Passed.

#### Oleomargarine

Three official samples of oleomargarine were examined for the Food and Drug Commissioner, and three unofficial samples were analyzed for the State Supervisor of Purchases. Analyses are given in Table 8; all samples were passed.

#### Olive Oil

Three official and two unofficial samples of olive oil were examined; four were passed and one was misbranded:

*A.F.-4. Giulietta Brand Pure Imported Olive Oil*. Antanio Corrao Corp., Brooklyn, N. Y. Short volume 1.9 fl. oz.

TABLE 8. OLEOMARGARINE

No.	Manufacturer or distributor and brand	Water, per cent	Fat, per cent	Flavor
W.M.-558	Armour & Co., New Haven, Conn. <i>Sweet Sixteen Colored Vegetable</i>	....	80.36	....
W.M.-562	Best Foods, New York, N.Y. <i>Holiday Yellow</i>	....	80.47	....
451	Cudahy Packing Co., Kansas City, Kansas. <i>Table Ready Vegetable</i>	....	80.22	Good
9463	E. F. Drew & Co. Inc., Boonton, N.J.	....	80.52	Good
W.M.-559	Shedd-Bartush, Detroit, Mich. <i>Southern Gold Vegetable</i>	....	80.47	....
2708	Swift & Co., Chicago, Ill. <i>Vegetable</i>	13.31	80.11	Satisfactory

2784 and 2785. *Olive Oil*. Louis Maisano, New Haven, Conn. Butyro refraction, 25°C., 61.8; no adulterant detected; passed.

J.S.-164. *Vi-Jon Pure Imported Virgin Olive Oil*. Vi-Jon Laboratories, Inc., St. Louis, Mo. Butyro refraction, 25°C., 62.0; no adulterant detected; passed.

K.C.-432. *Suncrest Pure Imported Olive Oil*. Gaer Bros., Inc., Hartford, Conn. Butyro refraction, 25°C., 61.6; no adulterant detected; passed.

### Peanut Oil

W.M.-463, *Rosinella Brand Salad Oil, 100% Pure Peanut Oil*, packed by Filippone & Co., Passaic, N. J., had a butyro refraction of 64.2 at 25°C., contained a trace only of cottonseed oil, and gave a positive test for peanut oil and negative tests for mineral oil and artificial flavor and color. It was passed.

### Pickles

Three samples of pickles submitted by the State Supervisor of Purchases were compared for flavor by 13 persons with the following results:

<u>No.</u>	<u>Brand</u>	<u>Remarks</u>
8768	Blue Diamond Sweet Mixed Pickles	Majority preferred flavor of this brand.
8767	Silver Lane Sweet Mixed Pickles	Six preferred this brand, but seven objected to astringency of the alum present.
8766	Spare-Way Sweet Gherkins	Little flavor; inferior.

### Popcorn

Two official samples of popcorn were passed:

K.R.-768. *King Cole Cheese Popcorn*. King Cole Foods, Inc., East Hartford, Conn. Declared ingredients: Popcorn, cheese flavoring, vegetable oil, artificial coloring, salt. The "cheese flavoring" was suspected of being an imitation flavor, but sample was passed pending factory inspection.

K.F.-1061. *Mom's Old Fashioned Butter-Rich Caramel Corn*. Confections, Inc., Chicago, Ill. Labelled: "Ingredients: Pure Cane Sugar, Fancy Grade Popcorn, Corn Syrup, Pure Creamery Butter, Salt, Lecithin, Baking Soda." Total fat, 1.54 per cent. Constants of fat: Butyro refraction, 40°C., 48.0; Reichert-Meissl value, 12.12; Polenske value, 1.30. Because analysis indicated that while the butter fat content of the sample was only about 0.6 per cent, 41 per cent of the total fat present was butter fat, sample was passed.

### Preservatives

Five official and one unofficial samples of preservatives were examined; three were passed and three were misbranded:

J.W.-266. *Fresh Meat Preservative*. First Spice Mixing Co., Inc., New York, N.Y. Labelled: "Ingredients: Benzoate of Soda in a Cerelese-Dextrose base." Test for sulphite negative; passed.

8697. *Micro-San Acid*. Brock-Hall Dairy Co., Hamden, Conn. Analysis showed this to be a 4.81 gm./100 cc. solution of sulphuric acid containing a wetting agent. Because its intended use was as a cleaning agent for dairy equipment, it was passed.

J.W.-289 and 290. *Pickling Preservative, Batches 8 and 5*. Preservative Mfg. Co., Flemington, N. J. Declared ingredients were: "Sodium chloride, sodium nitrite, sodium nitrate and dextrose." Average analysis showed: Sodium chloride, 78.56; sodium nitrite, 7.45; sodium nitrate, 0.42; calcium sulphate, trace, and water and undetermined (by difference), 13.57, per cent; phosphate, carbonate, sugars and ammonia absent. Because no dextrose was present in either sample, both were misbranded.

J.W.-264. *Seasolin*. First Spice Mixing Co., Inc., New York, N.Y. Labelled: "A specially processed sucrose product with oils of natural spices. Contains no chemicals, complies with Pure Food Laws." Test for sulphite negative; passed.

T.C.-2 *Whitato "Anti-Oxidant"*. L. L. Antle & Co., Inc., Atlanta, Georgia. The label of this product bore no list of ingredients, but did state: "Save \$\$\$ Treat your Cut Potatoes in your Kitchen by Using WHITATO—WHITATO costs less than 10 cents each 100 lbs. of potatoes treated.—Potatoes stay fresh and white *OUT OF WATER* for days when treated with *WHITATO*." Qualitative analysis of this white powder showed it to be a mixture of sodium sulphite, sodium sulphate and salt.

Sample was misbranded because: (1), its ingredients were not declared; (2), it was not labelled "Contains a Chemical Preservative"; and (3), no net weight was given.

### Preserves

K.F.-1120 and 1121, *P. G. A. Pure Raspberry Preserve*, packed for John Bozzuto & Sons, Inc., Waterbury, Conn., had the following average analysis: Total solids, 71.95; total sugars, 66.90; ash, 0.25, and total acidity (as citric acid), 0.90, per cent; P<sub>2</sub>O<sub>5</sub>, 3.34, and K<sub>2</sub>O, 117.0, mgm./100 gm.; estimated per cent fruit, 54, or 47 lb. of fruit to 55 lb. of sugar. Passed.

### Salad Dressings and Mayonnaise

Federal standards for "Dressings for Foods" set detailed limits for the proportions of oil, egg, emulsifying ingredients and acid in the three recognized types of salad dressings:

(1). "Mayonnaise" is required to contain not less than 65 per cent of vegetable oil, and the vinegar, lemon or lime juice present must have an acidity of not less than 2.5 per cent (expressed as acetic or citric acid respectively). (This acidity requirement serves to limit the quantity of water that may be added.)

(2). "French dressing" must contain at least 35 per cent of oil and not less than 0.75 per cent of emulsifying ingredients (gums or egg yolk solids).

(3). "Salad dressing" (so called) may contain as little as 30 per cent of oil, but must contain 4 per cent of liquid egg yolks or their equivalent; gums may also be present, but their percentage must not exceed 0.75.

Three samples of mayonnaise, three of French dressing and one of "salad dressing" were submitted by the Commissioner; six were passed and one was misbranded:

*W.M.-576. Guilford Brand Pure Homogenized Mayonnaise.* Roberts Food Corp., Brooklyn, N. Y. This sample was submitted as a result of a report that it contained added soya flour and was "blown up" with nitrogen gas. As for this latter point, Federal Regulation 25.1 (a) (5) says that "Mayonnaise may be mixed and packed in an atmosphere in which air is replaced in whole or in part by carbon dioxide or nitrogen", but this regulation does not contemplate actually beating nitrogen into the mayonnaise so as to fluff it up like whipped cream and unduly increase its volume; any such dilution of the mayonnaise with gas would be a deceptive practice that would make the product misbranded. However, we found no evidence of either of the reported additions in the case of *W.M.-576*: no soya flour could be detected, and the specific gravity (0.9520) was not abnormally low as it would have been if the mayonnaise had been whipped with nitrogen.

Calculated composition from the analysis was: Egg yolk, 7.23; egg white, 0.09; corn or soy oil, 73.60; vinegar (of 4% acidity), 11.50; sugar, salt, spices, etc., 7.49, and added water, 0.09, per cent. Sample was passed.

*A.L.-149. Robinson's French Dressing.* Robinson's French Dressing, Wallingford, Conn. Calculated composition from the analysis was: Egg yolk, 2.66; egg white, 0.62; corn or soy oil, 22.46; vinegar (4% acidity), 41.25; sugar, salt, spices, gums, etc., 32.22, and added water, 0.79, per cent. Misbranded because the oil content was less than 35 per cent.

*W.M.-487. Silver Star Brand Pure Mayonnaise.* Korbros Oil Corp., Brooklyn, N. Y. Calculated composition from the analysis was: Egg yolk, 4.65; egg white, 1.67; corn or soy oil, 84.97; vinegar (5.77% acidity), 5.03, and sugar, salt, spices, etc., 3.68, per cent. Oil content unusually high; passed.

*K.F.-980. Southern Hostess Salad Dressing.* Mayonnaise Products Co., Philadelphia, Pa. Calculated composition was: Egg yolk, 5.03; egg white, 1.07; corn or soy oil, 30.98; vinegar (4% acidity), 25.25; starch, sugar, salt, spices, 18.61, and added water, 19.06, per cent. Passed.

*K.F.-1000 and R.G.-81. Tress Lydon's French Dressing, Home-Made.* Tress Lydon, Agawam, Mass. Labelled: "Made with pure vegetable oil, tomato, vinegar, spices, sugar, salt, and onion flavoring." Analysis indicated the following average composition: Egg yolk, 4.12; egg white, 2.48; cottonseed oil, 43.44; vinegar (4% acidity), 23.50; sugar, salt,

spices, etc., 6.54, and added water, 19.92, per cent. When this analysis was reported to the manufacturers, they denied the use of any egg or water; they did admit, however, that the declared "tomato" was actually Campbell's tomato soup, which explains where the water came from. It may be possible that one of the ingredients contained sufficient phosphorus from non-egg sources to have accounted for the apparent egg content. In any case the samples were passed.

*W.M.-577. Yale Brand Mayonnaise.* New Haven Pickling Co., New Haven, Conn. Labelled: "Contains eggs, spices, salt, salad oil, vinegar." Calculated composition from the analysis was: Egg yolk, 5.79; egg white, 2.27; cottonseed oil, 80.78; vinegar (5.19% acidity), 7.32, and sugar, salt, spices, etc., 3.84, per cent. No soya flour or starch was detected, and the specific gravity (0.9478) did not indicate whipping with nitrogen. Passed.

### Shellfish

Three official samples of clam bisque, *A.F.-68, 69, and 73*, all from Sidney Wood, Inc., Noank, Conn., were analyzed for their salt contents; none contained added salt, one contained clam juice, and two contained washed clams and water but no clam juice. The salt content of the sample containing clam juice (*A.F.-68*) was 1.02 per cent; the average salt content of the other two samples was 0.27 per cent.

### Spices

Ten official and one unofficial samples of black pepper, and one official sample of white pepper, were examined; nine were passed and three were adulterated:

*767 and W.M.-461. Ace High Brand Finest Quality Black Pepper.* Pepe-Maisano Co., New Haven, Conn. Average analysis was as follows: Non-volatile ether extract, 5.95; volatile ether extract, 4.36; starch, 26.55; total ash, 4.94, and acid-insoluble ash 0.12, per cent. Microscopic examination of *W.M.-461* showed it to contain more pepper shells than pepper; *767* was passed.

*W.M.-481 and 482. Ace High Brand Finest Quality Black Pepper.* Mutual Spice Co., North Bergen, N. J. Average analysis was as follows: Non-volatile ether extract, 7.35; volatile ether extract, 3.69; starch, 31.64; total ash, 7.64, and acid-insoluble ash, 0.07, per cent. Passed.

*W.M.-451. Coral Black Pepper.* Reliable Importing and Exporting Co., Inc., New York, N. Y. No evidence of adulteration; passed.

*W.M.-486. Country Tavern Finest Quality Black Pepper.* Mutual Spice Co., North Bergen, N. J. Non-volatile ether extract, 7.04; volatile ether extract, 2.90; starch, 30.75; total ash, 4.94, and acid insoluble ash, 0.06, per cent. Passed.

*A.F.-984. Pure Black Pepper.* J. K. Landenslager, Inc., Philadelphia, Pa. Adulterated with a trace of salt.

*W.M.-484. Pure Butcher Black Pepper.* Mutual Spice Co., North Bergen, N.J. Non-volatile ether extract, 7.93; volatile ether extract, 2.63; starch, 32.93; total ash, 4.87, and acid-insoluble ash, 0.13, per cent. Passed.

*W.M.-483. Pure Ground Black Pepper.* Mutual Spice Co., North Bergen, N.J. Non-volatile ether extract, 8.11; volatile ether extract, 2.32; starch, 33.33; total ash, 4.73, and acid-insoluble ash, 0.05, per cent. Passed.

*A.F.-983. Pure Muntok White Pepper.* J. K. Landenslager, Inc., Philadelphia, Pa. Trace of salt present; adulterated.

*A.F.-985 and K.F.-855. Van Loan Fine Ground Pure Black Pepper.* Van Loan & Co., New York, N. Y. No evidence of adulteration; passed.

### Spray Residues

Since 1931, apples grown in the orchards of this State have been sampled by agents of the Dairy and Food Commissioner or his successor, the Food and Drug Commissioner, and examined in this laboratory for spray residue. During the 1952 season 20 samples were taken, none of which contained excessive spray residue.

The official tolerances for apples and pears are 0.050 grain of lead and 0.025 grain of arsenic (as the trioxide) per pound of fruit. Of the 20 samples, the average lead content was 0.024 grain / lb; the maximum was 0.048, and the minimum 0.007.

Thirty-four miscellaneous materials were submitted by our Entomology Department, a local health department, a seed grower, nurserymen and private citizens. On six samples no spray residue was found; the other samples were the following:

*2707 and 3205. Apples.* Entomology Dept., Conn. Agr. Expt. Sta. DDT, 3.1 and 1.6 parts per million respectively. (The informal tolerance for DDT on apples is 7 p.p.m.)

*2525. Carolina Hemlock.* John B. Woodruff, Waterbury, Conn. These hemlock needles contained a trace of grayish-colored non-waxy residue which was not identified.

*1267 to 1284 inclusive. Elm Tree Branches.* William George, Wethersfield, Conn. These samples from DDT-sprayed elm trees were submitted to determine the distribution of insecticide on the various trees; the DDT content ranged from 1 to 90 parts per million on the lower branches, from 4 to 420 p.p.m. on the middle branches, and from 1 to 9 p.p.m. on the treetops.

*854, 857 and 858. Seeds.* Associated Seed Growers, New Haven, Conn. Mercury (from treatment with the mercurial fungicide "Ceresan M"), respectively 0.1, 0.1 and 0.05 per cent.

*8485 to 8487 inclusive. Tobacco Leaves.* Entomology Dept., Conn. Agr. Expt. Sta. These leaves were from tobacco grown on chlordane-treated soil; the average chlordane content (estimated from organic chlorine corrected for a blank) was 4 parts per million.

*1903. Tomatoes.* I. L. Drabkin, Mt. Carmel, Conn. Arsenic trioxide, 0.013 grain/lb., which is below the tolerance of 0.025 grain/lb.

### Syrups

The three following official samples of syrups were all passed:

*T.C.-37. Lincoln Pure Fruit Flavored Lemon-Lime Syrup.* Lincoln Foods, Inc., Lawrence, Mass. It had been claimed that some samples of this product contained a foreign ingredient, and that the bottles exploded. Nothing was found wrong with this sample.

*E.C.-518. Lincoln Pure Fruit Flavored Orange Syrup.* Lincoln Foods, Inc., Lawrence, Mass. Declared ingredients were: "Sugar syrup, orange juice, oil of orange, U.S. certified color, and citric acid, preserved with benzoate of soda." Analysis showed: Total solids, 63.13, and ash, 0.22, per cent; K<sub>2</sub>O, 50 mgm./100 gm.; estimated per cent orange juice, 22.

*K.C.-351. Sugar Syrup.* Soderholm Baking Co., Bridgeport, Conn. This sample had been through a fire, but it was in a tightly closed steel drum and undamaged.

### Vegetable Products

Two samples each of chick peas, canned tomatoes and tomato juice, and one sample each of "lupini beans", peas and tomato ketchup, were submitted by the Commissioner; 14 samples of spinach, two of canned peas and one of pea juice were analyzed for our Forestry Department and Associated Seed Growers of New Haven. Twenty samples were passed and six were adulterated or misbranded:

*K.C.-360 and 361. Aurora Brand Italian Peeled Tomatoes with Basil.* Giro Piro, Naples, Italy. These samples contained respectively 500 and 100 parts per million of tin, which are excessive quantities.

*3825 and 3826. Canned Peas.* Associated Seed Growers, New Haven, Conn. No evidence of treatment with calcium chloride; passed.

*K.F.-873. Glee Club Tomato Catsup.* New England Stores Service Corp., Boston, Mass. Total solids, 31.49; insoluble solids, 1.52; ash, 3.33; crude fiber, 0.57; protein, 2.03, and salt, 2.15, per cent.

As a result of a study of the composition and analysis of tomato ketchup made at this Station in 1910, it was concluded that "pure tomato ketchup should contain in the salt-free dry substance not more than 15 per cent insoluble solids, not more than 7 per cent ash, not more than 4 per cent fiber and not more than 12 per cent protein; the ratio of insoluble to total salt-free solids should not be less than 1 to 7".<sup>1</sup> Since *K.F.-873* met all these specifications, it was passed.

*K.F.-992. Jersey King Brand Fave.* Cedarville Packing Co., Cedarville, N. J. Net weight: Declared, 1 lb. 4 oz.; found, 1 lb. 3.89 oz. Misbranded for failure to give an English name for these beans (which are variously known as "broad beans", "horse beans" and "Windsor beans").

<sup>1</sup>Conn. Agr. Expt. Sta. 15th Report on Food Products and 3rd Report on Drug Products, 1910, p. 548.

Winton and Winton<sup>1</sup> have this to say of this bean:

"It has been cultivated since prehistoric times in countries bordering on the Mediterranean. De Candolle believes that it originally grew in two regions, one south of the Caspian, the other in Northern Africa. Formerly the most important and still in some countries the commonest bean, the seed now is less highly esteemed for human food than species of *Phaseolus*. It is still popular with the poorer classes in parts of Europe, such as Italy and Spain, and with immigrants from those regions in the United States. It also is eaten at the snap stage. Its chief importance in most countries at present is as a cattle food."

*K.C.-433. Kounty Kist Brand Large Sweet Peas.* Green Giant Co., LeSueur, Minn. Net weight: Declared, 1 lb. 1 oz.; found, 1 lb. 1.8 oz. Passed.

*K.F.-991. "La Perla" Brand Genuine Mexican Ceci.* B. Filippone & Co., Passaic, N. J. Misbranded because the label failed to bear the English name of the product (chick peas).

*W.M.-498. La Perla Brand Lupini Beans.* B. Filippone & Co., Passaic, N. J. Misbranded because the label bore no list of ingredients and did not give the English name of these white lupine seeds (or beans). Lupine seeds must be soaked in water to remove the bitter principle before they may be eaten; they have also been roasted and used as a substitute for coffee.

*3824. Pea Juice.* Associated Seed Growers, New Haven, Conn. This juice had an off taste, but no calcium chloride was found present.

*K.F.-1122 and 1123. P. G. A. Finest Fancy Tomato Juice.* John Bozuto & Sons, Inc., Waterbury, Conn. Average analysis was as follows: Total solids, 6.89; salt, 0.81, and salt-free solids, 6.08, per cent. Since according to "Accepted Foods",<sup>2</sup> the total solids of tomato juice may vary between 4.8 and 8.3 per cent, both samples were passed.

*8776 to 8789 inclusive. Spinach.* Forestry Dept., Conn. Agr. Expt. Sta. Average analysis for metals of these 14 samples was as follows (air-dry basis): Potassium, 9.16; calcium, 1.52; magnesium, 3.41; phosphorus, 0.40; manganese, 0.059; iron, 0.039; aluminum, 0.038, and zinc, 0.079, per cent; copper, 44, and boron, 42, p.p.m.

**Vinegar**

Twenty-nine samples of wine vinegar and seven of cider vinegar were examined for the Commissioner; 10 were passed and 26 were adulterated or misbranded. Analyses are given in Table 9.

**Water**

Thirty-two samples of water were analyzed for local health departments and private citizens. These analyses were mostly for pH and hardness; this Station does not make sanitary analyses of drinking water.

<sup>1</sup>"Structure and Composition of Foods", vol. II, pp. 314-315.  
<sup>2</sup>American Medical Association (1939).

TABLE 9. VINEGAR

No.	Manufacturer or distributor and brand	Total solids, gm./100cc.	Total ash, gm./100cc.	Total acetic acid, gm./100cc.	Tartaric acid, gm./100cc.	Color	Remarks
<b>Cider Vinegar</b>							
K.C.-437	Bernice Foods, Inc., New York, N.Y.	1.60	...	5.36	...	.....	Labelled "Full strength, 5% acidity"; passed.
K.F.-1066	Bernice	1.30	0.26	4.29	...	.....	Labelled "Full strength pure cider vinegar"; low solids; substandard.
K.C.-436	First National Stores, Inc., Boston, Mass. <i>Finast</i>	1.13	...	4.78	...	.....	Low solids; substandard.
K.C.-435	Gristede Bros., Inc., New York, N.Y. <i>Grisdale</i>	1.16	...	5.12	...	.....	Labelled "Full strength"; low solids; substandard.
S.O.-231	Krasdale Foods, Inc., New York, N.Y. <i>Krasdale</i>	1.54	0.27	5.48	...	.....	Labelled "Full strength"; solids a little low, but passed.
K.C.-403	Francis H. Leggett & Co., New York, N.Y. <i>Premier</i>	1.40	0.24	4.10	...	.....	Diluted vinegar not so labelled; adulterated and misbranded.
A.F.-1000	Old Dutch Mustard Co., Inc., Brooklyn, N.Y. <i>Old Dutch</i>	2.31	...	5.14	...	no caramel	Labelled "Full strength"; passed.
<b>Wine Vinegar</b>							
W.M.-453	Sweet Life Brands, Inc., Brooklyn, N.Y. <i>Sweet Life Quality Foods</i>	1.27	0.09	5.00	0.079	natural	Diluted vinegar not so labelled; misbranded.
K.N.-457	Bernice Foods, Inc., New York, N.Y. <i>Bernice</i>	1.74	0.22	5.73	0.094	natural	Passed.
A.F.-59	Ellena Bros., Etiwanda, Calif. <i>Regina Cucamonga</i>	1.89	0.38	4.96	0.170	natural	Diluted vinegar not so labelled; misbranded.
K.C.-353	Giambanco Vinegar Plant, Oakdale, Calif. <i>Pee Gee California</i>	1.19	0.07	5.08	0.048	natural	Considerably diluted with water; adulterated and misbranded.
	Krasdale Foods, Inc., New York, N.Y. <i>Krasdale</i>	1.22	0.09	4.94	0.104	natural	Labelled "Reduced with water to 5% acidity", but misbranded because a diluted vinegar is not "pure" wine vinegar.
E.C.-582	Lacora Products Co., Brooklyn, N.Y. <i>Gold Medal</i>						



TABLE 9. VINEGAR—(Concluded)

No.	Manufacturer or distributor and brand	Total solids, gm./100cc.	Total ash, gm./100cc.	Total acidity as acetic acid, gm./100cc.	Tartaric acid, gm./100cc.	Color	Remarks
E.C.-572	Old Dutch Mustard Co., Inc., Brooklyn, N.Y. <i>Doge</i>	1.21	0.13	5.19	0.104	natural	Labeled "Reduced to a uniform strength of 5% acidity", but misbranded because labelled "pure" wine vinegar.
K.C.-350	Old Dutch Mustard Co., Inc., Brooklyn, N.Y. <i>Doge</i>	2.12	0.14	5.06	0.017	natural	Labeled "Reduced to a uniform table strength of 5% acidity," not a straight diluted wine vinegar; probably adulterated with distilled vinegar, water and grape pomace.
W.M.-470	Old Dutch Mustard Co., Inc., Brooklyn, N.Y. <i>Doge</i>	2.11	0.14	5.05	0.035	natural	Labeled "Reduced to uniform table strength of 5% acidity"; misbranded because not "pure" wine vinegar.
A.F.-55	Palmieri Food Products, New Haven, Conn. <i>Palmieri</i>	2.71	0.59	4.57	0.088	natural	Passed.
F.P. 52	C. Pappas Co., Inc., Boston, Mass. <i>Pappas Pure Gragnano</i>	1.70	0.32	6.39	0.150	natural	Passed.
F.P.-50	Pastene & Co., Inc., New York, N.Y. <i>Pastene Pure Claret</i>	1.36	0.10	5.13	0.037	natural	Diluted vinegar not so labelled; adulterated and misbranded.
W.M.-485	Pepe-Maisano Co., New Haven, Conn. <i>Maisano</i>	3.26	0.08	5.00	0.063	natural	Diluted vinegar not so labelled; adulterated and misbranded.
W.M.-489	Pepe-Maisano Co., New Haven, Conn. <i>Maisano</i>	1.44	0.07	5.06	0.038	natural	Diluted vinegar not so labelled; adulterated and misbranded.
W.M.-490	Pepe-Maisano Co., New Haven, Conn. <i>Maisano</i>	1.40	0.07	5.05	0.044	natural	Diluted vinegar not so labelled; adulterated and misbranded.
W.M.-491	Pepe-Maisano Co., New Haven, Conn. <i>Maisano</i>	1.47	0.07	5.04	0.024	natural	Diluted vinegar not so labelled; adulterated and misbranded.
W.M.-471	Randall Wine Vinegar Co., New York, N.Y. <i>Eldeen</i>	1.19	0.07	5.08	0.057	natural	Diluted vinegar not so labelled; adulterated and misbranded.
W.M.-477	Randall Wine Vinegar Co., New York, N.Y. <i>Eldeen</i>	1.17	0.07	5.07	0.076	natural	Diluted vinegar not so labelled; adulterated and misbranded.
S.O.-234	Randall Wine Vinegar Co., New York, N.Y. <i>Eldeen</i>	3.38	0.21	5.08	0.062	natural	Labeled "Reduced with water to 5% acidity"; but misbranded because not a "pure" wine vinegar.
S.O.-235	Randall Wine Vinegar Co., New York, N.Y. <i>Eldeen</i>	1.79	0.13	4.87	0.023	natural	Labeled "Reduced with water to 5% acidity; misbranded because acidity was low and because labelled "pure" wine vinegar.
K.N.-430	Rio Rita Food Products Co., Inc., New York, N.Y. <i>Rito Rita</i>	1.43	0.19	5.00	0.128	natural	Passed.
K.C.-346	Gus Sciafani, Stamford, Conn. <i>Lina</i>	1.42	0.09	5.01	0.048	natural	Diluted vinegar not so labelled; adulterated and misbranded.
K.C.-359	Gus Sciafani, Stamford, Conn. <i>Lina</i>	1.44	0.08	5.02	0.061	natural	Diluted vinegar not so labelled; adulterated and misbranded.
S.O.-191	Gus Sciafani, Stamford, Conn. <i>Lina</i>	2.04	0.13	5.12	0.065	natural	Passed.
S.O.-227	Gus Sciafani, Stamford, Conn. <i>Lina</i>	1.26	0.13	5.11	0.069	natural	Labeled "Reduced with water to 5% acidity"; but misbranded because not a "pure" wine vinegar.
S.O.-228	Gus Sciafani, Stamford, Conn. <i>Lina</i>	3.38	0.21	5.06	0.026	natural	Adulterated; probably mixture of grape pomace, distilled vinegar and water.
K.C.-392	J. L. Sciafani, New York, N.Y. <i>Sciafani</i>	1.32	0.08	5.35	0.049	natural	Misbranded because "Pure" and "Wine Vinegar" were in large type and "Reduced with water to 5% acidity" was in very small type.
S.O.-235	Jos. Sciafani, Inc., Brooklyn, N.Y. <i>Sciafani</i>	1.05	0.13	5.23	0.084	.....	Passed.
K.C.-342	Serto Packing Co., New York, N.Y. <i>Serto</i>	1.45	0.10	5.00	0.085	natural	Labeled "Reduced with water to 5% acidity"; but misbranded because labelled "pure" wine vinegar.
A.F.-36	John Wagner & Sons, Inc., Philadelphia, Pa. <i>Wagner Vintage Tarragon</i>	1.03	0.17	5.05	0.055	natural	Passed.

### Miscellaneous

Three samples of miscellaneous foods and other materials were examined for the Commissioner; one was definitely misbranded, one was unfit for use with foods, and one was passed:

*A.L.-83. Cardboard.* Westley B. Meyers Co., New Haven, Conn. This sample was submitted because of a complaint by a doughnut manufacturer that boxes made from this cardboard imparted an offensive chemical odor to bakery products. Examination showed it to be composed of two sheets pasted together: One sheet was smooth and almost white, while the other was rough and gray in color. When the two sheets were separated, moistened, and placed in separate stoppered glass bottles, a strong musty odor soon developed in the bottle with the rough gray sheet, and in one week mold was visible; in the bottle containing the white sheet no mold developed. It was concluded that the "chemical odor" complained of was due to molds in the gray layer of the cardboard.

*K.C.-340. K. F. S. Challenger Meal.* Kennel Food Supply Co., Fairfield, Conn. Analysis of this dog food was as follows:

	<u>Guaranteed</u> <u>per cent</u>	<u>Found</u> <u>per cent</u>
Moisture .....	...	8.42
Protein .....	28.0	25.69
Fat .....	9.0	9.97
Fiber .....	2.0	3.05
Ash .....	9.0	15.63
Nitrogen-free extract .....	45.0	37.24

Sample was misbranded because it was 2.31 per cent deficient in protein and contained 1.05 per cent excess fiber and considerably more ash than claimed.

*W.S.-308. Norton's Gleem.* Norton Mfg. Co., Roslindale, Mass. Labeled: "Cleans fabrics, silks, woolens, upholstery, glassware, dishes—leaves no streaks—easy to use—safe." Sodium carbonate, 47.17; sodium bicarbonate, 20.16; trisodium phosphate ( $\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$ ), 26.78, and undetermined, 5.89, per cent.

Ninety-three unofficial samples were received from the State Supervisor of Purchases, local health and police departments and private citizens; nothing objectionable was found in 42 of these, while 51 were contaminated, mislabelled or otherwise not what they should be. The following may be of interest:

*9525. Actrite Ice-Thaw.* Pioneer Mfg. Co., Cleveland, Ohio. This was "a chemical composition to thaw ice". Analysis showed it to be a mixture of calcium and sodium chlorides.

*2548. Board from subflooring of house.* William Karraker, Redding Ridge, Conn. This board was submitted because the flooring was gradually disintegrating to a powder. Qualitative analysis showed contamination with sulphuric acid.

*8809. Black Crayon.* W. R. James, M. D., Essex, Conn. Analysis showed no lithopone;<sup>1</sup> only wax and carbon black could be found.

*588. Boiler Compound.* Beechmont Dairy, Inc., Bridgeport, Conn. Sodium carbonate, 51.94; sodium bicarbonate, 12.60; trisodium phosphate, 30.40, and moisture and brown coloring matter (by difference), 5.06, per cent.

*9274. Havoline S. A. E. 20 Motor Oil.* The Texas Co. This sample was submitted by the State Police because it was still clear and clean after being run in a car for 10,000 miles. Viscosity determinations showed Saybolt viscosities of 285 seconds at 130° F. and 75 seconds at 210° F.; these viscosities corresponded to a No. 40 rather than a No. 20 oil.

*1351. Indian Compound.* Victor Jacwici, Stratford, Conn. Microscopic examination of this material, stated to have been used as a tobacco flavoring, showed it to be a ground mixture of Tonka beans and leaves of an unidentified plant.

*9429. Insecticide Concentrate Powder (DDT) Contract No. N5sx2674.* E. I. duPont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del. The material in a 5-pound can so labelled proved to be not DDT or any other powder, but an oil varnish (probably linseed oil varnish).

*9207. Lard.* State Supervisor of Purchases. Per cent fat, 100.0. Constants of fat: Butyro refraction, 40° C., 50.0; iodine no., 60.8. Odor, pleasant; color, pure white; rancidity, none. Passed.

*9538. Material found on floor of railroad car that had been loaded with hay.* New York, New Haven & Hartford Railroad Co., New Haven, Conn. This material contained 2.24 per cent of hexachlorocyclohexane ("benzene hexachloride").

*1154. Mushrooms.* Food and Drug Commission. These mushrooms were identified as a *Galera* species, probably *Galera tenebra*. This variety is considered edible.

*9601. Nu-Plate Silver Cream.* Nordicson Enterprises, Ltd., Toronto, Ont., Canada. This cream was supposed to replate silver as it polished it. Analysis showed: Water, 57.75; calcium carbonate, 40.0; silver, 0.30, and sodium and potassium cyanides, 0.74, per cent.

According to Peterson, Haines and Webster,<sup>2</sup> one grain of hydrocyanic acid will ordinarily prove fatal to a man. "Nu-Plate Silver Cream", since it contains this quantity of hydrocyanic acid in 0.56 ounce, is much too dangerous to be sold promiscuously.

*719 and 720. Sugar.* State Police. Polarizations of both samples indicated 99.94 per cent sucrose.

*9116. Table Cloth.* Dr. Dorothy Granoff, Dept. of Public Health, Yale University. This table cloth had been submitted to a cleaner to remove a scorched spot; when it was returned it was found to have

<sup>1</sup>Conn. Agr. Expt. Sta. Bul. 549, 51-54 (1951).

<sup>2</sup>"Legal Medicine and Toxicology", vol. II, p. 679.

TABLE 10. AMMONIATED MERCURY OINTMENT

No.	Manufacturer	Pharmacy	Ammoniated mercury, per cent	Remarks
J.S.-174	Hance Bros. & White Co., Philadelphia, Pa.	Rickman's Pharmacy, Hartford	4.85	O. K.
T.D.-407	Eli Lilly & Co., Indianapolis, Ind.	Concord Pharmacy, West Hartford	4.98	Composition O. K., but labelling restricted to sale on prescription.
T.D.-433	Eli Lilly & Co., Indianapolis, Ind.	Gray's Drug Store, Westport	9.71	Labelled "(Not U.S.P.) This ointment is twice the strength of Ointment Ammoniated Mercury, U.S.P., and also differs in base in that it contains Lanolin and does not contain Liquid Petrolatum. To be used as directed by the physician." Should not have been dispensed when ordinary ointment was called for, nor otherwise than on prescription.
J.S.-173	Norwich Pharmacal Co., Norwich, N.Y.	Zito's Pharmacy, Hartford	9.68	Labelled "10% Ammoniated Mercury Ointment Double U.S.P. Strength," and gave directions for use, but bore no warning against unsafe use and should not have been dispensed when ordinary ointment was called for.
T.D.-401	Walgreen Co., Chicago, Ill.	Arthur Drug Store, Manchester	9.94	Labelled "Ointment Ammoniated Mercury Not U.S.P. - 10%", but misbranded for failure to declare the relation of its concentration to that of the U.S.P. ointment. Also, should not have been dispensed when U.S.P. ointment was called for.

several holes around this spot, and the fibers were tender. Analysis showed hydrochloric acid to be present at the edges of these holes.

7518 and 7519. *Turkish Tobacco*. W. T. Lasbury, South Windsor, Conn. Average analysis was as follows: Moisture, 25.82; protein, 21.44; fat, 3.00; fiber, 3.47; ash, 16.74, and nicotine, 1.57, per cent.

2889. *Wine*. Public Health Dept., Waterbury, Conn. This material proved not to be a wine (no alcohol was present); it was a brown viscous syrup whose analysis was as follows: pH, 3.0; water, 34.39; ash, 0.47, and invert sugar, 62.60, per cent.

## DRUGS

### Ammoniated Mercury Ointment

The U. S. P. XIV requires that this ointment contain between 4.5 and 5.5 per cent of ammoniated mercury. Five official samples were analyzed; results are given in Table 10. It should be noted that although the 10 per cent ointment had not been official for ten years, three of the five samples were the long-discarded double strength ointment. Two samples were passed, although one of these was so labelled that it should have been sold only on prescription.

### Boric Acid Solution

Requests for two ounces of a 3 per cent solution of boric acid were submitted to 24 pharmacies by inspectors of the Food and Drug Commission, and the concentrations of the 26 samples so obtained were checked in our laboratory. Twenty-one samples were passed and five were found to be too weak or too strong; individual results are shown in Table 11.

### Dextro-Amphetamine Sulfate Tablets

Racemic amphetamine sulfate is an official U. S. P. drug, probably better known by the proprietary name "Benzedrine Sulfate". The pure dextro isomer, which is much more active, is not official; it is best known by Smith, Kline & French Laboratories' brand name "Dexedrine Sulfate". Five official samples of dextro-amphetamine sulfate tablets were examined in 1952. Because these samples were taken as a result of complaints of substitution of other brands for "Dexedrine", not only were they analyzed for their alkaloid contents but their shapes and colors were compared. The sample submitted as authentic Dexedrine Sulfate tablets (J.S.-202) consisted of orange heart-shaped tablets whose aqueous solution was orange; the other four samples, while some of them were heart-shaped, all yielded pink solutions. If they were sold for Dexedrine Sulfate tablets they were therefore misbranded. Individual results were as follows:

J.S.-202. *Dexedrine Sulfate Tablets, 5 mg.* Smith, Kline & French Laboratories, Philadelphia, Pa. Found, 4.86 mgm./tablet. Tablets orange, heart-shaped; solution orange. O. K.

J.S.-203. *Dexedrine sulfate, 5 mg.* Jack's Pharmacy, Hartford, Conn. Found, 4.70 mgm./tablet. Solution pink; not "Dexedrine" tablets.

TABLE 11. 3% BORIC ACID SOLUTION

No.	Pharmacy	Boric acid, gm./100cc.	Remarks
<b>Bridgeport</b>			
W.S.-297	Central Pharmacy .....	1.97	Too weak.
W.S.-296	Lafayette Pharmacy .....	2.55	Too weak.
<b>Colchester</b>			
R.W.-351	Gurian Drug Store .....	3.43	Too strong.
R.W.-364	Gurian Drug Store .....	3.18	Passed.
<b>Glastonbury</b>			
R.W.-354	Michael Pharmacy .....	3.27	Passed.
<b>Hartford</b>			
J.S.-186	Fabian Drug Store .....	3.25	Passed.
J.S.-183	Glassman Drug Store .....	2.96	O.K.
<b>New Haven</b>			
W.S.-299	Hull Drug Store .....	3.06	O.K.
W.S.-290	Norton Pharmacy .....	3.03	O.K.
W.S.-288	Visel Drug Store .....	2.87	O.K.
<b>New London</b>			
R.W.-344	Cardelle's Pharmacy .....	1.88	Too weak.
R.W.-366	Cardelle's Pharmacy .....	3.17	O.K.
R.W.-367	Court Drug Co. ....	3.08	O.K.
R.W.-369	Courtesy Drug Stores .....	3.10	O.K.
R.W.-368	Ethical Pharmacy .....	3.98	Too strong.
R.W.-348	James Drug Co. ....	3.05	O.K.
R.W.-372	Montauk Pharmacy .....	3.00	O.K.
R.W.-373	Palmer Rexall Drug Store .....	3.21	Passed.
R.W.-371	Professional Pharmacy .....	2.87	O.K.
R.W.-374	Read's Pharmacy .....	3.08	O.K.
R.W.-370	Starr Bros. ....	2.83	Passed.
R.W.-375	Whelan Drug Store .....	2.89	O.K.
<b>Stafford Springs</b>			
R.W.-361	McCormick Drug Store .....	2.99	O.K.
R.W.-362	Stafford Pharmacy .....	2.99	O.K.
<b>Stamford</b>			
W.S.-293	Syl-May Drug Store .....	3.05	O.K.
<b>Thompsonville</b>			
R.W.-358	Arthur Drug Store .....	3.06	O.K.

J.S.-201. *Dextro-amphetamine sulfate tablets, 5 mg.* Manufacturer unknown. Found, 4.97 mgm./tablet. Tablets heart-shaped; solution pink. Imitates "Dexedrine" tablets.

J.W.-205. *Dextro-amphetamine sulfate, 5 mg.* Manufacturer unknown. Found, 4.77 mgm./tablet. Solution pink; not "Dexedrine" tablets.

W.S.-307. *Heart Brand Dextro Amphetamine Sulfate, 5 mg.* Heart Brand Pharmaceutical Co., Los Angeles, Calif. Found, 4.79 mgm./tablet. Tablets heart-shaped; solution pink. Imitates "Dexedrine" tablets.

## Diluted Hydrochloric Acid

The U. S. P. XIV requires that Diluted Hydrochloric Acid contain between 9.5 and 10.5 grams of hydrogen chloride (HCl) in each 100 cc. Of 13 samples submitted by the Commissioner, 11 met this standard or were reasonably close thereto, while one each was too concentrated and too dilute. Analyses are given in Table 12.

TABLE 12. DILUTED HYDROCHLORIC ACID

No.	Pharmacy	HCl, gm./100cc.	Remarks
<b>Bridgeport</b>			
W.S.-298	Anthony's Drug Store .....	9.93	O.K.
W.S.-295	A. Sherman .....	9.70	O.K.
<b>Colchester</b>			
R.W.-350	Gurian Drug Store .....	10.07	O.K.
<b>Glastonbury</b>			
R.W.-353	Michael Pharmacy .....	9.74	O.K.
<b>Greenwich</b>			
W.S.-294	Finch Drug Store .....	4.06	Too weak.
W.S.-309	Penn Drug Store .....	9.53	O.K.
<b>Hazardville</b>			
R.W.-356	Hazardville Pharmacy .....	10.22	O.K.
<b>New Haven</b>			
W.S.-289	Garden Pharmacy .....	8.61	Passed.
<b>New London</b>			
R.W.-346	Cardelle Pharmacy .....	9.19	Passed.
R.W.-347	James Drug Co. ....	11.93	Too strong.
R.W.-365	James Drug Co. ....	10.33	O.K.
<b>Stamford</b>			
W.S.-291	Whelan Drug Store .....	9.31	Passed.
<b>Thompsonville</b>			
R.W.-357	Nowak's Pharmacy .....	9.69	O.K.

## Neo-Silvol Solution

Colloidal Silver Iodide N.F. IX is a colloidal solution containing between 18 and 22 per cent of silver iodide; "Neo-Silvol" is the proprietary name of Parke, Davis & Co. for their brand of Colloidal Silver Iodide. In 1952 inspectors of the Food and Drug Commission asked each of 12 drugstores to prepare four ounces of a 2 per cent solution of "Neo-Silvol"; these samples, which should have contained between 0.36 and 0.44 grams of silver iodide in each 100 cc., were analyzed in this laboratory. All samples except one (which was only half strength) were of the proper concentration; results are given in Table 13.

TABLE 13. 2% "NEO-SILVOL" SOLUTION  
(Should contain 0.36 - 0.44 gm./100cc. of silver iodide.)

No.	Pharmacy	Silver iodide, gm./100cc.	Remarks
<b>Colchester</b>			
R.W.-352	Gurian Drug Store .....	0.44	O.K.
<b>Glastonbury</b>			
R.W.-355	Michael's Pharmacy .....	0.41	O.K.
<b>Hamden</b>			
W.S.-287	Hamden Pharmacy .....	0.41	O.K.
<b>Hartford</b>			
J.S.-188	Forest Drug Store .....	0.20	Too weak.
J.S.-187	Karazian Pharmacy .....	0.40	O.K.
<b>New Haven</b>			
W.S.-300	Proctor's Pharmacy .....	0.36	O.K.
<b>New London</b>			
R.W.-345	Cardelle Pharmacy .....	0.39	O.K.
R.W.-349	James Drug Co. ....	0.41	O.K.
<b>Stafford Springs</b>			
R.W.-363	Fournier Pharmacy .....	0.37	O.K.
<b>Stamford</b>			
W.S.-292	Red Cross Pharmacy .....	0.41	O.K.
<b>Thompsonville</b>			
R.W.-360	Steele's Drug Store .....	0.43	O.K.
R.W.-359	Thompsonville Drug Co. ....	0.37	O.K.

### Miscellaneous Drugs

Twenty-seven official samples of miscellaneous drugs were examined; 13 were passed and 14 were adulterated or misbranded:

*J.S.-199. Alcohobin Tablets.* Consolidated Midland Corp., Katonah, N. Y. These were tetramethyl thiuram disulfide tablets that had been offered to the State Commission on Alcoholism. (Tetramethyl thiuram disulfide has been used to control alcohol addiction, because it will cause anyone who has taken it and subsequently consumes any alcohol to become violently ill. The accepted explanation for this effect is as follows: The compound inhibits an enzyme system in the body so that any alcohol consumed is not oxidized beyond the acetaldehyde stage; acetaldehyde accumulates in the blood, and causes nausea, vomiting, dizziness and other unpleasant symptoms.) Tetramethyl thiuram disulfide, gm./tablet: Declared, 0.250; found, 0.232. O. K.

*J.S.-198. Antabuse.* Ayerst, McKenna & Harrison, Ltd., Rouses Point, N. Y. Tetramethyl thiuram disulfide, gm./tablet: Declared, 0.5; found, 0.5.

*J.S.-211. Brill Isopropyl Alcohol Bathing Compound.* S. T. Brill Chemical Co., Inc., Brooklyn, N. Y. Isopropyl alcohol, per cent by volume: Declared, 70; found, 70.99. Passed.

*J.S.-170. Capsules.* Dr. Aaron Bokrow, Hartford, Conn. These three capsules of unknown composition, believed to be used for weight-reducing, were submitted by Dr. Bokrow because they had caused nausea, dizziness and restlessness. Analysis showed them to be 8 milligram desoxyephedrine tablets; calcium carbonate was also present. According to the "Modern Drug Encyclopedia" the normal beginning dose of desoxyephedrine is 2.5 to 5 mgm. daily, and overdoses may cause headache, irritability, vertigo or insomnia; the fact that these tablets contained 1.6 times the highest recommended unit dose probably explains the complained-of symptoms.

*J.S.-189. Cherex.* Ormont Drug & Chemical Co., Inc., Long Island City, N. Y. Declared ingredients per fluid ounce were: "Codeine phosphate, 1 gr.; alcohol, 3% by volume; chloroform, 2 minims; potassium guaiacol sulphonate, 8 gr.; ammonium chloride, 8 gr.; antimony potassium tartrate, 1/12 gr. in a suitable vehicle of white pine and cherry bark." This preparation was sold as "An effective preparation for the relief of coughs due to colds". The sample was submitted chiefly for criticism of the dosage directions, and was not analyzed; it was passed.

*J.S.-185. Cherry-Cof for Coughs due to Colds.* Gounson Midtown Drug Co., Hartford, Conn. Declared ingredients were identical with those of *J.S.-189* above. This sample was not analyzed, but was considered misbranded because the dosage directions for infants and children were unsatisfactory and because the carton did not bear a proper warning against unsafe conditions of use. (A later revised label was accepted.)

*T.D.-454. Cough Medicine.* Foley's Drug Store, Seymour, Conn. This was an orange-red liquid which was being sold over-the-counter labelled only "Two (2) teaspoonfuls every 3 hours—T. H. C." Analysis showed: Salicylic acid, 0.85; terpin hydrate, 0.73, and codeine, 0.11, gm./100 cc. Raspberry syrup, coloring matter and glycerine or sugar were also present. Misbranded because of insufficient labelling.

*J.S.-196. Dent's Sleep-ettes.* C. S. Dent & Co., Cincinnati, Ohio. Labelled: "A quick-acting mild sedative that calms nervous excitement and irritability, relieves nervous headache and insomnia (sleeplessness) due to nervous tension. Each tablet contains Sodium Bromide (5 Grains)." Not analyzed; misbranded for failure to carry warning that frequent or continued use might lead to mental derangement, and because the recommended dosage of 30 grains within a two-hour period was too great for it to be safe for the product to be sold over-the-counter.

*T.D.-461. Dent's Sleep-Tabs.* C. S. Dent & Co., Cincinnati, Ohio. Labelled "Each tablet contains Sodium Bromide (5 grains); for nervous headache, irritability and restlessness". Not analyzed; misbranded for the same reasons as *J.S.-196*.

*W.S.-311. Dr. Merrick's Medicated Scratch Powder for Dogs.* Brookfield Laboratories, Brookfield, Ill. Declared active ingredients were: Gamma isomer of benzene hexachloride (from lindane), 1.00; hexachlorophene (2,2-methylene-bis-3,4,6-trichlorophenol), 0.50; mercapto-benzothiazole, 1.50; boric acid, 3.00; propylene glycol, 3.00, and es-

sential oil, 0.20, per cent. Analysis showed 0.97 per cent of lindane; passed.

*J.S.-163. End-Hab Lozenges.* Commerce Drug Co., Brooklyn, N. Y. Labelled "Check smoking urge—each lozenge contains: 1/64 grain lobeline sulphate, oil of peppermint".

According to the U. S. Dispensary,<sup>1</sup> "Because of the cross-tolerance which exists between nicotine and lobeline, the latter drug has been proposed for the control of the tobacco habit. It is taken orally in capsules containing eight mgm. of lobeline sulfate, the dose being repeated as necessary during the day to control acute withdrawal symptoms. A week of gradually decreasing use of the drug is said to be generally sufficient. Wright and Littauer, however, report that lobeline sulfate employed to break the tobacco habit may cause faintness, vomiting, epigastric pain and anorexia, and that most patients express a desire to give up smoking without the help of the substituted drug".

"End-Hab Lozenges" were considered to be a new drug for which no application had been filed.

*J.S.-194. Exene.* Washington Laboratories, Inc., Boston, Mass. Labelled "Medicated ointment containing hexachlorophene—Aids removal of pimples, skin irritations". Declared ingredients were: "Hexachlorophene, zinc oxide, boric, carbolic & salicylic acids, camphor, eucalyptol, menthol, petrolatum and lanolin".

"Hexachlorophene" [bis-(2-hydroxy-3,5,6-trichlorophenyl) methane] has been recently introduced on the market as a phenolic type germicide that is not inactivated by soap; soaps containing it were originally introduced as surgical soaps, but it has been incorporated in shaving cream. Its use in "Exene" might be safe and effective, but since it was a new drug a new drug application should have been filed.

*J.S.-184. Fleischmann's Pure Dry Yeast Type 20-40.* Standard Brands, Inc., New York, N. Y. Misbranded for failure to carry directions for use.

*J.S.-190. Gargle for the Relief of Slight Irritations of the Throat due to Colds.* Ormont Drug & Chemical Co., Inc., Long Island City, N. Y. Labelled "Contains: Solution iron chloride, potassium chlorate and glycerin". Not analyzed; labelling passed with one minor exception.

*H.P.-180. High Blood Pressure Remedies.* This sample was claimed to have been dispensed by a physician and to have caused "swelling of chest and abdomen, palpitation of heart, high fever and diarrhea". The sample consisted of six green pills and 13 white tablets; analysis showed that the green pills were enteric-coated and contained 0.87 grain of sodium salicylate, 0.25 grain of theobromine and an undetermined quantity of sodium nitrite, while the white tablets were 0.15 grain sodium phenobarbital tablets. Sample was passed.

*J.S.-208. Kragiel's Nervoton.* Kragiel Laboratory, New Britain, Conn. Labelled: "Each fluid ounce contains ammonium bromide 36 grains, potassium bromide 36 grains, sodium bromide 36 grains, and pepsin.

<sup>1</sup>XXIV, p. 647.

Alcohol 9¾% by volume. Indicated as a sedative in cases of restlessness, nervousness and sleeplessness due to minor nervous disorders." Not analyzed; misbranded because of failure to carry proper warning against continued use, and not safe for sale over-the-counter because of excessive doses of bromides recommended in the labelling.

*R.W.-377. Maltine with Cod Liver Oil.* Maltine Co., New York, N. Y. This sample was submitted because of a complaint that it was rancid. No rancidity was found, but because only 17.26 per cent of oil (by weight) was present as against 30 per cent (by volume) declared, sample was misbranded.

*J.S.-116. M-D-C Ear Drops.* Manhattan Drug Co., Brooklyn, N. Y. Labelled: "For aiding in the Relief of Ear Ache when due to Cold or Exposure—Formula contains: carbolic acid oil of camphor." Since analysis showed only 0.50 gm./100 cc. of phenol, sample was passed.

*J.S.-193. Miracle Rub Pain Reliever.* Miracle Rub Co., Waterbury, Conn. Declared ingredients were "5% camphor, 5% methyl salicylate, 70% alcohol q.s."; it was colored with amaranth. Not analyzed; misbranded for failure to direct to discontinue use if excessive irritation developed.

*J.S.-162. O'Neill's Noxacof.* Tucker's Drug Store, Bristol, Conn. Ingredient declaration was: "Alcohol 5%, chloroform 2 min. Each fl. oz. contains codeine phosphate 1 gr., ephedrine hydrochloride ½ gr., Thénylpyramine Fumarate 1½ grs., ammonium chloride 10 grs., chloroform 2 min., menthol and flavor q.s." This sample was identical in appearance, odor and claimed composition with "Syrup No. 125 Histadyl E. C." of Eli Lilly & Co. Not analyzed; labelling satisfactory but a new drug application should have been filed.

*J.S.-160 and 161. Penicillin Schenley Crystalline G 1,000,000 Units Potassium Salt.* D. G. Stoughton Pharmacy, Hartford, Conn. These two samples had been in a fire, and were submitted to see if they had become decomposed. Analyses by the U. S. Food and Drug Administration showed potencies of 1,040,000 and 1,130,000 units per vial, respectively, so both samples were passed.

*W.S.-310. Phenobarbital Tablets.* Leland Drug Co., Norwalk, Conn. Analysis of these 24 unlabelled white tablets showed that they were 0.42 grain phenobarbital tablets; because of lack of labelling the sample was misbranded.

*T.D.-460. Prescription No. 65527.* Ambrose Pharmacy, Bridgeport, Conn. This prescription called for "sulfathiazole cream"; since analysis showed 5.20 per cent of sulfathiazole, sample was passed.

*H.P.-176. Rash Lotion.* J. A. Farnham, East Windsor Hill, Conn. This material was suspected of having killed a dog. Analysis showed: Calamine, 13.90; resorcinol, 1.80; and beechwood creosote and fluorescein, 4.40, gm./100 cc. It is possible that the concentration of phenolic compounds (resorcinol and creosote) was high enough to have poisoned the dog.

*J.S.-195. Severa's Cough Balsam.* W. F. Severa Co., Cedar Rapids, Iowa.—Myers' Laboratories, Inc., Warren, Pa. Declared ingredients were: "Alcohol 8%, tolu, wild cherry, ipecac, senega, blood root, gum arabic". Not analyzed; passed.

*J.S.-182. Woodland's Cold Capsules (Analgesic and Laxative).* Woodland Drug, Hartford, Conn. Declared ingredients were: "Acetanilid 1 grain per capsule, terpin hydrate, aloin, podophyllin, cascara, ipecac." Not analyzed; passed.

Forty-three unofficial drug samples were examined for the Food and Drug Commission, the State Police, the Mansfield State Training School, the Hartford Health Department, the Branford, Hartford and New Haven Police Departments, pharmacies, physicians, a veterinarian and private citizens. Thirty-four of these samples were passed, while 9 were adulterated, misbranded or otherwise objectionable:

2756. *Alcohol.* New Haven Police Dept. Alcohol, 36.24 per cent by volume; test for methanol negative. Passed.

1386. *Banthine.* State Police. This was a sulfadiazine tablet.

8741. *Cannabis.* New Haven Police Dept. This sample consisted of a pouch containing one-half ounce of material that microscopic examination proved to be cannabis (marijuana).

8585. *Capsule.* Hartford Health Dept. This crushed yellow capsule contained about 0.1 gram of a powder that was not identified; tests for barbiturates, narcotics, aspirin, phenacetin, amidopyrine, caffeine, benzedrine and ephedrine were negative.

659. *Capsules.* New Haven Police Dept. These six nearly empty capsules contained traces of diacetylmorphine hydrochloride (Heroin).

2410, 2683 and 9490. *Cigarettes.* New Haven Police Dept. One of these cigarettes (2410) contained marijuana; 2682 contained unidentified plant material; and 9490 contained a mixture of tobacco, aspirin and a feather.

9510. *Cigarette.* Branford Police Dept. The contents of this cigarette were all tobacco; no marijuana was present.

1385. *Green Tablet.* William Matherly, West Haven, Conn. Analysis showed: Aspirin, 3.46; phenacetin, 2.42, and caffeine, 0.52, grains/tablet.

2872. *Hance Kiddie Nose Drops for Babies and Children.* Hance Bros. & White Co., Philadelphia, Pa. Labelled: "Contains: Alcohol 2% by vol., ephedrine sulfate 1/2%, chlorobutanol (chloroform derivative) 0.5%, sodium citrate, menthol and camphor." Misbranded for failure to carry warnings against unsafe use.

9294. *6-Menthyl Thiouracil.* Leo L. Lieberman, V.M.D., New London, Conn. Not tested.

9118 to 9133 inclusive. *Narcotic Evidence.* New Haven Police Dept. These samples consisted of wads of cotton, a bottle cap, a candle, eye-

droppers, empty gelatin capsules, a pocket knife, two boxes and two folds of waxed paper. One box (9132) contained a hypodermic needle bearing traces of aspirin; one fold of paper (9130) contained a barbiturate and the other (9131) contained powdered aspirin; and crystals of aspirin adhered to the knife. No narcotic was found in any of these samples.

1389. *Penicillin Tablets.* State Police. These 21 tablets were 60,000-unit potassium penicillin G tablets.

1387. *Phenaphen.* State Police. These four tablets were potassium penicillin G tablets of about 57,000-unit strength.

9194. *Pills.* George J. Rosenbaum, M. D., Hartford, Conn. Analysis of this small spherical white-coated pill with a brownish-black interior showed the presence of aloes; no narcotic was present.

8817. *Prescription No. 629070.* Morris Payne, New Haven, Conn. The prescription called for a 10 per cent ointment of chrysarobin in hydrophilic base; analysis showed no error in compounding.

2873. *Sulfalozenge "Rorer".* William H. Rorer, Inc., Philadelphia, Pa. Labelled: "Each lozenge contains: 1 1/2 gr. sulfathiazole—1 1/2 gr. sulfadiazine." Not analyzed; passed.

1388. *Sulfathiazole Tablets.* State Police. These were 0.43 gram (6.62 grain) sulfathiazole tablets.

9254. *Sulfuric Acid U. S. P.* Sisson Drug Co., Hartford, Conn. Analysis showed the concentration to be 80.0 per cent; sample was contaminated with sulphurous acid and contained a large insoluble residue of iron and lead sulphates. There has been no U. S. P. sulphuric acid since April 1, 1947; Sulfuric Acid U. S. P. XII contained between 94 and 98 per cent acid.

810 and 811. *Sulphur Ointment.* Mansfield State Training School. Sulfur Ointment U. S. P. XIV contains between 9.5 and 10.5 per cent of sulphur in a mixed base of white petrolatum, liquid petrolatum and white wax. Since these two samples contained only 3.21 and 2.41 per cent respectively of sulphur, and only 811 gave a green fluorescence under ultraviolet light, neither sample was of U. S. P. strength in sulphur and only 811 could have been made with the proper base.

9272. *Syrup of Dolophine.* Joseph Soybel, New Haven, Conn. Contaminated with camphor, probably in the form of Camphor Liniment.

1923, 2470 and 2524. *"Timofax" Undecylenate Ointment.* Burroughs Wellcome & Co., Inc., Tuckahoe, N. Y. Samples 2470 and 2524 were authentic samples; Sample 1923 had been supplied on a prescription, and was submitted by the patient's attorney because of a complaint that as a result of its use she "developed a very serious infection, swelling and ulceration of the skin, to such an extent that she had to be hospitalized". Examination of the three samples showed no difference in appearance, odor or infrared spectra between them, but analysis did show the presence of 0.094 and 0.017 per cent of tin respectively in the authentic samples 2470 and 2524, but no tin at all in the suspected



sample 1923; the infrared spectra of all three showed undecylenic acid to be present as claimed. (The labels read: "Contains: Undecylenic Acid 10%, as free acid and potassium salt, in a scented vanishing cream base.")

While the absence of tin from the suspected sample was an undoubted difference from our authentic samples, in the lack of an explanation for the occurrence of tin in these samples (it did not come from the tubes, which were practically pure lead) we would hesitate to say that 1923 could not have been an authentic "Timofax" ointment from a tin-free batch. Since according to the "Merck Index"<sup>1</sup> "G. I. disturbances, headache, fever, vertigo, urticaria may occur" from the use of undecylenic acid as a remedy for psoriasis and fungus infections, an unusual sensitivity to undecylenic acid might partially have explained the patient's symptoms.

1474. *Unknown Plant*. New Haven Police Dept. This plant, suspected of being marijuana, was giant ragweed.

1905. *Unknown Plants*. Armand B. Coggnetta, M. D., Stamford, Conn. These plants had been planted and eaten under the misapprehension that they were "New Zealand spinach"; within 15 minutes after eating, both people lapsed into a coma lasting 10 hours. The plants were identified as the empire leaved thorn apple (*Datura Metel* L.); this plant contains scopolamine<sup>2</sup> (0.12 per cent in the fruits, 0.2–0.5 per cent in the leaves, 0.1–0.2 per cent in the roots and 0.2–0.5 per cent in the seeds), and is definitely poisonous.

### Prescriptions

It has always been evident that the class of drugs most needing control by the State is prescriptions. Most official drugs are now made by large drug manufacturers and are only rarely compounded by retail pharmacists. Because these manufacturers have elaborate control systems and regularly analyze their finished products, it is only when something goes wrong with manufacturers' inspection systems, or in the rare cases of deliberate sophistication, that adulterated or substandard drugs reach the market from these sources. On the other hand, when a prescription is filled it must usually be compounded by a retail pharmacist, who does not submit the result of his compounding to chemical analysis. An error in compounding a prescription is much more likely to be serious than is an inaccuracy in the manufacture of a drug that is sold over-the-counter without a prescription, both because the very fact that a prescription is filled indicates that the purchaser was ill enough to consult a physician and because prescriptions may call for much more potent drugs than are present in medicines that are sold indiscriminately.

While the desirability of sampling prescriptions was obvious, such sampling has always been difficult because, to be of value, it was necessary that the pharmacists who filled the prescriptions should be un-

<sup>1</sup>6th Ed., p. 986 (1952).

<sup>2</sup>U.S. Dispensatory, 24th Ed., p. 1423; Henry, "The Plant Alkaloids", 4th Ed., p. 65 (Blakiston, 1949).

ware that their preparations were to be submitted to analysis. To obtain samples of this sort, the prescriptions had to be written and signed by licensed physicians and presented to the drugstores by persons not known to be inspectors. In 1946, due to the cooperation as a public service of the State Department of Health and a number of physicians, 55 prescription samples were analyzed.<sup>1</sup> It was not until six years later—in 1952—that it proved possible to conduct another such survey.

In the 1952 survey six analyzable prescriptions taken from the Johns-Hopkins Handbook were used. These were copied by physicians onto their own prescription blanks, and were presented to the drugstores by food instead of drug inspectors. Eighty-one samples in all were taken, of which 32, or 40 per cent, were passed. Detailed results on the individual prescriptions are given below:

#### Prescription No. 1

This prescription was as follows:

Codeine sulfate .....	0.008
Caffeine .....	0.032
Acetylsalicylic acid .....	0.33
Acetophenetidin .....	0.16
Dosage - 1 to 2 capsules.	

Samples of this prescription were obtained by an inspector from 15 drugstores, and were analyzed in our laboratory by infrared methods. In six of these, or 40 per cent, the quantities of all ingredients were within 10 per cent of those specified, while nine samples had one or more deficiencies. Results are shown in Table 14.

#### Prescription No. 2

This prescription was as follows:

Acetylsalicylic acid .....	0.2
Acetophenetidin .....	0.2
Caffeine .....	0.03
D. T. D. No. 24	
Dosage - One capsule every 3 hours.	

Fifteen samples of this prescription were also analyzed. Infrared analysis was used, but the acetophenetidin content was also checked by a colorimetric method. As with Prescription No. 1 and the other prescriptions, before the official samples were analyzed, the accuracy of the analytical methods was established by analysis of an authentic mixture prepared carefully in the laboratory. Four of the 15 samples, or 27 per cent, were passed; results are given in Table 15.

#### Prescription No. 3

This prescription was as follows:

Resorcinol .....	4.
Mercury bichloride .....	0.06
Rose water .....	60.
Alcohol, sufficient to make .....	180cc
Apply as a lotion to the scalp.	

<sup>1</sup>Conn. Agr. Expt. Sta. Bul. 510, 48-50 (1947); 528, 54-65 (1949).



TABLE 14. ANALYSES OF PRESCRIPTION NO. 1

(Should contain 0.008 gram of codeine sulfate, 0.032 gram of caffeine, 0.33 gram of acetylsalicylic acid and 0.16 gram of acetophenetidin per capsule.)

No.	Pharmacy	Codeine sulfate gm./capsule	Caffeine, gm./capsule	Acetylsalicylic acid, gm./capsule	Acetophenetidin, gm./capsule	Remarks
<b>Bridgeport</b>						
T.D.-457	Ambrose Pharmacy	0.0071	0.0288	0.332	0.166	Pass.
T.D.-424	Freeman Pharmacy	0.0078	0.0278	0.320	0.162	Low in caffeine.
T.D.-456	Merit Pharmacy	0.0076	0.0134	0.358	0.170	Low in caffeine.
T.D.-423	Sherman's Pharmacy	0.0083	0.0307	0.321	0.164	O.K.
<b>Derby</b>						
T.D.-434	Lec Drug Co.	0.0072	0.0297	0.330	0.172	Pass.
<b>East Haven</b>						
T.D.-449	Holcombe Drug Co.	0.0072	0.0278	0.305	0.168	Low in caffeine.
<b>Greenwich</b>						
T.D.-419	Finch's Pharmacy	0.0080	0.0129	0.313	0.176	Low in caffeine.
T.D.-420	Greenwich Drug Store	0.0081	0.0134	0.226	0.166	Low in caffeine and acetylsalicylic acid.
<b>Manchester</b>						
T.D.-402	Arthur's Drug Store	0.0073	0.0307	0.309	0.154	Pass.
<b>Meriden</b>						
T.D.-474	Ludin's Drug Store	0.0077	0.0326	0.336	0.168	O.K.
T.D.-473	Philips Pharmacy	0.0124	0.0288	0.224	0.163	High in codeine sulfate and low in acetylsalicylic acid.
<b>New Britain</b>						
T.D.-412	Liggett Rexall Drug Store	0.0076	0.0297	0.323	0.162	Pass.
<b>New Haven</b>						
T.D.-450	Granniss Corner Pharmacy	0.0074	0.0144	0.339	0.164	Low in caffeine.
<b>Norwich</b>						
T.D.-479	Leone's Pharmacy	0.0080	0.0278	0.323	0.169	Low in caffeine.
T.D.-477	Uncas Pharmacy	0.0079	0.0158	0.336	0.168	Low in caffeine.

TABLE 15. ANALYSES OF PRESCRIPTION NO. 2

(Should contain 0.2 gram each of acetylsalicylic acid and acetophenetidin, and 0.03 gram of caffeine, in each capsule.)

No.	Pharmacy	Acetylsalicylic acid, gm./capsule	Acetophenetidin, gm./capsule	Caffeine, gm./capsule	Remarks
<b>Branford</b>					
T.D.-452	Branford Drug Co., Inc.	0.221	0.177	0.019	High in acetylsalicylic acid and low in acetophenetidin and caffeine.
T.D.-451	Brewer's Drug Store	0.193	0.192	0.013	Low in caffeine.
<b>Bridgeport</b>					
T.D.-459	Bronx Pharmacy	0.227	0.164	0.031	High in acetylsalicylic acid and low in acetophenetidin.
T.D.-425	Gabriel's Drug Store	0.218	0.165	0.032	Low in acetophenetidin.
T.D.-458	Lupe's Drug Store	0.217	0.170	0.030	Low in acetophenetidin.
<b>East Hartford</b>					
T.D.-408	People's Drug Store	0.162	0.166	0.024	Low in acetylsalicylic acid, acetophenetidin and caffeine.
<b>Greenwich</b>					
T.D.-421	Whelan Drug Store	0.177	0.176	0.028	Low in acetylsalicylic acid and acetophenetidin.
<b>Hartford</b>					
H.P.-404	Stoughton Drug	0.197	0.184	0.028	Pass.
<b>Manchester</b>					
T.D.-418	Manchester Drug Store	0.217	0.166	0.027	Low in acetophenetidin.
<b>Meriden</b>					
T.D.-476	Broderick & Curtin Pharmacy	0.213	0.203	0.029	Pass.
T.D.-475	Liggett's Rexall Drugs	0.176	0.174	0.026	Low in acetylsalicylic acid, acetophenetidin and caffeine.
<b>New Britain</b>					
T.D.-413	Central Pharmacy	0.233	0.180	0.033	High in acetylsalicylic acid.
<b>Norwich</b>					
T.D.-480	Treat's Drug Store	0.191	0.186	0.032	Pass.
T.D.-478	Utley & Jones Pharmacy	0.193	0.187	0.031	Pass.
<b>Stamford</b>					
T.D.-422	Abbey Pharmacy	0.187	0.190	0.014	Low in caffeine.

Thirteen samples of this prescription were examined. Resorcinol was determined by A. O. A. C. Method 33.41, and mercuric chloride by direct precipitation of the mercury with hydrogen sulphide. Because the prescription called for dilution to 180 cc. with "alcohol", and "alcohol" unqualified means officially only 95 per cent pure ethyl alcohol, the alcohol contents of the samples were also determined and the presence of denaturants was tested for. Analysis of a mixture carefully compounded according to the prescription in our laboratory had shown the correct alcoholic strength to be 64.86 per cent by volume. None of the samples showed evidence of substitution of isopropyl alcohol or the use of alcohol denatured with methyl (wood) alcohol, but the alcoholic strengths of seven of them, or 54 per cent, were so low (45.38 to 57.38 per cent) as to indicate substitution of diluted alcohol for the full-strength alcohol called for. While four samples contained the correct proportions of resorcinol and mercuric chloride, three of these were low in alcohol, so only one out of the 13 samples (8 per cent) could be passed. Two samples (*T.D.445 and 446*), besides containing excesses of mercuric chloride, did not have a rose odor but smelled like barber's hairtonic; obviously other solvents than rose water and pure alcohol had been used.

Results of analysis of these samples are given in Table 16.

#### Prescription No. 4

This prescription was as follows:

Salicylic acid .....	5
Petrolatum, sufficient to make .....	50
Apply as an ointment.	

Thirteen samples of this prescription were analyzed for salicylic acid by dissolving 2-gram portions in neutral alcohol and titrating to phenolphthalein with tenth-normal sodium hydroxide. Five samples, or 39 per cent, were passed; individual analyses are given in Table 17.

#### Prescription No. 5

This prescription was as follows:

Salicylic acid .....	4
Starch .....	15
Bismuth subnitrate .....	15
Apply locally.	

Powders prepared according to this prescription should contain 11.76 per cent of salicylic acid and 44.12 per cent each of bismuth subnitrate and starch. Thirteen samples were analyzed, of which nine, or 69 per cent, were passed and four were deficient. Results are shown in Table 18.

#### Prescription No. 6

This prescription was as follows:

Phenobarbital sodium .....	0.4
Tr. Hyoscyamus .....	24
Tr. Belladonna .....	12
Tr. Cardamom Co. ....	90
Peppermint water, sufficient to make .....	180
Sig: Two teaspoonfuls in water before meals.	

TABLE 16. ANALYSES OF PRESCRIPTION NO. 3

(Should contain 4 grams of resorcinol and 0.06 gram of mercuric chloride in 180cc; alcoholic strength should be 64.86 per cent)

No.	Pharmacy	Resorcinol, gm./180cc.	Mercuric chloride, gm./180cc.	Alcohol, per cent by volume at 60°F.	Remarks
T.D.-462	Bridgeport Carl's Pharmacy, Inc. ....	3.15	0.067	54.72	Low in resorcinol and alcohol; high in mercuric chloride.
T.D.-463	Spaner's Pharmacy .....	3.91	0.055	59.36	Pass.
T.D.-491	Danielson Woodward Drug Store .....	3.82	0.063	57.06	Low in alcohol.
H.P.-405	Hartford Stess Pharmacy .....	3.08	0.047	61.64	Low in resorcinol and mercuric chloride.
T.D.-490	Jewett City Pevner's Rexall Drugstore .....	1.79	0.029	52.66	Low in resorcinol, mercuric chloride and alcohol.
T.D.-414	New Britain Arch St. Pharmacy .....	2.86	0.041	71.08	Low in resorcinol and mercuric chloride.
T.D.-444	New Haven Century Pharmacy .....	3.84	0.063	50.90	Low in alcohol.
T.D.-429	Norwalk Pennsylvania Drug Co. ....	3.48	0.012	62.97	Low in resorcinol; very low in mercuric chloride.
T.D.-482	Waterbury Brio's Pharmacy .....	3.87	0.059	45.38	Low in alcohol.
T.D.-481	Liggett Rexall Drugstore .....	3.95	0.069	61.64	High in mercuric chloride.
T.D.-446	West Haven Center Pharmacy .....	3.75	0.105	57.38	Very high in mercuric chloride and low in alcohol; not U.S.P. rose water.
T.D.-445	Park View Pharmacy .....	3.85	0.116	58.38	Very high in mercuric chloride; not U.S.P. rose water.
T.D.-428	Westport Gray's Drug Store .....	1.92	0.140	48.98	Low in resorcinol and alcohol; very high in mercuric chloride.

TABLE 17. ANALYSES OF PRESCRIPTION NO. 4  
(Should contain 10 per cent of salicylic acid)

No.	Pharmacy	Salicylic acid, per cent	Remarks
<b>Bridgeport</b>			
T.D.-426	Kaesmann Pharmacy (Whelan Drug Stores) .....	7.62	Low in salicylic acid.
T.D.-465	Mead's Drug Stores, Inc. ....	6.42	Low in salicylic acid.
T.D.-464	Rex Pharmacy .....	8.92	Low in salicylic acid.
<b>Danielson</b>			
T.D.-492	Bonneville Pharmacy .....	10.39	O. K.
<b>East Hartford</b>			
T.D.-409	East Hartford Drugstore .....	10.69	Pass.
<b>Hartford</b>			
H.P.-403	Maxwell Drug Store .....	10.07	O. K.
<b>New Haven</b>			
T.D.-448	Beirne's Pharmacy .....	8.95	Low in salicylic acid.
T.D.-447	Deegan Hope Drug Co. ....	7.97	Low in salicylic acid.
T.D.-438	Liggett's Drug .....	9.69	O. K.
<b>Putnam</b>			
T.D.-493	Putnam Pharmacy .....	8.80	Low in salicylic acid.
<b>Rowayton</b>			
T.D.-480	Soybel Drug Co. ....	8.40	Low in salicylic acid.
<b>Waterbury</b>			
T.D.-483	Baldwin Pharmacy .....	9.74	O. K.
T.D.-484	W. J. Dumphy .....	6.38	Low in salicylic acid.

TABLE 18. ANALYSES OF PRESCRIPTION NO. 5  
(Should contain 11.76 per cent of salicylic acid and 44.12 per cent of starch and bismuth subnitrate.)

No.	Pharmacy	Salicylic acid, per cent	Starch, per cent	Bismuth subnitrate, per cent	Remarks
<b>Bristol</b>					
T.D.-415	Whelan Drug Store .....	11.12	44.89	43.99	Pass.
<b>Devon</b>					
T.D.-435	Sears Drug Co. ....	13.47	39.76	45.23	High in salicylic acid.
<b>East Norwalk</b>					
T.D.-431	Stoll's Drug (Rexall) Store .....	11.74	45.08	43.18	O. K.
<b>Glastonbury</b>					
T.D.-410	Franklin Drug Store .....	12.16	43.95	43.89	O. K.
T.D.-487	Glastonbury Drug Co. ....	9.63	45.46	44.91	Low in salicylic acid.
<b>Middletown</b>					
T.D.-486	Woodward Drug Store .....	11.21	45.30	43.49	O. K.
<b>New Haven</b>					
T.D.-439	Courtesy Drugstore .....	9.19	50.13	40.68	Low in salicylic acid and high in starch.
T.D.-441	Hull's Drug Store .....	11.93	44.43	43.37	O. K.
T.D.-440	Liggett's Drug .....	0.77	52.25	46.98	Low in salicylic acid and high in starch.
<b>New London</b>					
T.D.-494	Professional Pharmacy .....	11.65	44.24	43.40	O. K.
T.D.-496	Whelan Drug Stores .....	12.09	43.60	43.47	O. K.
<b>Stratford</b>					
T.D.-469	Pollock's Pharmacy .....	11.70	44.69	43.61	O. K.
T.D.-470	Riccio Pharmacy .....	10.89	45.12	43.99	Pass.

Twelve samples of this prescription were submitted. Because the alkaloidal contents were too low to be checked by analysis (0.002 gm./100 cc. from the belladonna and 0.0005 gm./100 cc. from the hyoscyamus), the samples were analyzed only for phenobarbital; the U. S. P. XIV method for Elixir of Phenobarbital was used. Seven samples (58 per cent) were passed and five were deficient in phenobarbital; individual results are shown in Table 19.

TABLE 19. ANALYSES OF PRESCRIPTION NO. 6

(Should contain 0.4 gram of phenobarbital sodium in 180 cc.)

No.	Pharmacy	Phenobarbital sodium gm./180cc.	Remarks
<b>Ansonia</b>			
T.D.-437	Schoonmaker Drug Store .....	0.42	O. K.
<b>Bridgeport</b>			
T.D.-466	Stivers North End Pharmacy ..	0.39	O. K.
<b>East Hartford</b>			
T.D.-411	Maxwell Drug Store .....	0.41	O. K.
<b>East Haven</b>			
T.D.-453	Metcalf's Drug Store, Inc. ...	0.73	High in phenobarbital sodium.
<b>Middletown</b>			
T.D.-488	Pelton's Drug Stores .....	0.47	High in phenobarbital sodium.
<b>Milford</b>			
T.D.-436	Howe's Drug Store .....	0.41	O. K.
<b>New London</b>			
T.D.-495	Read's Pharmacy .....	0.45	High in phenobarbital sodium.
T.D.-497	Starr Bros. Drug .....	0.18	Low in phenobarbital sodium.
<b>Plainville</b>			
T.D.-416	Thrall's Drug Store .....	0.40	O. K.
<b>Portland</b>			
T.D.-489	Portland Pharmacy .....	0.47	High in phenobarbital sodium.
<b>Southport</b>			
T.D.-432	Switzer's Drug Store .....	0.42	O. K.
<b>Stratford</b>			
T.D.-471	Kelley's Drug Store .....	0.43	Pass.

## COSMETICS

Six official and three unofficial samples of cosmetics were examined; five were passed and four were misbranded:

*W.S.-191. Charles of the Ritz Medicated Cream.* Charles of the Ritz, South Norwalk, Conn. Phenol: Declared, 1.5; found, 1.44, per cent. Misbranded because of lack of warning not to apply to large areas of the body.

*W.S.-190. Charles of the Ritz Medicated Lotion.* Charles of the Ritz, South Norwalk, Conn. Phenol, gm./100 cc.: Declared, 1.5; found, 1.45. Labelled: "A drying, soothing lotion for blemished skin. Also suggested as a foundation for very oily skin." Misbranded for failure to carry warning against application to large areas of the body.

*J.S.-216. Contress Fashion Color Streaks, Silver Stardust.* Contress, Inc., New York, N. Y. This product consisted of a tube with a pinhole at the end through which a fine stream of powder was ejected when the tube was squeezed; the preparation was intended for application to the hair. The sample was submitted because of a complaint that the powder produced a rash, but since analysis showed that the material was only very fine aluminum powder, which is harmless, it was passed.

*1062. Dithiodiglycollic Acid Solution.* This was an Association of Official Agricultural Chemists collaborative sample submitted for the purpose of testing new methods of analysis. Analysis showed: Dithiodiglycollic acid, 3.22, and thioglycollic acid, 3.46, gm./100 cc.

*J.S.-213. Earlene's Faith Hair Pomade.* Earlene Gregg, Hartford, Conn. Because the label of this product (which stated "For EXTERNAL use Only") bore no medicinal claims, the sample was passed. The ingredients, which were not listed on the label, were claimed to be powdered yeast, quinine, cantharides, petrolatum, castor oil, lanolin and "Glover's Mange Medicine".

*J.S.-212. Earlene's Pressing Oil.* Earlene Gregg, Hartford, Conn. This was a hair-straightening preparation whose ingredients were stated to be castor oil, glycerine, petrolatum, lanolin and brilliantine. The label bore only the name of the product and the manufacturer's name and address. Misbranded for failure to carry a net weight declaration.

*1758. Richard Hudnut Enriched Creme Shampoo with Egg (Powder 1%).* Richard Hudnut, New York, N. Y. This sample was submitted by a user with a complaint that it matted her hair and turned it red-dish-brown. Analysis showed it to be a very concentrated soap solution; its pH was 7.30. The directions called for using only two teaspoonfuls to a half-cup or more of water, and it is probable that the matting effect complained of was caused by the user's employing the preparation without diluting it sufficiently and failing to wash it out thoroughly with water; no explanation could be found for the change in hair color. Sample was passed.

*8807. Tar-Gon Dental Stick.* House of Huston, New York, N. Y. Another sample of this preparation was examined in 1951;<sup>1</sup> a report from the American Dental Association received at that time showed that the abrasive agents were pumice (73 per cent) and calcium carbonate (18 per cent). Sample was passed.

*J.S.-154. Woman's Desire Beauty Ointment with Turtle Oil.* Eugenie Machado, New York, N. Y. Labelled: "Made of petrolatum, lanolin, mineral oil, estrogenic hormones and Mexican turtle oil." Misbranded

<sup>1</sup>Conn. Agr. Expt. Sta. Bul. 574, 70 (1953).

because of a false statement in an accompanying circular that "It is highly recommended for women over thirty, because it contains glandular ingredients, present in young skins, but which diminishes (sic) so rapidly after 30 years of age".

### DEVICES

One official and two unofficial devices were examined; two were passed and one was considered to be misbranded:

1915. *Foam-Rubber Pillow*. Mantello's Laboratories, Hartford, Conn. Sleeping on this pillow was claimed to help prevent baldness. This claim was referred to the Connecticut Committee on Foods, Drugs, Cosmetics and Devices, which reported it to be medically unsound.

W.S.-304. *Golden Knight Prophylactics*. Central Sundries, Inc., New York, N. Y. No pinholes found; passed.

9781. *Plastic Insemination Tubes*. Wilbur Wade, Woodbridge, Conn. Nothing was extractable from these tubes by cold water, so they were passed.

### COLLABORATION WITH OTHER DEPARTMENTS

One thousand, three hundred and seventy-eight samples, not included in other reports from this laboratory, were analyzed for other Federal, State and Station departments. Distribution was as follows:

	Samples
U. S. Geological Survey (water) .....	18
U. S. Treasury Dept. (narcotics) .....	9
State Dept. of Health (narcotics) .....	68
State Police .....	66
Station departments:	
Biochemistry .....	34
Entomology .....	752
Forestry .....	240
Plant Pathology .....	21
Soils .....	170
	1,378

### BABCOCK GLASSWARE, ETC.

As required by Sections 3191 and 1340C of the General Statutes, milk and cream test bottles and milk pipettes, and check thermometers used in milk pasteurizing plants, have been examined as follows:

	Pieces	Incomplete or inaccurate
Babcock glassware .....	4,112	3
Thermometers .....	115	5

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