
The 58th Report on

FOOD PRODUCTS

And the 46th Report on

DRUG PRODUCTS, 1953

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THE CONNECTICUT AGRICULTURAL EXPERIMENT
STATION, NEW HAVEN, CONNECTICUT

CONTENTS AND SUMMARY

Material	Page	From		Total	Adulterated, misbranded or otherwise questionable
		Food and Drug Commission	Other Sources		
<i>Foods</i>					
Baked products	6	12	.....	12	9
Beverages, carbonated, etc.:					
Ale and beer	7	37	.....	37	24
Beverages suspected of containing saponin	10	2	.....	2	2
Carbonated non-alcoholic beverages ..	10	4	6	10	3
Fruit drinks	12	6	.....	6	...
Whiskey	13	...	10	10	10
Cocoa	13	...	1	1	1
Confectionery	13	7	.....	7	3
Contaminated or decomposed foods ..	14	119	28	147	112
Dairy products:					
Butter	16	6	.....	6	4
Cheese	16	3	2	5	3
Cream	17	...	14	14	...
Evaporated milk	17	2	.....	2	...
Unfortified fluid milks	17	...	67	67	...
Vitamin D milk	17	...	260	260	36
Deceptively packed foods	17	17	.....	17	14
Eggs	22	1	1	2	1
Extracts and flavors	22	2	.....	2	1
Fish and shellfish	22	9	1	10	5
Fresh fruit	23	...	117	117	...
Fruit juices	24	9	1	10	...
Jellies	26	12	.....	12	10
Meat and meat products:					
Bacon and lard	29	1	2	3	...
Frankforts	29	5	4	9	5
Hamburg	29	47	16	63	9
Sausages	32	9	.....	9	1
Oils and fats, vegetable:					
Blended oils	33	16	.....	16	14
Corn oil	34	1	.....	1	1
Oleomargarine	34	2	.....	2	...
Olive oil	35	23	3	26	22
Salad dressings and mayonnaise	36	6	.....	6	2
Soup	36	4	4	8	2
Spices	37	2	2	4	...
Spray residues	37	25	7	32	4
Syrups:					
Fruit-flavored syrups	39	12	.....	12	7
Honey	39	2	2	4	2
Maple and maple-flavored syrups ..	39	3	.....	3	2
Vegetable products	41	9	4	13	7
Vinegar	42	9	.....	9	3

CONTENTS AND SUMMARY (Concluded)

Material	Page	From		Total	Adulterated, misbranded or otherwise questionable
		Food and Drug Commission	Other Sources		
Water	42	...	27	27	3
Miscellaneous	42	18	69	87	57
Totals		442	648	1,090	379
<i>Drugs</i>					
Alcohol	47	2	...	2	...
Barbiturates	47	3	...	3	1
Dextro-amphetamine sulfate capsules ..	47	6	...	6	...
Isopropyl alcohol rubbing compound .	47	3	...	3	2
Miscellaneous drugs	47	17	48	65	39
Totals		31	48	79	42
Cosmetics	52	10	6	16	5
Collaborative	54	...	651	651	...
Total for all		483	1,353	1,836	426
Babcock glassware, etc.	54		2,126	2,126	29

The Fifty-Eighth Report on FOOD PRODUCTS and the Forty-Sixth Report on DRUG PRODUCTS 1953

H. J. Fisher

This report summarizes examination of foods, drugs, cosmetics and miscellaneous materials submitted by the Food and Drug Commission and the Commissioner of Agriculture during the calendar year 1953, as well as like materials analyzed for the State Supervisor of Purchases, health departments, police 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.

Eleven hundred and eighty-five samples of foods, drugs, cosmetics and miscellaneous materials were examined during the year. This represented a retreat from the abnormal number of samples received in the all-time-high year of 1952 to about the normal average, since while there were 580 less samples than in 1952 there were only 38 less than in 1951. Dairy products led the list with 354 samples (of which 260 were vitamin D milks), followed by a group of foods suspected of insect or rodent infestation or contamination with foreign materials that included 147 samples, and by 116 samples of fresh McIntosh apples. Fourth in number were 84 samples of meat and meat products (of which 63 were hamburgs analyzed for their fat contents).

There were three personnel changes in 1953. On February 1 Miss Evelyn Caputo was hired as secretary to replace Mrs. Marion C. Thorpe, who had resigned on December 31, 1952. Mrs. Janice Lewis resigned as feed and fertilizer analyst on August 31st to accept a teaching position at Hamden Hall, and Mrs. Gillian Rose (B.S., Dalhousie University) was employed on September 1 to take her place.

Due to an unfortunate oversight the 1952 report failed to note two additional personnel changes during that year. Mr. Richard Botsford resigned on September 30, 1952 to accept a position as spectrographer for the New York, New Haven and Hartford Railroad, and was succeeded on October 1 by Miss Sunrae Agostini.

The writer wishes to express his gratitude to all the members of the staff for their loyal and efficient work. All of our scientific staff were responsible

for some of the analyses listed in this bulletin, and it is difficult to cite individual chemists for special mention. In general most of the food analyses were made by Messrs. Wickroski and Squires while the drugs and cosmetics were handled by Mr. Merwin. Dr. Hubbell and her staff were responsible for the vitamin D milk assays; Miss Shepard conducted the tests for insect and rodent infestation (species identifications were by Mr. J. Peter Johnson of the Entomology Department) and made all other microscopic examinations. Chemical analyses of most of the 116 McIntosh apple samples were made by Mr. Keirstead, while the individual element determinations were made spectrographically by Mr. Mathis and his assistant Miss Agostini.

FOODS

Baked Products

Twelve samples of baked products, including seven of "chips", two of cake and one each of cookies, éclairs and macaroni, were submitted by the Commissioner. Three samples were passed and nine were misbranded.

K.N.-560. Cream Filled Eclairs. Newington Delicatessen & Bakery, Newington, Conn. Submitted because of a suspicion that these éclairs were custard- instead of cream-filled, since experiments had shown that bacteria inoculated into the filling grew as luxuriantly as they did in custard fillings. (Custard-filled bakery products — i.e., those containing egg — may not be sold without refrigeration between April and September.) Analysis showed: Water, 48.00; lipoids, 14.35; lipoid P₂O₅, 0.021, and sucrose, 12.20, per cent. The lipoid P₂O₅ was too low for any egg to be present, so the éclairs were passed as cream-filled as labelled.

K.C.-509. Pepperidge Farm All Butter Cookies. Pepperidge Farm, Inc. Norwalk, Conn. Declared ingredients were "unbleached flour, sugar, coconut, AA sweet cream butter, whole eggs, fresh whole milk, leavening, pure vanilla, salt". Analysis showed 25.00 per cent of fat, whose constants were as follows: Butyro refraction, 40°C., 38.4; Reichert-Meissl Value, 15.94; Polenske value, 10.48, and Kirschner value, 10.31. These figures indicated 11.7 per cent of butter in the sample, so it was passed.

K.C.-472 and K.F.-1144. Puffed Cheese Chips. M. Leshner Sales Co., Dorchester, Mass. Declared ingredients were "potato flour, tapioca and potato starches, salt, cheese flavoring, monosodium glutamate, vegetable oil, certified coloring, seasoning". Technically misbranded because the product did not contain cheese.

K.C.-473 and K.F.-1145. Puffed Onion Chips. M. Leshner Sales Co., Dorchester, Mass. Declared ingredients were "potato flour, tapioca and potato starches, salt, onion flavoring, monosodium glutamate, vegetable oil, certified coloring, seasoning". Misbranded because no onion as such was present.

A.F.-107. Real Butter Cake. Hachmeister, Inc., Pittsburgh, Pa. The carton containing this cake showed several pictures of a pound of butter in a dish and was labelled "BUTTER THE ONLY SHORTENING USED!" The ingredient declaration was as follows:

"Sugar, flour, water, egg whites or whole eggs or both, butter, nonfat milk solids, leavening, emulsifier, salt, vanilla or other pure or artificial flavors if used, cocoa or chocolate or both used in Devils Food cakes.

"When iced, icings contain sugar, butter and/or other shortening, invert sugar, dextrose, chocolate or cocoa or both if chocolate iced, gelatin, starch, egg albumen, and/or vegetable gums. Fruits and nuts, with natural or artificial flavor and color added, when used."

Declared net weight was only 8 ounces, but 14.21 oz. were found. Analysis was as follows:

	Cake proper	Frosting
Fat, per cent	6.64	10.47
Constants of fat:		
Butyro refraction, 40°C	46.8	49.2
Reichert-Meissl value	23.20	8.67
Polenske value	2.38	0.65
Butter, per cent	6.6	3.9

This analysis showed that while butter was the only shortening used in the body of the cake only about one-third of the shortening in the frosting was butter. Sample was therefore misbranded.

S.O.-278. Sara Lee All Butter Coffee Cake. Kitchens of Sara Lee, Inc., Stamford, Conn. Declared ingredients were "flour, finest butter, fresh whole milk, egg, sugar, monodiglyceride, yeast, salt, flavoring". Analysis showed 17.78 per cent of fat with a Reichert-Meissl value of 24.93, which was consistent with all of the fat being butter fat. Passed.

K.C.-498. Snax Bacon Chips. Snackettes, Inc., Brooklyn, N. Y. Declared ingredients were "potato and tapioca starch, potato flour, smoked yeast, hydrolized (sic) vegetable protein, vegetable oil, monosodium glutamate, salt". Misbranded because no bacon was present.

K.C.-507 Snax Cheese Chips. Snackettes, Inc., Brooklyn, N. Y. Declared ingredients were "potato and tapioca starch, potato flour, cheese flavor, mono-sodium glutamate, salt, vegetable oil, certified coloring". This product was essentially imitation potato chips with artificial cheese flavoring and artificial coloring; misbranded because no cheese was present.

K.C.-508. Snax Shrimp Chips. Snackettes, Inc., Brooklyn, N. Y. Declared ingredients were "potato and tapioca starch, potato flour, shrimp flavor, monosodium glutamate, salt, vegetable oil, certified coloring". Misbranded because no shrimp present.

K.F.-1143. Torre Annunziata Pasta Extra Sublime Lusso 00. Pastificio Gppe Fogliamanzillo, Naples, Italy. Declared net weight of this macaroni was one pound; average net weight found for six packages was only 14.80 oz. Short weight.

Beverages, Carbonated, Etc.

Ale and Beer

Thirty-seven official samples of ale and beer were checked to see if they were short volume. The official tolerances for these beverages permit individual pint containers to be ¼ fluid ounce short, while a quart bottle may have a defi-

TABLE 1. ALE AND BEER

No.	Manufacturer and brand	Average Net Contents, Fl. Oz.		No. of Cans	Remarks
		Declared	Found		
K.N.-581	Brewing Corporation of America, Cleveland, O.	12	11.90	2	Pass
K.N.-616	Brewing Corporation of America, Cleveland, O.	12	11.87	2	Pass
W.M.-677	Enterprise Brewing Co., Fall River, Mass.	12	11.50	6	Short volume
S.O.-292	Enterprise Brewing Co., Fall River, Mass.	12	11.55	6	Short volume
W.M.-678	Enterprise Brewing Co., Fall River, Mass.	12	11.58	6	Short volume
K.N.-582	Hampden Brewing Co., Williman- set, Mass.	12	11.80	2	Pass
W.M.-671	Hampden Brewing Co., Williman- set, Mass.	12	11.87	6	Short volume
W.M.-676	Hampden Brewing Co., Williman- set, Mass.	12	11.76	6	Short volume
K.N.-617	Hampden Brewing Co., Williman- set, Mass.	12	11.67	2	Short volume
K.N.-583	James Hanley Co., Providence, R. I.	12	11.55	2	Short volume
K.N.-615	James Hanley Co., Providence, R. I.	12	11.59	2	Short volume
K.N.-584	Hull Brewing Co., New Haven, Conn.	12	11.80	2	Pass
K.N.-613	Hull Brewing Co., New Haven, Conn.	12	11.76	2	Pass
W.M.-673	Hull Brewing Co., New Haven, Conn.	12	11.76	6	Short volume
W.M.-665	Hull Brewing Co., New Haven, Conn.	12	11.79	6	Short volume
W.M.-672	Hull Brewing Co., New Haven, Conn.	12	11.81	6	Short volume
K.N.-585	G. Krueger Brewing Co., Newark, N. J.	12	12.00	2	O. K.

Food Products

K.N.-620	G. Krueger Brewing Co., Newark, N. J.	12	12.10	2	O. K.
K.N.-611	Metropolis Brewery of New Jersey, Trenton, N. J.	12	12.11	2	O. K.
K.N.-578	Narragansett Brewing Co., Cranston, R. I.	12	11.60	3	Short volume
K.N.-610	Narragansett Brewing Co., Cranston, R. I.	12	11.53	6	Short volume
K.N.-631	Narragansett Brewing Co., Cranston, R. I.	12	11.62	6	Short volume
K.N.-572	Narragansett Brewing Co., Cranston, R. I.	12	11.53	6	Short volume
K.N.-577	Narragansett Brewing Co., Cranston, R. I.	12	11.47	6	Short volume
K.N.-609	Narragansett Brewing Co., Cranston, R. I.	12	11.57	6	Short volume
K.N.-630	Narragansett Brewing Co., Cranston, R. I.	12	11.56	6	Short volume
W.M.-666	Pabst Brewing Co., Newark, N. J.	12	11.63	6	Short volume
W.M.-674	Pabst Brewing Co., Newark, N. J.	12	11.69	6	Short volume
K.N.-619	Piel Bros., Brooklyn, N. Y.	12	11.35	2	Short volume
W.M.-664	Piel Bros., Brooklyn, N. Y.	12	11.62	6	Short volume
W.M.-675	Piel Bros., Brooklyn, N. Y.	12	11.54	6	Short volume
K.N.-586	Jacob Ruppert, New York, N. Y.	12	12.00	1	O. K.
K.N.-618	Jacob Ruppert, New York, N. Y.	12	12.14	2	O. K.
K.N.-580	F. & M. Schaefer Brewing Co., Albany, N. Y.	12	11.80	2	Pass
K.N.-614	F. & M. Schaefer Brewing Co., Albany, N. Y.	12	11.92	2	Pass
K.N.-579	F. & M. Schaefer Brewing Co., Albany, N. Y.	12	11.65	2	Short volume
K.N.-612	F. & M. Schaefer Brewing Co., Albany, N. Y.	12	11.87	2	Pass

ciency of one-half ounce, but in any lot of six or more bottles or cans if any container is short volume the others must contain a sufficient excess so that the average net contents do not fall below those declared. Of the 37 samples, 13 were passed and 24 were short volume. Results are shown in Table 1.

Beverages Suspected of Containing Saponin.

There was an extensive discussion of saponins in beverages in the 1952 Report.¹ Briefly, the addition of these foaming agents to beverages such as root beer is considered to constitute adulteration because saponins may be deleterious and are not necessary for the manufacture of good root beer. In 1952, 61 official samples were tested for the presence of saponin, which was found in 32. This year the Commissioner submitted two additional samples, both of which were found to contain saponin:

K.N.-540. Old Fashion Ma's Root Beer. R. & J. Bottling Co., Inc., Troy, N. Y.

E.C.-595. Smitty's "Creamy" Root Beer. Red Fox Ginger Ale Co.

Carbonated Non-Alcoholic Beverages

Four samples of carbonated beverages were examined for the Commissioner, and six were analyzed for the New Haven Health Department. Seven samples were passed and three were misbranded:

S.O.-290. C & C Super Coola, King Size. Cantrell & Cochrane, New York, N. Y. This was a carbonated cola drink labelled: "Enriched with Vitamin C — A Pure, Wholesome, Delicious Beverage containing in Each 12 ozs. The Minimum Daily Vitamin C Requirement for Children up to 12 yrs."

Federal Regulation 125.03(a)(1)² states in part: "If a food purports to be or is represented for special dietary use by man by reason of its vitamin property in respect of . . . Vitamin C (ascorbic acid) . . . the label . . . shall bear a statement of the proportion of the minimum daily requirement for such vitamin supplied by such food when consumed in a specified quantity during a period of one day. If such purported or represented special dietary use is for persons within two or more age groups for which minimum daily requirements are set forth in paragraph (b), such statement shall include such proportion for each group; but if such use is for persons irrespective of age groups, such statement may be limited to the proportion of the minimum daily requirement set forth in paragraph (b) for an adult." Regulation 125.03(b)(3) gives the minimum daily requirements of vitamin C as 10 milligrams for an infant, 20 milligrams for a child and 30 milligrams for an adult.

It follows from these regulations that the labelled claim for "C & C Super Coola" that it contains in 12 fl. oz. "the minimum daily vitamin C requirement for children up to 12 yrs." is a guaranty of 20 mgm./12 fl. oz. of ascorbic acid. Since our analysis showed only 6.93 mgm./12 fl. oz., the sample was misbranded. It was further misbranded because the label failed to declare the ingredients.

4932. Cott Creamy Type Root Beer. Cott Beverage Corp., New Haven, Conn. Labelled: "Contains water, flavor, caramel, color and cane sugar."

¹Conn. Agr. Expt. Sta. Bull. 585, 11-18 (1954)

²Federal Register, November 22, 1941.

This and the five following samples of "Cott" beverages were submitted by the New Haven Health Department for sugar analysis in order to compare the sugar contents of the normal beverages with those of the "sugar-free" type. Analysis of this sample, which was declared as containing "cane sugar", showed 12.16 gm./100 cc. of total sugars.

4929. Cott Quality Dietary Beverage Sugar-Free True Fruit Black Raspberry Soda. Cott Beverage Corp., New Haven, Conn. Labelled: "Sweetened with less than 1/4 of 1% calcium cyclamate, a non-nutritive artificial sweetener for persons who must restrict their intake of ordinary sweets, sorbitol, filtered carbonated water, extractions of black and red raspberries and other natural flavors, citric acid, 1/10 of 1% benzoate of soda, natural color." Analysis showed 0.15 gm./100 cc. of total sugars, so sample was not strictly "sugar-free"; the sugar content was low enough to be disregarded, however.

4930. Cott Quality Dietary Beverage Sugar Free — No Calorie Sparkling Delite. Cott Beverage Corp., New Haven, Conn. Labelled: "Contains less than 1/4 of 1% calcium cyclamate, a non-nutritive artificial sweetener for persons who must restrict their intake of ordinary sweets, sorbitol, filtered carbonated water, grape wine, grape juice, artificial flavor and color, citric acid and 1/10 of 1% benzoate of soda." Analysis showed: Total solids, 3.09, total sugars, 0.14, ash, 0.08, protein, 0.09 and total carbohydrates, 2.92, gm./100 cc; alcohol, 0.13 per cent by volume; calories per 100 cc., 12. Misbranded because not strictly "sugar free" or "no calorie".

4933. Cott Sugar-Free Cola. Cott Beverage Corp., New Haven, Conn. Labelled: "Sweetened with less than 1/4 of 1% calcium cyclamate, a non-nutritive artificial sweetener for persons who must restrict their intake of ordinary sweets, sorbitol, filtered carbonated water, flavor, citric acid, 1/10 of 1% benzoate of soda and caramel color." Analysis showed only 0.08 gm./100 cc. of total sugars.

4931. Cott Sugar-Free Pale Dry Ginger Ale. Cott Beverage Corp., New Haven, Conn. Labelled: "Sweetened with less than 1/4 of 1% calcium cyclamate, a non-nutritive artificial sweetener for persons who must restrict their intake of ordinary sweets, sorbitol, filtered carbonated water, finest Jamaica ginger root and other natural flavors, caramel color, citric acid and 1/10 of 1% benzoate of soda." Analysis showed no sugar at all; passed.

4934. Cott Sugar-Free Root Beer. Cott Beverage Corp., New Haven, Conn. Label declaration was the same as on Sample 4933. Analysis showed 0.11 gm./100 cc. of total sugars; passed.

S.O.-273. No-Cal Ginger Dietary Beverage Without Sugar. Fine Distributors, Stamford, Conn. Analysis showed no sugar at all; passed.

S.O.-274. Schneider Root Beer. Geo. Schneider & Co., Brooklyn, N. Y. Labelled: "Sparkling Dietary Beverage Without Sugar — Contains root beer flavored filtered carbonated water, U. S. certified color, 0.18% cyclamate calcium, Abbott, a non-nutritive artificial sweetener which should be used only by persons who must restrict their intake of ordinary sweets, sorbitol (Sorbo-Atlas)." Analysis showed no sugar; passed.

K.C.-449. Virginia Dare 95% Real Grape, 5% Art. Flavor. American Bottling Co., Inc., Bridgeport, Conn. This 7 fl. oz. bottle of "grape" soda bore

no further labelling except for "U. S. Cert. Food Color" on the crown. Analysis showed: Total solids, 14.88, total sugars, 14.49, and asa, 0.019, gm./100 cc.; P_2O_5 , 0.3, and K_2O , 1.8, mgm./100cc. The percentage of grape juice indicated by this analysis was 2 rather than the 95 that the label declared. No doubt the intent was to indicate that 95 per cent of the flavoring matter came from grapes, but this was not what the label said, and further, the typographical arrangement was such as to give a misleading emphasis to the word "Grape". Misbranded.

Fruit Drinks

Six official samples of uncarbonated fruit drinks were examined; all were passed:

K.C.-458. Fruitcrest Flash Pasteurized Grape Drink. Fruitcrest Corp., Brooklyn, N. Y. Labelled "A blend of grape juice, water, sugar, tartaric (sic) acid, certified color and flavor"; "tartaric acid" was no doubt a misprint for "tartaric acid." Analysis showed: Total solids, 17.71, total sugars, 17.01, ash, 0.20, total acidity (as tartaric acid), 0.30, and actual tartaric acid, 0.09, gm./100 cc.; P_2O_5 , 13, and K_2O , 68, mgm./100 cc. This analysis indicated a possible grape juice content of 40 per cent, so sample was passed.

K.C.-462. Fruitcrest Flash Pasteurized Pear Nectar. Fruitcrest Corp., Brooklyn, N. Y. Labelled "A blend of water, pears, sugar". Analysis showed: Total solids, 14.74, total sugars, 12.65, ash, 0.11, and total acidity (as malic acid), 0.11, gm./100 cc.; P_2O_5 , 6, and K_2O , 30, mgm./100 cc. This analysis indicated 44 per cent of pear juice and pulp (on the basis of Windisch and Schmidt's analyses of pear juice¹), so sample was passed.

K.C.-330. Fruitcrest Juices Nectar Pineapple Nectar. Fruitcrest Corp., Brooklyn, N. Y. Labelled "A blend of pineapple, water, juices, sugar, citric acid". Analysis showed: Total solids, 18.86, total sugars, 18.01, ash, 0.15, and total acidity (as citric acid), 0.26, gm./100 cc.; P_2O_5 , 7.9, and K_2O , 60.3, mgm./100 cc. This analysis indicated 40 per cent of pineapple juice; passed.

K.C.-347. Fruit Punch Nectar. Fruitcrest Corp., Brooklyn, N. Y. Labelled "Prepared with Apple, Cherry, Pear, Grape, Plum Juices and Purees, Water, Sugar, Citric Acid". Analysis was as follows: Total solids, 16.86, total sugars, 14.70, ash, 0.21, and total acidity (as malic acid), 0.55, gm./100 cc.; P_2O_5 , 16.3, and K_2O , 83.5, mgm./100 cc. This analysis indicated the presence of about 67 per cent of juice; passed.

K.F.-889. Grape Centsation, a Refreshing Grape Ade. Berks-Lehigh Coöp., Fruit Growers, Inc., Fleetwood, Pa. Labelled: "Made from Pure Concord Grape Juice — No preservatives added — No artificial flavoring. Contains Water, Pure Grape Juice, Sugar and Fruit Acids. U. S. Certified Color Added." Analysis showed: Total solids, 12.84, total sugars, 12.30, ash, 0.050, total acidity (as tartaric acid), 0.38, and actual tartaric acid, 0.23, gm./100 cc.; P_2O_5 , 3.7, and K_2O , 26.1, mgm./100 cc. This analysis indicated 16 per cent of grape juice; passed.

K.C.-540. Grape Squeeze Grape Drink. Fruitcrest Corp., Brooklyn, N. Y. Labelled: "A delicious blend of water, grape juice, sugar, tartaric acid, and grape flavor." Analysis showed: Total solids, 18.30, total sugars, 16.75,

¹Winton and Winton, "Structure and Composition of Foods", vol. II, p. 590.

ash, 0.137, and total acidity (as tartaric acid), 0.32, gm./100 cc.; P_2O_5 , 21.7, and K_2O , 61.3, mgm./100 cc.; no artificial color. Probable percentage of grape juice, 41; passed.

Whiskey

The alcoholic contents of ten samples of whiskey were determined for New Britain and New Haven police in connection with cases of sales out of hours.

Cocoa

One sample of cocoa, 4364, was analyzed for the State Supervisor of Purchases to see if it complied with State purchasing specifications, which called for not less than 22 per cent of cacao fat and (on a moisture- and fat-free basis) not more than 8 per cent of total ash, 0.4 per cent of acid-insoluble ash and 7 per cent of crude fiber. Analysis showed 5.57 per cent of moisture and 11.01 per cent of fat, and the following percentages of other ingredients on a moisture- and fat-free basis: Total ash, 8.59; acid-insoluble ash, 0.052; fiber, 4.93. Sample contained only half the fat called for by the specifications.

Confectionery

Seven miscellaneous samples of confectionery were examined for the Commissioner; four were passed and three were misbranded:

T.C.-8. Barber Poles. Asher Bros., Inc., Flushing, N. Y. This sample consisted of 24 colored candy canes, each wrapped in colorless cellophane and mounted in a slot in a cardboard enclosure. Misbranded for failure to carry a list of ingredients and declare artificial color.

K.C.-431. Butter Peanut Brittle. Gold Medal Candy Corp., Brooklyn, N. Y. This was a bulk sample. Analysis showed only 0.56 per cent of fat with a butyro refraction of 53.9 at 40°C. No butter present; misbranded.

K.C.-511. Italian Candy. Stella D'Oro Biscuit Co., Inc., New York, N. Y. Labelled "Sugar, almonds, cinnamon, artificial color". This sample consisted of a mixture of sugar-coated almonds and cinnamon sticks. No artificial flavor could be detected; passed.

K.C.-451. Milk Chocolate Almond Butter Crunch Double Bar. Loft Candy Corp., Long Island City, N. Y. Labelled: "Contains milk chocolate, nuts, sugar, dairy butter, hydrogenated vegetable oil, salt, lecithin (an emulsifier), natural and artificial flavors." Analysis showed 29.62 per cent of fat with the following constants: Butyro refraction, 40°C., 44.6; Reichert-Meissl value, 7.60; Polenske value, 3.24; Kirschner value, 4.22. These constants indicated that about 15 per cent of the total fat was butter fat, corresponding to 5 per cent of butter in the candy. Passed.

K.C.-464. Poinsetta Brand Poppies. R. & L. Candy Co., Brooklyn, N. Y. This sample consisted of four small lollipops and a blue plastic toy truck wrapped together in yellow cellophane; the only label was underneath the truck and completely invisible until the package was opened. Because the label could not be seen, sample was misbranded.

T.C.-56. Raspberry Tweet for a Treat Super Whipped Marshmallow. Tweet Inc., Cambridge, Mass. The label emphasized "FRESH EGG

WHITES" as an ingredient. Because it was impossible to tell by analysis whether any egg white present had or had not been fresh when added, sample was passed.

A.F.-102. Vernell's Fresh Butter Mints. Vernell's Fine Candies, Inc., Seattle, Wash. Labelled "Made with sugar, corn syrup, premium dairy butter, yeast, salt, oil of peppermint, vanilla and vegetable coloring". Analysis showed 0.98 per cent of fat with the following constants: Butyro refraction, 40°C., 41.1; Reichert-Meissl value, 29.90; Polenske value, 4.30. Since these constants indicated that all of the fat was butter fat, sample was passed even though only 1.23 per cent of butter was present.

Contaminated or Decomposed Foods

One hundred and nineteen 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 had made people ill. Included were 45 samples of flour; 14 of peppers; 13 of orange-flavored syrup; five of peas; four of raisins; three of walnuts; two each of "Cream of Wheat", diced carrots, mackerel and rice; and one each of ale, birch beer, bock beer, bread, "breader mix", butter, candy, capers, carrots and peas, cider, "clam fry mix", coffee cake mix, cookie mix, corn muffin mix, currants, dates, dill pickles, fennel seeds, filet of sole, gelatin, hot roll mix, "Pepsi-Cola", pork chops, salt, split peas, strawberry preserves and sugar. Twenty-five samples were passed and 94 were adulterated.

Forty of the adulterated samples — or almost half of the total — were flour; of these 10 were insect-infested and the other 30 were contaminated with rat urine. The urine-contaminated samples came from the following bakeries:

Bakery	No. of samples
Julius Baggish Bakery, Inc., Hartford, Conn.	2
Brookside Bake Shop, Hartford, Conn.	2
Crown Baking Co., Hartford, Conn.	2
Moon Bakery, Hartford, Conn.	21
Pomerantz Bakery, Hartford, Conn.	3

Eleven of the fourteen samples of peppers were adulterated, mostly with sand and dirt; the brands were the following:

K.F.-1132 to 1135 inclusive. Caraflo Hot Cherry Peppers. John Bozzuto & Sons, Waterbury, Conn. Sand and dirt present.

K.F.-1136 to 1141 inclusive. Caraflo Sweet Peppers. John Bozzuto & Sons, Waterbury, Conn. Sand and dirt in all samples; two samples contained very soft peppers, and dried-up worms were found in one.

K.C.-474. L and B Quality Vacuum Pack Fresh Sweet Peppers. Hungarian Pickle Products Co., Inc., Brooklyn, N. Y. Some of these peppers were smeared with a titanium oxide base paint.

The 13 samples of orange-flavored syrup were all *Shurfine Orange Fruit Flavored Syrup*, distributed by National Retailer-Owned Grocers, Inc.,

Chicago, Ill.; all were adulterated with pieces of stems, charred material and dirt.

K.N.-640 to 643 inclusive, Raisins from United Baking Co., New Britain, Conn., were infested with sawtoothed grain beetles.

Of the other adulterated samples (mostly insect-infested), there were three samples of walnuts, two of rice and one each of ale, birch beer, bread, "breader mix", butter, candy, cider, "clam fry mix", coffee cake mix, cookie mix, corn muffin mix, currants, diced carrots, dill pickles, fennel seeds, filet of sole, hot roll mix, peas, "Pepsi-Cola", split peas and strawberry preserves. The following are of interest:

K.F.-1200. Cudahy's Sunlight Butter. Cudahy Packing Co., Omaha, Neb. Contaminated with grease.

E.C.-615. Filet of Sole — Filet of Flatfish. Uncas-on-Thames, Norwich, Conn. Contained about eight red roundworms.

K.C.-524. Lord-Mott's Diced Carrots. Lord-Mott Co., Inc., Baltimore, Md. Tin, 300 parts per million.

J.W.-11. Pepsi-Cola. Pepsi-Cola Bottling Co., Newville, Pa. The bottle contained a piece of brown cardboard.

J.W.-13. Pure Strawberry Preserve. Lincoln Foods, Inc., Lawrence, Mass. A "yellow-jacket" wasp was present.

Twenty-eight unofficial samples were examined for the Food and Drug Commissioner, the State Supervisor of Purchases, the Bridgeport, Hartford, New Haven and Waterbury Health Departments, a bottler, a dairy and private citizens. Contamination was found in 18 samples, and 10 were passed. There were five milk samples; three of wine; two each of "Coca-Cola", dried peaches, pie and "Reddi-Wip"; and one each of chicken fat, cigarettes, cocoa, cottage cheese, flour, ketchup, peppers, potato salad, rolls, root beer and steak. Contaminated samples were the following:

7140 and 7141. Apple Wine. Vincent Buonocore, New Haven, Conn. Copper, 10 parts per million.

6916. Approved Milk. Brock-Hall Dairy Co., Hamden, Conn. There was a spot of grease and dirt on the inside surface of the bottle.

6220 and 6221 and 6263 to 6266 inclusive. Chicken Fat, Potato Salad, Milk, Chocolate Pie, Cottage Cheese and Ketchup. Mrs. Lillian Adessa, New Haven, Conn. All of these samples had been contaminated with methyl salicylate, apparently added deliberately.

6133. Coca-Cola. Coca-Cola Bottling Co. of Waterbury, Inc., Waterbury, Conn. Bottle contained sand.

6751. Coca-Cola. Health Dept., Waterbury, Conn. Contaminated with a trace of painters' naphtha.

5415. Drake's Yankee Pies-Lemon. Drake Bakeries, Inc., Brooklyn, N. Y. Adulterated with a mold identified as a common bread mold, *Rhizopus nigricans*.

6775 and 6776. *Flour*. Hartford Health Dept., Hartford, Conn. Adulterated with rat urine.

4135. *Hires Root Beer*. C. E. Hires Co., Somerville, Mass. There was a residue of sugar syrup in the bottom of the bottle, imbedded in which were dirt, insect fragments and glass particles.

7018. *Marcus Dairy Homogenized Vitamin D Approved Milk*. Marcus Dairy, Danbury, Conn. Contained traces of amyl and ethyl acetates, probably arising from nail polish remover.

3820. *Material in Sediment Pad Found in Quart of Milk*. New Haven Dairy, New Haven, Conn. This material consisted of a chicken feather, a little sand, and unidentified leaf fragments.

6580. *Raleigh Cigarettes*. Food and Drug Commission. These six cigarettes were infested with cigarette beetle larvae, *Lasioderma serricorne*.

Dairy Products

Butter

Six samples of material sold for butter were submitted by the Commissioner; two were passed and four were adulterated or misbranded:

J.D.-26. Butter. Drake's Diner, Hartford, Conn. Constants of fat: Butyro refraction, 40°C., 51.0; Reichert-Meissl value, 0.36; Polenske value, 0.11. Not butter but oleomargarine; adulterated.

W.M.-604. Elmdale Brand Creamery Butter. H. C. Christians Co., Johnson Creek, Wis. Analysis showed 81.00 per cent of fat with the following constants; Butyro refraction, 40°C., 41.1; Reichert-Meissl value, 28.99; Polenske value, 2.59. Passed.

W.M.-653. Famous Brand Creamery Butter. Sperry & Barnes Co., New Haven, Conn. Analysis was as follows: Net wt., 15.57 oz.; fat, 81.24 per cent; constants of fat: Butyro refraction, 40°C., 42.2; Reichert-Meissl value, 28.39; Polenske value, 2.38. Sample was standard butter but short weight.

W.M.-702 Federal Surplus Butter. State Supervisor of Purchases. Fat, 83.55 per cent; net contents, 15.96 oz. Flavor was satisfactory, but the Kreis test indicated incipient rancidity. Sample was nevertheless passed.

K.N.-557. Pond Hill Farm Brand Fancy Creamery Butter. Pond Hill Farms, Chester, Conn. Net wt., 15.35 oz. Constants of fat: Butyro refraction, 40°C., 41.1; Reichert-Meissl value, 30.31; Polenske value, 2.92. Sample was butter, but short weight.

K.F.-1178. White Clover Butter. C. O. Swanson, Cambridge, Mass. Net wt., 15.35 oz. Constants of fat: Butyro refraction, 40°C., 41.9; Reichert-Meissl value, 28.86; Polenske value, 2.81. Sample was butter, but short weight.

Cheese

Three official and two unofficial samples of cheese — all mozzarella except one — were analyzed; analyses are given in Table 2. Three samples were misbranded and two were passed.

Cream

The butter fat contents of 14 samples of cream were determined for dairymen and one private citizen.

Evaporated Milk

K.F.-1163 and 1164, Carnation Evaporated Milk, Vitamin D Increased Homogenized, manufactured by Carnation Company, Los Angeles, Calif., were examined for the Commissioner because of a consumer complaint that this milk was short volume. Net weight declared was 14.5 oz.; average net weight found was 14.57 oz. The declared volume was 13 fl. oz.; average volume found was 12.92 fl. oz., which was close enough to be passed. Probably the consumer complaint was due to confusing avoirdupois with fluid ounces.

Unfortified Fluid Milks

The butter fat contents of 62 samples of whole milk and four of chocolate milk, and the acidity of one sample of skim milk, were determined, mostly for dairymen.

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; by the Department of Farms and Markets from 1947 to 1953; and by the State Department of Agriculture since July 1, 1953.

In 1953, 259 samples were examined — 14 more than in 1952. Results of the assays are shown in Table 3; 36 samples were definitely below the unitage claimed. The percentage of samples fully or substantially meeting guaranties was 86, as against 87 found in 1952.

In the 19-year period 1935 — 1953 inclusive 2,355 samples were tested; 85 per cent contained the required 400 units of vitamin D per quart or were sufficiently close thereto to be passed.

In addition to the official vitamin D milk samples, one sample submitted by Dorsey Dairy of Wallingford was tested for butter fat; 3.70 per cent was found.

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 mislead the customer into thinking he (or she) is getting more than he is. Seventeen samples were submitted by the Commissioner because of suspected slack fill; three were passed and 14 were misbranded. The deceptively packed samples were the following:

W.M.-680. Anne Page Sparkle Vanilla Flavor Pudding. A & P Tea Co., New York, N. Y. Fill of container, 53 per cent.

K.C.-535 and 536. Denny Dimwit Candy and Toy. Novel Package Co., Brooklyn, N. Y. Fill of container, 60 per cent.

TABLE 2. CHEESE

No.	Manufacturer and brand	Water, per cent	Ash, per cent	Casein, per cent	Fat, per cent	Lactose, per cent	Remarks
4558	C & F Cheese Distributors, East Haven, Conn. <i>Mozzarella Special Cheese, Prodotto Superiore</i>	65.10	3.38	27.43	3.90	0.39	
E.S.-4335	P. Gambardella & Son, New Haven, Conn. <i>Gambardella Grade Mozzarella Cheese</i>	55.45	2.16	24.18	17.38	0.44	Not a "whole milk product" as labelled
4559	P. Gambardella & Son, New Haven, Conn. <i>Grade Mozzarella Cheese</i>	60.55	3.28	29.38	6.33	0.57	
E.S.-4337	P. Gambardella & Son, New Haven, Conn. <i>Mozzarella Cheese</i>	58.12	2.40	21.44	14.73	0.08	Not a "whole milk product" as labelled
E.S.-4336	P. Gambardella & Son, New Haven, Conn. <i>Gambardella Ricotta</i>	69.30	1.26	14.16	10.84	0.43	Not a "whole milk product" as labelled
	Average (excluding the ricotta)	59.81	2.81	25.61	10.60	0.37	

TABLE 3. VITAMIN D MILK

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

TABLE 3. VITAMIN D MILK—(Continued)

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
Middletown	Brock's-Lakeview Dairy	2	2	..	..
	Brookfield Dairy	2	2	..	..
	Daniels Farm	1	1	..	..
	Hillside Dairy	2	2	..	..
	Pleasantview Dairy	2	2	..	..
Milford	Sunshine Dairy	2	2	..	..
	Clover Dairy	1	1	..	..
	Guida & Seibert	2	2	..	..
New Britain	Heslin Dairy	2	2	..	..
	J. J. Shapiro & Sons	2	2	..	..
New Canaan	A. J. Spring & Sons	2	1	1	..
	Miller's Farm Dairy	2	1	..	1
New Haven	General Ice Cream Corp.	1	1	..	..
	H. P. Hood & Sons	1	1	..	..
Newington	Eckert's Dairy	1	1	..	..
	Eddy Dairy	2	2	..	..
	J. William Holt & Son	..	..	..	..
	Farm Dairy	2	1	1	..
	Meadow Brook Farm	1	1	..	..
New London	J. A. Moylan & Son Dairy	3	1	..	2
	Spring Brook Farm Dairy	2	2	..	..
	Michaels Dairy	2	1	1	..
	New London & Mohegan Dairies	2	2	..	..
	Radway's Dairy	2	2	..	..
North Haven	Knudsen Bros. Dairy, Inc.	1	1	..	..
	Clover Farms Dairy	2	1	1	..
Norwalk	Devine's Dairy	3	2	..	1
	Harrick's Dairy	3	2	..	1
Norwich	Broad Brook Dairy	2	..	1	1
	Preston Dairy	2	1	..	1
Norwichtown	Beebe's Dairy	2	1	1	..
	McDermott Dairy	2	1	1	..
Orange	Great Oak Farm Dairy	1	1	..	..
Oxford	Peterson's Dairy	2	2	..	..
Plainville	Fisher Bros.	3	3	..	..
Putnam	Burritt's Dairy	1	..	1	..
Redding	Charles B. Gilbert	2	1	..	1
Rocky Hill	Sunny Crest Farm	2	2	..	..
	Salisbury Farm, Inc.	2	2	..	..
Salisbury	Hillyland Dairy	3	2	..	1
Scotland	Ajello Bros.	1	1	..	..
Seymour	Bryant & Chapman Wood Ford Farm Division	1	1	..	..
Simsbury	Pharos Farm Dairy	2	1	..	1
	Southbridge Farmers' Co-Op.	3	..	2	1
Southbridge, Mass.	Riverside Dairy	2	1	1	..
Southington	Sheffield Maplehurst Dairy	2	2	..	..
Stamford	Welles Farms	1	1	..	..
Talcottville	E. E. Freimuth	2	2	..	..
Terryville	Fred J. Woods Dairy	1	1	..	..
Thomaston	Enfield Dairy	2	2	..	..
Thompsonville	H. S. Reid, Inc.	3	1	1	1
	River View Dairy	2	2	..	..
	Skipton Dairy, Inc.	1	1	..	..
	Smyth Dairy	1	1	..	..

TABLE 3. VITAMIN D MILK—(Concluded)

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
Torrington	Clover Dairy	2	2	..	..
	Cooperative Dairy Co.	2	2	..	..
	Greenwood's Dairy	2	1	1	..
Trumbull	Torrington Creamery, Inc.	3	2	1	..
	Parker's Dairy	2	2	..	..
	Beaumont Farm	2	2	..	..
	J. H. Daly Co.	3	2	..	1
Wallingford	Dorsey's Dairy	2	2	..	..
	Fairview Dairy	1	1	..	..
Waterbury	J. P. Novak	1	1	..	..
	Brookside Dairies, Inc.	1	1	..	..
	Cashin's Dairy	2	1	..	1
	McElligott (R. F. Worden & Sons)	1	1	..	..
Wauregan	Tranquillity Farm Dairy	1	1	..	..
	Wauregan Farm Dairy	2	2	..	..
Webster, Mass.	Choinière Dairy	3	3	..	..
	Deary Bros.	3	2	1	..
West Hartford	A. C. Petersen	2	2	..	..
West Haven	Clark Dairy, Inc.	2	2	..	..
West Rocky Hill	Mingo's Kenwood Farm	2	1	..	1
Wilton	Orem's Dairy	1	1	..	..
Winsted	Avery's Dairy	3	2	..	1
	J. O. Johnson	3	1	1	1
Wolcott	Willow Brook Dairy, Inc.	2	1	..	1
Woodbridge	Rosehurst Dairy	1	1	..	..
Yantic	Driscoll's Dairy	2	..	1	1
Total		259	196	27	36

K.C.-526. Dick Tracy Candy and Toy. Novel Package Co., Brooklyn, N. Y. Fill of container, 55 per cent.

F.P.-114. Dutch Maid Ginger Snaps. Federal Sweets and Biscuit Co., Clifton, N. J. Fill of container, 59 per cent.

K.C.-476. Guess What? A Lot of Kisses and You'll Be Surprised. Williamson Candy Co., Chicago, Ill. Fill of container, 55 per cent. (A sample of this candy taken in 1952 was also slack filled.¹)

K.F.-1243 and 1244. Jiffy Corn Muffin Mix. Cheka Milling Co., Chelsea, Mich. Average fill of container, 64 per cent.

K.N.-633. Kellogg's Soya Corn Pops. Kellogg Co., Battle Creek, Michigan. Fill of container, 67 per cent.

W.M.-646. New 1953 License Puzzle Plates Picture Card Bubble Gum. Topps Chewing Gum, Inc., Brooklyn, N. Y. Fill of container, 55 per cent.

W.M.-647. Play Ball Bubble Gum. Bowman Gum Division, Haelan Lab., Inc., Philadelphia, Pa. Fill of container, 45 per cent. This sample bore no net weight declaration; average net weight found was 0.15 oz.

K.F.-1147. 7 Minute Ready to Make Pie, Banana (Flavor) Cream Pie. 6 O'clock Foods, Inc., Morristown, Pa. Fill of container, 67 per cent.

¹Conn. Agr. Expt. Sta. Bul. 585, 29 (1954).

K.C.-534. Super Circus Dick Tracy Wild West Denny Dimwit Candy and Toy. Novel Package Co., Brooklyn, N. Y. Fill of container, 60 per cent.

K.C.-531. Surf Flash Jet Planet G-Man Candy and Surprise Toy. Surf Novelty Mfg. Co., Brooklyn, N. Y. Fill of container, 58 per cent.

Eggs

One sample of frozen egg yolks was examined for the Commissioner, and a sample of dried whole eggs was analyzed for the State Supervisor of Purchases. The official sample was passed, but the other sample was adulterated:

6079. Dried Whole Eggs. U. S. Dept. of Agriculture. Total solids, 94.03; lipoids, 22.43, and lipid P_2O_5 , 2.23, per cent. Since whole eggs contain on the average 50.14 per cent of lipoids on the dry basis¹, and the solids in this sample contained only 23.84 per cent of lipoids, these were not dried whole eggs but a one to one mixture of dried whole eggs and egg whites.

A.F.-112. Frozen Sugar Yolks. Total solids, 49.40; lipoids, 31.25; lipid P_2O_5 , 1.48; dextrose, 3.67; sucrose, 0.66, and glycerine, 0.00, per cent. Passed.

Extracts and Flavors

K.C.-496, Virginia Dare Vin-Vie, the Improved Imitation Grape Extract, manufactured by Virginia Dare Extract Co., Inc., Brooklyn, N. Y., was labelled: "Prepared from real Grape Wine Flavor, Esters, Aldehydes, and U. S. Certified Color." This preparation was the concentrate used in making the "Virginia Dare 95% Real Grape, 5% Art. Flavor" beverage (*K.C.-449*) reported on page 11. Analysis showed: Total solids, 7.43, total sugars, 2.90, ash, 1.18, and acidity (as tartaric acid), 0.49, gm./100 cc.; K_2O , 83.3, and P_2O_5 , 31.5, mgm./100 cc. Passed.

A.F.-125, Virginia Dare Pure B. M. T. Vanilla Flavor, manufactured by the Virginia Dare Extract Co., Brooklyn, N. Y., bore no ingredient declaration and no declaration of net contents other than the "One Gallon" blown in the jug. Analysis showed: Alcohol, 35.14 per cent by volume; vanillin, 0.16, invert sugar, 2.29, sucrose, 2.66, and resins, 0.11, gm./100 cc.; Winton lead no., 0.90; color insoluble in amyl alcohol, 25.0 per cent; coumarin absent. This analysis was normal for pure vanilla extract, and because the product was alcoholic it should have been labelled as an "extract" rather than as a "flavor". T.C.-353 of the U. S. Food and Drug Administration (dated January 21, 1941) in effect exempted vanilla extract from ingredient declaration pending anticipated standardization, but the present sample was misbranded because not labelled as an "extract" and because its net contents were not declared.

Fish and Shellfish

Nine official and one unofficial samples of fish and shellfish and their products were examined for the Commissioner; five were passed and five were adulterated or misbranded:

K.C.-493. Celebration Brand South African Rock Lobster. Cape Lobster Canning Co., Ltd., Luderitz, South West Africa. This was suspected of having been the source of the crabmeat found in the "lobster" sandwich (*K.C.-489*) reported under "Miscellaneous" on page 44, but examination of the contents of the can showed them to be all lobster, so sample was passed.

K.C.-492. Clam Bisque. Sidney Wood, Inc., Noank, Conn. Labelled: "without salt being added". Salt, 0.15 per cent; passed.

K.N.-625 and 626. Clams. New Britain Sea Food Market, New Britain, Conn. Average drained weight, 91.0 per cent; average solids in drained clams, 11.09 per cent. Since drained clams should contain at least 18 per cent of solids, these clams were badly watered.

K.N.-608. Clams. People's Fish Market, Wallingford, Conn. Drained weight, 94.8 per cent; solids in drained clams, 18.13 per cent. Not watered, but misbranded because unlabelled.

6450 and W.M.-650 and 651. Fresh Swordfish. Gambardella Bros., New Haven, Conn. These samples were submitted because of a customer complaint that when the fish were cooked they had a bad odor. Examination did not indicate any decomposition in any sample, but when *W.M.-651* was fried it did develop a strong objectionable smell. It was suspected that this was due to something in the fish's diet rather than to decomposition, but regardless of the cause *W.M.-651* had to be considered adulterated; the other two samples were passed.

A.F.-80. Mrs. Burke's Frozen Fried Cod Fish Cakes. Mrs. Burke's Foods, Inc., Philadelphia, Pa. Labelled: "Prepared from codfish, potatoes, whole milk, creamery buttery, parsley, cornstarch, cracker meal, bread crumbs, seasoning, shortening." Fat, 17.40 per cent. Constants of fat: Butyro refraction, 53.5; Reichert-Meissl value, 1.31; Polenske value, 0.22. These constants indicated that not more than 4 per cent of the fat (0.8 per cent of the sample) could be butter fat, so sample was misbranded.

S.O.-275. Tuna Solid Pack. Elmcrest Luncheonette, New Canaan, Conn. Because this fish was suspected of being bonita instead of tuna, it was sent to the Division of Microbiology of the U. S. Food and Drug Administration for species identification. A reply from M. T. Bartram, chief of the bacteriological branch of that division, stated that "the product is tuna, probably yellow fin", so sample was passed.

Fresh Fruit

One hundred and sixteen samples of McIntosh apples were analyzed for Dr. Philip Garman of our Entomology Department, and one sample of blueberries was analyzed for a private citizen. Maximum, minimum and average values for the constituents of all 116 samples are given in Table 4. Many of these samples represented apples picked before they were ripe in order to study the changes in composition taking place with ripening. To show these changes, figures for three groups of 29 apples picked on July 15, August 14 and September 29, 1953 have been segregated in Table 5. That acidity would decrease and the sugar content would increase with ripening was of course to be expected; the table shows a 40 per cent drop in malic acid and a 53

¹J. Assoc. Official Agr. Chem., 16, 302 (1933).

per cent rise in total sugars (mostly invert sugar) between July and September. The mineral changes that took place were not so obvious, because while the total ash dropped 30 per cent there were 60 per cent decreases in the percentages of calcium and iron, a 116 per cent increase in the zinc content and practically identical percentage decreases of between 35 and 36 in magnesium and phosphorus.

Results on the blueberry sample were as follows:

6509. *Blueberries.* Mrs. Robert G. Warren, West Haven, Conn. Water, 85.70; protein, 0.97; ash, 0.28; fat, 0.43; fiber, 1.43, and sugar and starch (by difference), 11.19, per cent. Calories per 100 grams, 53.

TABLE 4. FRESH McINTOSH APPLES

Ingredient	Maximum	Minimum	Average
pH	3.40	3.12	3.27
Acidity (as malic acid), per cent	1.37	0.51	0.80
Ash, per cent	0.47	0.20	0.30
Invert sugar, per cent	9.08	5.17	7.22
Sucrose, per cent	3.70	0.57	1.59
Total sugars, per cent	12.07	5.79	8.81
Potassium, p.p.m.	2,230.	690.	1,194.
Calcium, p.p.m.	220.	25.	103.
Magnesium, p.p.m.	150.	53.	84.
Phosphorus, p.p.m.	213.	75.	136.
Manganese, p.p.m.	1.2	0.3	0.6
Iron, p.p.m.	43.0	1.5	8.4
Aluminum, p.p.m.	80.0	0.8	13.9
Zinc, p.p.m.	79.0	0.8	7.5
Copper, p.p.m.	15.0	2.4	7.2
Boron, p.p.m.	6.9	1.3	2.9

Fruit Juices

Five samples of grape juice, three of orange juice and one of prune juice were examined for the Commissioner, and four ciders from a cider-judging contest were analyzed for Dr. Philip Garman of our Entomology Department. Results on the ciders are given in Table 6. The official samples, all of which were passed, were the following:

K.F.-898. *Autumn Pure Concord Grape Juice.* Growers Coöperative Grape Juice Co., Inc., Westfield, N.Y. Total solids, 18.24, invert sugar, 14.64, sucrose, 0.00, ash, 0.32, total acidity (as tartaric acid), 1.13, and actual tartaric acid, 0.76, gm./100 cc.; K₂O, 200, and P₂O₅, 19.8, mgm./100 cc.

K.C.-402. *Betsy Ross California Pure Grape Juice.* Cella Vineyards, Reedley, Calif. Total solids, 19.96, invert sugar, 18.54, sucrose, 0.00, ash, 0.33, total acidity (as tartaric acid), 0.72, and actual tartaric acid, 0.37, gm./100 cc.; K₂O, 159, P₂O₅, 50, mgm./100 cc.

W.M.-618. *Bokay Freshly Squeezed Orange Juice.* Orange Food Products, Inc., Dorchester, Mass. Ash, 0.436 gm./100 cc.; K₂O, 235 mgm./100 cc.

TABLE 5. CHANGE IN COMPOSITION OF McINTOSH APPLES WITH MATURITY

	July Picking			August Picking			September Picking		
	Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.
pH	3.30	3.15	3.21	3.40	3.12	3.28	3.40	3.18	3.30
Acidity (as malic acid), per cent	1.37	0.93	1.03	1.06	0.69	0.80	0.79	0.51	0.63
Ash, per cent	0.47	0.29	0.37	0.38	0.22	0.30	0.34	0.20	0.26
Invert sugar, per cent	6.12	5.17	5.64	7.38	6.36	6.82	8.97	7.71	8.41
Sucrose, per cent	1.17	0.37	0.78	1.44	0.95	1.15	2.27	1.11	1.44
Total sugars, per cent	6.86	5.79	6.42	8.79	7.46	7.97	11.12	9.23	9.85
Potassium, parts per million	2,230.	960.	1,399.	1,640.	870.	1,147.	1,510.	690.	1,068.
Calcium, p.p.m.	220.	105.	166.	183.	48.	102.	105.	25.	66.
Magnesium, p.p.m.	150.	93.	113.	105.	58.	82.	88.	58.	72.
Phosphorus, p.p.m.	200.	85.	147.	192.	115.	148.	213.	95.	139.
Manganese, p.p.m.	1.2	0.5	0.7	1.0	0.3	0.6	1.0	0.3	0.4
Iron, p.p.m.	23.0	4.2	13.2	43.0	3.0	12.0	12.0	3.0	5.3
Aluminum, p.p.m.	10.0	1.0	2.5	2.8	1.0	1.7	2.0	0.8	1.3
Zinc, p.p.m.	15.7	2.0	4.5	52.0	3.0	14.5	79.0	2.0	9.7
Copper, p.p.m.	13.0	4.1	7.4	15.0	4.1	8.1	15.0	5.3	9.7
Boron, p.p.m.	4.5	2.1	2.9	5.1	1.5	2.9	6.9	1.3	2.9

T.C.-161 and 162. Freshly Squeezed Pure Orange Juice. First National Stores, Inc., East Hartford, Conn. Average ascorbic acid content, 50 mgm./100 cc.

W.M.-565. Louis Sherry Pure Concord Grape Juice. Louis Sherry Preserves, Inc., Long Island City, N. Y. Total solids, 19.34, invert sugar, 16.85, sucrose, 0.00, ash, 0.25, total acidity (as tartaric acid), 0.96 and actual tartaric acid, 0.63, gm./100 cc.; K₂O, 134, and P₂O₅, 24, mgm./100 cc.

A.L.-154. Old Dutch Pure Prune Juice, Unsweetened. Old Dutch Mustard Co., Inc., Brooklyn, N. Y. The term "prune juice" is a misnomer; the product known by this name is actually an aqueous infusion of dried prune-type plums. According to Chatfield and Adams¹ canned "prune juice" contains on the average 20 per cent of solids and 0.3 per cent of ash. The present sample contained 15.70 gm./100 cc. of solids and 0.49 gm./100 cc. of ash, but was passed.

W.M.-557. Red Wing Brand Concord Grape Juice, Sugar Added. Red Wing Co., Inc., Fredonia, N. Y. Total solids, 19.25, invert sugar, 16.98, sucrose, 0.00, ash, 0.31, total acidity (as tartaric acid), 1.09, and actual tartaric acid, 0.71, gm./100 cc.; K₂O, 138, and P₂O₅, 26.7, mgm./100 cc.

W.M.-566. Tea Garden Pure Concord Grape Juice. Tea Garden Products Co., San Francisco, Calif. Total solids, 17.76, invert sugar, 15.24, sucrose, 0.00, ash, 0.38, total acidity (as tartaric acid), 0.78, and actual tartaric acid, 0.59, gm./100 cc.; K₂O, 209, and P₂O₅, 38, mgm./100 cc.

Jellies

Ten samples of so-called "mint jelly" were examined for the Commissioner. A true mint jelly — that is, a jelly made wholly from the juice of the mint plant and sugar — is a practical impossibility, and if such a jelly were made it would probably be inedible. What is commonly known as "mint jelly" is actually the jelly of a fruit — usually apple — *flavored* with mint and colored green with a coal-tar dye. Federal Regulation 29.5(g)(3) requires that such products be labelled "Apple (or whatever fruit is used) Jelly", followed by either: "Mint Flavoring and Artificial Coloring Added" or "With Added Mint Flavoring and Artificial Coloring".

Analyses of the official "mint jelly" samples are given in Table 7; one sample was passed, while all the others were either misbranded because improperly labelled or actually adulterated because they were sugar-pectin products containing no fruit juice.

Besides these, one official sample each of apple and grape jelly was analyzed as follows:

E.C.-594. Lincoln Pure Concord Grape Jelly. Lincoln Foods, Inc., Lawrence, Mass. Total solids, 74.55, total sugars, 72.33, ash, 0.21, and acidity (as tartaric acid) 0.65, per cent; K₂O, 113.3, and P₂O₅, 9.9, mgm./100 gm. Probably made from grape pomace rather than grape juice.

T.C.-57. Stratford Farms Pure Apple Jelly. Stratford Farms Corp., Philadelphia, Pa. Sample contained crystallized-out sugar and fragments of apple skin, but it was passed.

¹U.S.D.A. Circular 549 (1940).

TABLE 6. CIDER

No.	Orchard	Total solids, gm./100 cc.	Ash, gm./100 cc.	Acidity as malic acid, gm./100 cc.	Sucrose, gm./100 cc.	Invert sugar, gm./100 cc.	Total sugars, gm./100 cc.	Alcohol, per cent by volume	Potassium, p.p.m.	Calcium, p.p.m.	Magnesium, p.p.m.	Phosphorus, p.p.m.	Iron, p.p.m.	Zinc, p.p.m.	Copper, p.p.m.	Boron, p.p.m.	pH
7304	B. W. Bishop & Sons, Guilford, Conn.	14.00	0.24	0.43	2.59	9.63	12.22	0.04	1,500	23	52	100	4.7	1.4	1.1	2.6	3.58
7305	Sam MacDonald, Wallingford, Conn.	12.90	0.19	0.37	1.11	10.58	11.69	0.29	1,010	32	40	85	3.5	1.6	3.4	3.5	3.58
7306	N. Kneuer & Sons, Guilford, Conn.	12.70	0.25	0.46	1.57	9.57	11.14	0.24	1,370	29	52	128	4.7	2.7	1.9	2.8	3.52
7307	Robert Young, Jr., North Haven, Conn.	14.60	0.29	0.43	3.05	9.83	12.88	0.24	1,530	32	60	210	6.8	1.9	3.8	4.0	3.63

TABLE 7. "MINT" JELLY

No.	Manufacturer or distributor or brand	Total solids, per cent	Total sugars, per cent	Ash, per cent	Acidity (as malic acid), per cent	K ₂ O, mgm/100gm.	P ₂ O ₅ , mgm/100gm.	Remarks
K.F.-1162	John Bozzuto & Sons, Inc., Waterbury, Conn. P G A Finest Apple Mint Jelly	70.55	67.54	0.20	0.59	81.6	14.0	Misbranded because not labelled "Mint Flavored Apple Jelly"
K.F.-1149	First National Stores, Inc., Somerville, Mass. Mirabel Mint Pectin Jelly	.....	.....	.....	.....	.....	.....	Misbranded because not labelled "Imitation Jelly"
S.O.-276	First National Stores, Inc., Somerville, Mass. Mirabel Pure Mint Pectin Jelly	71.23	67.70	0.20	0.23	3.3	2.7	Adulterated because no fruit juice present; contained undeclared coal tar dye.
K.F.-1150	Great A. & P. Tea Co., New York, N. Y. Sultana Mint Flavored Imitation Jelly	.....	.....	.....	.....	.....	.....	Passed
A.L.-156	Hartford Sugar Co., Hartford, Conn. Sugar Heart Pure Apple-Mint Jelly	70.62	66.09	0.20	0.61	82.1	14.0	Passed except should be labelled "Mint Flavored Apple Jelly"
E.C.-593	Lincoln Foods, Inc., Lawrence, Mass. Lincoln Mint Jelly	76.09	72.35	0.018	0.34	4.0	0.3	Adulterated because no fruit juice present.
A.L.-153	Lincoln Foods, Inc., Lawrence, Mass. Lincoln Mint Jelly	.....	.....	.....	.....	.....	.....	Adulterated or misbranded
A.L.-155	Miner Read & Tullock, Inc., New Haven, Conn. Sunrise Mint Jelly	70.33	67.97	0.23	0.59	84.5	16.4	Misbranded because not labelled "Mint Flavored Apple Jelly"
K.F.-1161	Miner Read & Tullock, Inc., New Haven, Conn. Sunrise Mint Jelly	70.33	67.73	0.23	0.55	83.1	13.9	Misbranded because not labelled "Mint Flavored Apple Jelly"
T.C.-98	Whipple Co., Natick, Mass. Grandmother's Brand Pure Apple-Mint Jelly	71.26	63.28	0.21	0.60	73.3	23.3	Deficient in fruit content; should be labelled "Mint Flavored Apple Jelly".

Meat and Meat Products

Forty-seven official samples of hamburger, five of frankforts, nine of other types of sausage and one of bacon were examined. Fifteen samples of hamburger sold as "Kosher" were tested for the State Police, four samples of frankforts and two of lard were analyzed for the State Supervisor of Purchases, and one hamburger sample was examined for a private citizen. Of the total 84 samples 69 were passed and 15 were adulterated, misbranded or otherwise objectionable.

Bacon and Lard

7293. *Armour Shortening*. State Supervisor of Purchases. Butyro refraction, 40°C., 50.4; iodine no., 67; m.pt. of glycerides (A.O.A.C. Method 26.47), 63.3°C.; m.pt. of fatty acids, 54.0°C.; mean molecular weight of fatty acids, 284. These values indicated the shortening to be pure lard with no added beef fat.

T.C.-84. *Bacon*. P. Berry & Sons, Hartford, Conn. Kreis test for rancidity negative; bacon quite salty and tough but edible.

7294. *Sperry & Barnes Pure Lard*. Sperry & Barnes, New Haven, Conn. Butyro refraction, 40°C., 49.7; m.pt. of glycerides, 63.2°C.; m.pt. of fatty acids, 53.0°C.; mean molecular weight of fatty acids, 284. Passed.

Frankforts

Analyses of the nine frankfort samples are given in Table 8; four samples were passed and five were misbranded for various reasons. State Regulation 186-27.13 permits the addition of "cereal, vegetable starch, starchy vegetable flour, soya flour, dried milk or dried skim milk" to all sausages, including the Frankfort type, but the percentage added must not exceed 3.5 and the presence of such fillers must be declared; not more than 10 per cent of added water is also permitted. When casings are artificially colored the presence of such color must be declared. The use of sulphur dioxide as a preservative is forbidden in all meat products, because it acts to cover up the odor of decomposition rather than as a true preservative, turns the meat bright red so that it appears fresher than it is, and destroys vitamin B₁ (thiamine).

Hamburg

State Regulation 186-27.10 requires hamburger to contain not more than 30 per cent of fat. Of the 47 official samples, 45 were tested for the presence of sulphite and analyzed for their fat contents; sulphite was found in only one and four others contained excessive fat, while 40 were passed. Of the two samples not analyzed for fat, one contained a trace of sulphite and the other (which was submitted with a complaint of "ptomaine poisoning") was referred to the Bureau of Laboratories of the State Department of Health for bacteriological examination.

Analyses are given in Table 9; included in this table is one unofficial sample submitted by a private citizen.

Since ground beef prepared according to the regulations of the Orthodox Jewish dietary code is treated with salt, Kosher hamburger must contain more salt than that naturally present in beef. Last year¹ it was shown that the

¹Conn. Agr. Expt. Sta. Bul. 585, 35 (1954).

TABLE 8. FRANKFORTS

No.	Manufacturer or distributor and brand	Water, per cent	Protein, per cent	Lactose, per cent	Dextrose, per cent	Starch, per cent	Soybean flour	Added water per cent	Dry skim milk per cent	Remarks
W.M.-658	Ressler, New Haven, Conn. <i>Frankfurts</i>									No foreign matter found; passed.
K.C.-537	Eugene Rothmund, Inc., Somerville, Mass. <i>Skinless Frankfurts</i>									No artificial color detected; passed.
3906	State Supervisor of Purchases <i>Frankfurts</i>	46.40	11.38	3.47	0.85	0.00	absent	0.88	6.74	Excessive dry skim milk.
5158	State Supervisor of Purchases <i>Frankfurts</i>	33.13	14.44	2.18	0.36			0.00	4.23	Passed
6277	State Supervisor of Purchases <i>Frankfurts</i>	53.60	11.69	0.00		0.00	absent	5.07	0.00	Passed
6555	State Supervisor of Purchases <i>Frankfurts</i>	54.51	9.69	2.13	trace	0.79	absent	27.94	4.14	Total filler 4.93 per cent; excessive water.
K.C.-500	Stratford Provision Co., Stratford, Conn. <i>Skinless Frankfurts</i>									No sulphite, but undeclared coal tar dye present.
K.C.-502	Stratford Provision Co., Stratford, Conn. <i>Frankfurts (Sheep Casings)</i>									No sulphite, but undeclared coal tar dye present.
K.N.-652	Sussman Market, New Britain, Conn. <i>Capitol Brand Regular Frankfurts</i>	56.29	12.81	1.65	0.56	0.18	absent	5.32	3.20	Misbranded because dry skim milk was not declared.

TABLE 9. HAMBURG

City or town	No.	Market or restaurant	Fat, per cent	Remarks
Bethel	K.F.-1229	Raybrook Farm	17.20	Passed
Bridgeport	K.C.-506	Benham's Food Shop	16.36	Passed
	K.C.-487	Buglight Grill	32.60	Excessive fat
	K.C.-495	Buglight Grill	25.66	Passed
	K.C.-478	Farmer's Market	32.19	Excessive fat
	K.C.-483	Farmer's Market	23.07	Passed
	K.C.-488	Farmer's Market	29.84	Passed
	K.C.-494	Farmer's Market	29.76	Passed
	K.C.-477	June Dairy Products Co.	8.98	Passed
	K.C.-481	King Cole Market	19.29	Passed
	K.C.-538	M. Klein	19.70	Passed
	K.C.-486	The Lighthouse	24.48	Passed
	K.C.-479	Mott's Market	28.71	Passed
	K.C.-482	New Yorker Market	17.13	Passed
	K.C.-480	People's Market	25.85	Passed
	K.C.-525	Robin Hood Super Market	23.31	Passed
Bristol	T.C.-102	Bristol Beef	20.65	Passed
Danbury	K.F.-1239	Vincent Alessandro	22.64	Sulphite present
	K.F.-1224	Antonio's	8.40	Passed
	K.F.-1221	Central Market	10.12	Passed
	K.F.-1231	Central Market	11.99	Passed
	K.F.-1226	Swift & Co.	18.39	Passed
	K.F.-1234	Swift & Co.	20.83	Passed
	K.F.-1237	Swift & Co.	28.11	Passed
Danielson	K.F.-1223	Waterbury Market	23.41	Passed
	T.C.-156	Boston Meat Market		Referred to Health Dept.
East Haven	6843	Mrs. Ralph S. Castellon		No sulphite or horse-meat; passed
East Norwalk	K.F.-1233	Charpentier	18.39	Passed
	F.P.-83	Cut Price Market	26.28	Passed
	F.P.-86	Dailey's Super Market	34.68	Excessive fat
	F.P.-87	Dailey's Super Market	27.90	Passed
	F.P.-88	Don's Hill Market	20.84	Passed
	F.P.-89	Finn Super Market	24.61	Passed
	F.P.-92	Frank-Charles Market	19.60	Passed
	F.P.-82	Mott's Super Market	20.51	Passed
	F.P.-84	Popular Super Market	24.34	Passed
	F.P.-85	Popular Super Market	10.73	Passed
	F.P.-90	Popular Super Market	27.28	Passed
Milford	F.P.-91	Popular Super Market	28.26	Passed
	J.D.-27	Malafronte Market		Trace of sulphite present
New Haven	W.M.-654	Ray Ann's Diner	30.11	Excessive fat
	W.M.-668	Clark Dairy Bar	22.96	Passed
	W.M.-610	Connecticut Beef Co.	19.06	Passed
	W.M.-608	Grand Meat Market	25.53	Passed
Stratford	W.M.-611	Shap's Restaurant	21.96	Passed
	K.C.-529	Fairfield Beef Co.	17.16	Passed
	K.C.-501	Stratford Provision Co.	17.65	Passed
Wethersfield	F.P.-94	Popular Super Market	15.80	Passed

natural salt content of beef was very close to 0.25 per cent on the dry basis, whereas authentic samples of Kosher hamburger contained 0.83 per cent or more on the same basis. This year 15 more samples of hamburger sold as "Kosher" were examined for the State Police, with results as indicated in Table 10; 12 samples were passed, one was undoubtedly non-Kosher, and two were doubtful.

TABLE 10. HAMBURG SOLD AS "KOSHER"

City or town	No.	Market	Sodium chloride, per cent (dry basis)	Remarks
Bridgeport	6971	Goldstein's Meat Market	1.78	Passed
	6972	Louis Orlin	3.00	Passed
	6973	State Meat Market	1.49	Passed
	6976	Sunshine Meat Market	0.88	Doubtful
	6975	West End Meat Market	0.87	Doubtful
New Haven	6980	Alpert's Meat Market	1.46	Passed
	6981	Bayer & Levine	2.11	Passed
	6982	Elm City Meat Market	2.61	Passed
	6984	Goodman's Meat Market	1.77	Passed
	6978	Kohn Meat Market	4.00	Passed
	6977	New York Meat Market	2.76	Passed
	6979	Sam's Meat Market	0.48	Not Kosher
	6983	Whalley Meat Market	1.49	Passed
Stamford	6970	Brazel's Meat Market	1.60	Passed
	6974	New York Meat Market	1.47	Passed

Sausages

State Regulation 186-27.12 specifies that "Pork sausage and breakfast sausage, whether fresh, smoked or canned, shall not contain more than 50 per cent of fat". Nine official samples of various sausage products were examined in 1953; eight were passed and one was misbranded:

W.M.-715. Italian Sausage. Rascati's Market, New Haven, Conn. Fat, 25.60 per cent. Passed.

W.M.-717. Italian Sausage. Marino's Market, New Haven, Conn. Fat, 24.60 per cent. Passed.

W.M.-709. Italian Style Sausage. Gates Market, New Haven, Conn. Fat, 16.73 per cent. Passed.

W.M.-713. Italian Style Sausage. Al's Meat Market, New Haven, Conn. Fat, 23.07 per cent. Passed.

K.C.-499. Knockwurst. Stratford Provision Co., Stratford, Conn. No sulphite, but undeclared coal tar dye present; misbranded.

F.P.-120. Minced Bologna. Cannon's Village Store, East Hartford, Conn. Fat, 11.57 per cent. Passed.

A.F.-130. Minced Bologna. Grote & Weigel, Hartford, Conn. Odor normal; passed.

W.M.-711. Pork Sausage. Ralph's Market, New Haven, Conn. Fat, 23.13 per cent. Passed.

W.M.-707. S & B Home Style Sausage Meat. Sperry & Barnes, New Haven, Conn. Fat, 45.62 per cent. Passed.

Oils and Fats, Vegetable

Blended oils

Sixteen official samples of blended oils claimed to contain various percentages of olive oil were analyzed; two were passed and 14 were adulterated or misbranded:

K.F.-1172. Capri, the Wonderful New Blended Oil 95% Pure Refined Rice Oil 5% Pure Virgin Olive Oil. Colivo Packing Co., Inc., New York, N. Y. This sample and *K.F.-1171* reported below were, so far as we know, the first brands of oil to appear on the market that contained rice bran oil as an ingredient. Jamieson¹ has this to say of rice bran oil:

"This oil is obtained by expression or extraction of rice bran (plant, *Oryza sativa*). The bran, depending upon its source, varies in oil content from 8 to 15 per cent. The oil has been produced at various times on a small commercial scale in England, Italy, in Louisiana, U. S. A., and some other localities. It varies in color from a yellowish-green to a dark green. Owing to the very rapid development of large quantities of free fatty acids, the only use of the oil is for making soap. C. A. Browne [*J. Am. Chem. Soc.*, 25, 948 (1903)], who made a study of the oil, demonstrated that the rapid hydrolysis was due to a very active lipase."

Bailey² confirms Jamieson's account: "Rice bran (*Oryza sativa*) oil is invariably high in its content of free fatty acids. While the acidity of crude vegetable oils depends in general upon the care exercised in handling the oil-bearing material prior to extraction of the oil, a rather high acidity is probably inherent in this oil, since rice bran contains an unusually active lipase."

It was no doubt because of its rapid self-hydrolyzing characteristics that rice bran oil had not been encountered before as a constituent of blended oils for cooking and salad purposes. The explanation for its sudden appearance in 1953 lay in studies conducted at the Southern Regional Research Laboratory of the U. S. Department of Agriculture which had shown how to destroy the lipase and produce a stable refined oil. By this accomplishment one branch of the Federal Government may have unwittingly been responsible for embarrassment to another branch of that same government, namely, the U. S. Food and Drug Administration, because the properties of this refined rice bran oil were such as to make it an ideal olive oil adulterant. The one chemical property of olive oil that has been most relied on for distinguishing it from other vegetable oils is its high squalene content, averaging 330 milligrams per 100 grams as against 28 milligrams or less per 100 grams for almost all other oils. Fitelson, when he originated the squalene test, had pointed out that rice bran oil also contained as much as 332 milligrams of squalene per 100 grams³, but this fact had been of only theoretical importance so long as refined rice bran oil was not an article of commerce. Now that rice bran oil of good quality can be readily obtained, and so long as no specific test for this oil is known, the possibility will be with us that sooner or later some unscrupulous dealer will add a little strongly flavored olive oil to a large quantity of rice bran oil and sell the mixture as pure olive oil with little fear of detection.

¹"Vegetable Fats and Oils", 1st Ed., p. 156 (1932).

²"Industrial Oil and Fat Products", 2nd Ed., p. 165 (1951).

³*J. Assoc. Official Agr. Chem.*, 26, 506 (1943).

Analysis of the present sample, which was labelled as being 95 per cent rice oil and 5 per cent olive oil, was as follows: Butyro refraction, 25°C., 66.5; iodine no., 92.9; saponification no., 187.6; squalene, 239 mgm./100 gm.; Halphen test, negative; Bellier test, negative.

K.F.-1181, 1182, 1183, 1185, 1240, 1245, 1251, 1252 and 1253 and T.C.-86 and 90. Special Enrico Caruso Brand, a Special Blend of 75% Pure Peanut Oil and Choice Corn Oil, Enriched with 25% Imported Olive Oil. Caruso Products Distributing Corp., New York, N. Y. Average analysis of these 11 samples was as follows: Butyro refraction, 25°C., 67.8; squalene, mgm./100 gm., 110.3 (but varying from 70 to 140); cottonseed oil, present in nine samples; peanut oil absent from 8 samples; estimated per cent olive oil, 27; net contents, 126.2 fl. oz. All samples were short volume and most were adulterated because of the absence of peanut oil and presence of cottonseed oil.

K.C.-469. Marca Premiata High Grade Brand Extra Fine Quality 80% Choice Peanut Oil 20% Pure Imported Olive Oil. High Grade Oil Co., Brooklyn, N. Y. Squalene, mgm./100 gm., 31; cottonseed oil present; little if any peanut oil; estimated per cent olive oil, 7; coal tar dye present. Adulterated and misbranded because of presence of cottonseed oil and absence of peanut oil, probable deficiency in olive oil, and artificial coloring in imitation of pure olive oil.

T.C.-13 and 80. Prosperity Brand Extra Fine Quality 78% Corn and Peanut Oil 22% Pure Olive Oil. J. Ossola Co., New York-Pittsburgh-Philadelphia. Average analysis showed: Butyro refraction, 25°C., 67.2; cottonseed oil, absent; peanut oil, about 25% in *T.C.-80* and none in *T.C.-13*; squalene, mgm./100 gm., 91; estimated per cent olive oil, 21; net contents, 125.2 fl. oz. Both samples short volume; *T.C.-13* adulterated because of absence of peanut oil.

K.F.-1171. Remigio the Superior Blended Oil 75% Pure Refined Rice Oil 25% Pure Imported Olive Oil. Colivo Packing Co., Inc., New York, N. Y. This was the other rice bran oil blend referred to under *K.F.-1172*. Analysis showed: Butyro refraction, 25°C., 66.5; iodine no., 92.9; saponification no., 187.6; squalene, mgm./100 gm., 239; Halphen and Bellier tests, negative. Passed.

Corn Oil

W.M.-700, Mazola Refined Corn Oil, manufactured by Corn Products Refining Co., Argo, Ill., was found to contain a triangular piece of glass about 15/16" on each side, and was consequently adulterated.

Oleomargarine

Two official samples of oleomargarine were both passed:

W.M.-559 and K.N.-556. Whipped Nucoa Oleomargarine. Best Foods, Inc., New York, N. Y. Declared ingredients were "hardened vegetable oils (cottonseed & soybean), skim milk, salt, monoglyceride, lecithin; isopropyl citrate (0.01%) to protect flavor, 15,000 units vitamin A & 2,000 units vitamin D added; artificially colored with natural carotene". Average analysis was: Water, 13.36, casein, 1.50, ash, 2.12, and fat, 83.03, per cent; butyro refraction of fat, 51.9 at 40°C. Passed.

Olive Oil

Twenty-three official and three unofficial samples of oil labelled as pure olive oil were analyzed; four samples were passed and 22 were adulterated or misbranded:

4208. *Berio 100% Pure Olive Oil.* A. Gillette, New Haven, Conn. Sample contained no foreign oil but was quite rancid.

6595. *Cellini Brand 100% Pure Olive Oil.* Polbro Oil Corp., Brooklyn, N. Y. No evidence of adulteration; passed.

A.F.-126. Columbia Olive Oil. James Ferrera & Son, Boston, Mass. Short volume 3.4 fl. oz.

E.C.-611 and 616. Cosmocratic 100% Imported Pure Virgin Olive Oil. Tenth Avenue Trading Corp., New York, N. Y. Average short volume 3.1 fl. oz.

K.C.-518, 519 and 520, T.C.-85 and 88, K.F.-1180, 1184, 1186 and 1187 and W.M.-656 and 657. Enrico Caruso Brand 100% Pure Virgin Imported Olive Oil, Supreme Quality. Caruso Products Distributing Corp., New York, N. Y. Of these 11 samples none was adulterated, but the 10 that were in gallon cans averaged 3.4 fl. oz. short volume, while the one quart can (*K.F.-1187*) was 0.7 fl. oz. short.

K.C.-514. Nettuno Brand Olio Puro D'Oliiva. Lazio Importing Co., Bridgeport, Conn. Sample was adulterated with cottonseed oil, contained undeclared coal tar dye, was 12.0 fl. oz. short volume, and was not labelled with the name or address of the manufacturer, packer or distributor.

J.W.-2. Olive Oil. Mrs. Albert Caruso, New Canaan, Conn. Butyro refraction, 25°C., 69.0; squalene, 29 mgm./100 gm.; Halphen test, positive; estimated per cent olive oil, 7. Probably mostly corn oil with some cottonseed oil; adulterated.

5244. *Olive Oil.* Pepe-Maisano Co., New Haven, Conn. No evidence of adulteration; passed.

K.C.-465. The Prince Brand 100% Pure Imported Olive Oil. Elite Packing Co., Lodi, N. J. Butyro refraction, 25°C., 70.4; Halphen and Bellier tests negative; coal tar dye present; net contents, 19.8 fl. oz. Not olive oil as labelled, but artificially colored corn or soy oil; short volume 8.2 fl. oz.

K.C.-515. Puglia Brand Superfine Pure Olive Oil. Lazio Importing Co., Bridgeport, Conn. Butyro refraction, 25°C., 70.2; Bellier test positive; artificial flavor and color present; net contents 118.2 fl. oz. Not olive oil but artificially flavored and colored corn or soy oil containing a little peanut oil; short volume 9.8 fl. oz.; no packer's name or address.

W.M.-607. Pure 100% Olive Oil. Leghorn Trading Co., New York, N. Y. No evidence of adulteration; passed.

W.M.-655. Rinaldo Brand Imported Pure Olive Oil. Chicago Macaroni Company of New York, Inc., Brooklyn, N. Y. No evidence of adulteration, but short volume 1.9 fl. oz.

K.C.-517. Roberta Brand Pure Olive Oil 100% Pure, Imported Product. Lazio Importing Co., Bridgeport, Conn. Butyro refraction, 25°C., 69.3; Hal-

phen test positive; artificial color and flavor present; net contents 116.3 fl. oz. Adulterated with cottonseed oil and artificially flavored and colored; short volume 11.7 fl. oz.; no packer's name or address.

W.M.-633. Van Dyk's Imported Pure Olive Oil. Van Dyk & Reeves, Inc., Brooklyn, N. Y. No evidence of adulteration; passed. (This was a 4. fl. oz. bottle; net contents found 4.08 fl. oz.)

T.C.-87. Vittoria Brand Pure Olive Oil. Testa Products Co., Boston, Mass. No evidence of adulteration, but short volume 4.8 fl. oz.

Salad Dressings and Mayonnaise

Five official samples of mayonnaise and one of salad dressing were examined; four were passed and two were misbranded:

K.C.-457. Bennett's Prize Recipe Mayonnaise. Recipe Foods, Inc., Baltimore, Md. Calculated composition from the analysis was: Egg yolk, 7.26; egg white, 0.00; corn or soy oil, 75.39; vinegar (3.75% acidity), 11.00; sugar, salt, spices, etc., 5.62, and added water, 0.73, per cent. Passed.

K.N.-541. Napier Brand Whirl Whipped Salad Dressing. Popular Food Markets, Middletown, Conn. Calculated composition from the analysis was: Egg yolk, 4.52; egg white, 1.29; corn or soy oil, 42.53; vinegar (4% acidity), 20.25; sugar, salt, spices, etc., 16.13, and added water, 15.28, per cent. Misbranded because label bore no specific address.

K.C.-456. Park City Mayonnaise. Reliable Coffee Co., Inc., Bridgeport, Conn. Calculated composition: Egg yolk, 5.54; egg white, 0.91; corn or soy oil, 76.74; vinegar (3.35% acidity), 9.00; sugar, salt, spices, etc., 6.08, and added water, 1.73, per cent. Misbranded because net contents were not declared.

K.C.-454 and 455. Purity Brand Pure Homogenized Mayonnaise. Purity Food Co., Bridgeport, Conn. Average calculated composition: Egg yolk, 6.80; egg white, 2.49; corn or soy oil, 74.27; vinegar (4.48% acidity), 9.71; sugar, salt, spices, etc., 5.98, and added water, 0.78, per cent. Passed.

K.N.-553. Roberts Pure Homogenized Mayonnaise. Roberts Food Corp., Brooklyn, N. Y. Calculated composition: Egg yolk, 5.43; egg white, 0.00; corn or soy oil, 78.17; vinegar (5.88% acidity), 10.04, and sugar, salt, spices, etc., 6.36, per cent. Passed.

Soup

Four official and four unofficial samples of canned soup were submitted by the State Supervisor of Purchases for quality comparison. There are no standards for soups, and none of the samples could be considered adulterated, but two were short weight or short volume. The samples were analyzed for total solids only, but their flavors were also compared:

J.W.-7. Campbell's Condensed Cream of Celery Soup. Campbell Soup Co., Camden, N. J. Labelled "Prepared from celery, cream, wheat flour, corn oil, corn starch, carrots, onions, nonfat dry milk solids, salt, sugar, monosodium glutamate, flavoring, spice and water". Total solids, 14.96 per cent; flavor good.

5785. Condensed Chicken Noodle Soup. Venice Maid Co., Inc., Vineland, N. J. Total solids, 13.11 per cent; flavor good.

5788. Condensed Clam Chowder Soup. Venice Maid Co., Inc., Vineland, N. J. Total solids, 17.41 per cent; flavor, too spicy. This was not a true clam chowder but a vegetable-soup-with-clams preparation of the type that is mis-called "Manhattan clam chowder".

5786. Condensed Cream Chicken Soup. Venice Maid Co., Vineland, N. J. Total solids, 12.93 per cent; flavor good.

5787. Condensed Cream Mush (sic) Soup. Venice Maid Co., Inc., Vineland, N. J. Total solids, 17.60 per cent; flavor good. Net contents: Declared, 10.5 oz.; found, 10.20 oz. This sample should of course have been labelled "Mushroom" instead of "Mush" soup. Short weight.

J.W.-6. Diplomat Home-Fashioned Consommé Madrilène. Diplomat Products, Inc., North Bergen, N. J. Labelled: "Contains vegetable broth, gelatine, salt, tomato juice, monosodium glutamate (vegetable protein derivative), baking soda, and U. S. certified artificial color." Total solids, 4.00 per cent. Net contents: Declared, 12½ fl. oz.; found, 11.74 fl. oz. Flavor pleasant (tomato predominating), but solids very low; short volume.

J.W.-9. Phillips Delicious Condensed Tomato Soup. Phillips Packing Co., Inc., Cambridge, Md. Labelled: "Ingredients: Tomatoes, flour, sugar, salt, seasoning and spices." Total solids, 16.80 per cent; flavor somewhat too acid.

J.W.-8. Scott Co. Brand Condensed Vegetable Soup. Morgan Packing Co., Inc., Austin, Ind. Labelled: "Contains carrots, tomato purée, potatoes, dry lima beans, dry peas, dry Navy beans, barley, onions, cabbage, celery, semolina macaroni, salt, sugar, dextrose, vegetable oil, butter, corn flour, spices, water." Total solids, 16.89 per cent; flavor good.

Spices

Two samples of black pepper were examined for the Commissioner, and one sample each of poultry seasoning and of an unknown spice was submitted by the State Supervisor of Purchases. All samples were passed:

K.C.-503. Claudia Brand Pure Black Pepper. Brimo & Co., Inc., Brooklyn, N. Y. Microscopic examination showed no foreign ingredient.

4363. Poultry Seasoning. State Supervisor of Purchases. This sample was submitted to find out why it imparted a yellow color to dressing; it was found to contain a considerable proportion of turmeric.

4457. Spice. State Supervisor of Purchases. Microscopic examination showed this spice to be all mace.

K.N.-554. Van Loan's Pure Black Pepper. Van Loan & Co., Inc., New York, N. Y. Microscopic examination showed no foreign ingredient.

Spray Residues

Every year since 1931 inspectors of the Food and Drug Commission have sampled to a greater or lesser degree the products of Connecticut apple

TABLE 11. APPLES EXAMINED FOR SPRAY RESIDUE

No.	Orchard	Variety	Lead, grains/lb.	Arsenic trioxide, grains/lb.	Remarks
<i>Berlin</i>					
K.N.-603	Dunham Orchards	Milton	0.014	....	Passed
<i>Cheshire</i>					
K.N.-607	Bishop Farms	McIntosh	0.037	....	Passed
K.N.-606	Reinhardt Bros.	Gravenstein	0.008	....	Passed
<i>Glastonbury</i>					
K.N.-592	S. Arcannero & Sons	McIntosh	0.013	....	Passed
K.N.-590	Bussa Orchards	McIntosh	0.019	....	Passed
K.N.-591	Bussa Orchards	Wealthy	0.038	....	Passed
K.N.-599	Funk's Orchard	McIntosh	0.018	....	Passed
K.N.-595	Preli's Orchard	Gravenstein	0.046	....	Passed
K.N.-596	Preli's Orchard	McIntosh	0.049	....	Passed
K.N.-593	Quagliaroli Bros.	Early McIntosh	0.022	....	Passed
K.N.-594	Quagliaroli Bros.	Milton	0.012	....	Passed
K.N.-637	Villa's Orchard	Baldwin	0.030	....	Passed
K.N.-588	Villa's Orchard	Gravenstein	0.069	0.032	Excessive lead and arsenic
K.N.-589	Villa's Orchard	Greenings	0.046	....	Passed
K.N.-636	Villa's Orchard	McIntosh	0.018	....	Passed
K.N.-635	Villa's Orchard	Northern Spy	0.018	....	Passed
<i>Guilford</i>					
A.L.-187	B. W. Bishop & Sons	McIntosh	0.065	0.068	Excessive lead and arsenic
A.L.-186	Norbert Kneuer & Sons	McIntosh	0.032	....	Passed
<i>Kensington</i>					
K.N.-604	Hrubiec Orchards	Wolf King	0.007	....	Passed
<i>Middlefield</i>					
K.N.-601	Lyman Orchards	Gravenstein	0.077	0.044	Excessive lead and arsenic
K.N.-600	Lyman Orchards	McIntosh	0.017	....	Passed
K.N.-602	Lyman Orchards	Milton	0.032	....	Passed
<i>Portland</i>					
K.N.-597	Gotta's Farm	Gravenstein	0.027	....	Passed
K.N.-598	Gotta's Farm	McIntosh	0.013	....	Passed
<i>Southington</i>					
K.N.-605	Rogers Orchards	McIntosh	0.011	....	Passed

orchards to see whether they contained excessive spray residue. The permitted limits have been 0.050 grain/lb. of lead, 0.025 grain/lb. of arsenic trioxide and seven parts per million of DDT.

During 1953 25 official samples of apples that had been sprayed with arsenate of lead were submitted to this laboratory. In accord with our usual practice all samples were analyzed spectrographically for lead, and arsenic was determined chemically on only those samples found to contain excessive lead. Twenty-two samples were passed and three were found to contain both too much lead and too much arsenic; analyses are given in Table 11.

Seven unofficial samples of various plant materials were tested:

4717. *Corn on the Cob.* Winter's-On-The-Square, New Haven, Conn. Benzene hexachloride, 0.5 part per million.

5501. *Lettuce Leaves.* Vardry N. Brown, West Haven, Conn. DDT. 2 p.p.m.

5708 and 5709. *Plant Stalks and Soil.* Lawrence R. Leete, Guilford, Conn. Cadmium, none.

6369. *Rhododendron and Maple Leaves and Miscellaneous Plants.* Albert Newfield, Hartford, Conn. No arsenic found.

6089. *Scum from Top of Farm Pond.* B. W. Bishop & Sons, Guilford, Conn. No insecticide or herbicide found.

3878. *Soils.* Bristol Nurseries, Bristol, Conn. Selenium, 6 and 2 p.p.m.

Syrups

Twelve fruit-flavored syrups (mostly intended as beverage bases), three samples of maple and maple-flavored syrup, and one sample of honey, were examined for the Commissioner. Three honeys were analyzed for apiarists and a consumer. Of the total 19 samples, eight were passed and 11 were adulterated or misbranded.

Fruit-Flavored Syrups

Analyses of the 12 official samples of fruit-flavored syrups are given in Table 12; five samples were passed and seven were misbranded.

Honey

The four following honey samples were examined; two were passed and two were adulterated:

6080 and J.W.-425. *King Bee Brand Pure Honey.* Safe Owl Products, Inc., Brooklyn, N. Y. Direct polarization, 20°C., -7.93°V.; direct polarization, 87°C., +12.05°V.; invert polarization, 20°C., -10.22°V.; invert polarization, 87°C., +9.87°V., water, 13.93, dextrose, 30.78, levulose, 30.84, sucrose, 0.00, ash, 0.088, and added glucose, 16.13, per cent; aniline chloride no., 15.6; iron, 50 parts per million. Adulterated with glucose and contained excessive iron.

6737 and 6738. *Pure Honey.* E. A. La Brake, Woodbridge, Conn. Average water content, 17.58 per cent. Passed.

Maple and Maple-Flavored Syrups

Two of the three following samples were misbranded and one was passed:

K.N.-574. *100% Pure Vermont Maple Syrup.* Sam's Fruit Stand, Newington, Conn. Water, 32.48, and ash, 0.52, per cent; Winton lead no., 1.48. Misbranded because not labelled with the name and address of the manufacturer, packer or distributor and because it bore no net weight declaration.

E.C.-597. *Vermont Orchard Pure Cane and Maple Syrup.* Lincoln Foods, Inc., Lawrence, Mass. Water, 34.28, and ash, 0.10, per cent; Winton lead no., 0.16. Passed.

TABLE 12. FRUIT-FLAVORED SYRUPS

No.	Manufacturer or distributor and brand	Total solids, gm/100 cc	Total sugars, gm/100 cc	Ash, gm/100 cc	Acidity, gm/100 cc	K ₂ O, mgm/100 cc	P ₂ O ₅ , mgm/100 cc	Fruit juice, per cent	Remarks
T.C.-72	Cott Pure Fruit Syrup Corp., Manchester, N. H. <i>Cott Concord Punch Syrup</i>	93.84	87.40	0.081	1.12*	10.7	1.39	6	Should be labelled "Imitation Grape-Flavored Syrup". Flavor natural; no artificial color; passed.
T.C.-127	Cott Fruit Syrup Corp., Manchester, N. H. <i>Cott Raspberry Waffle Syrup</i>	72.49	.....	.....	.....	.....	.....	.....	.....
T.C.-65	K & N Fruit Syrup Co., Philadelphia, Pa. <i>Pure Old European Style (Maliny) Raspberry Syrup</i>	87.35	80.96	0.082	0.44†	34.1	6.0	16	Flavor natural; passed.
T.C.-75	K & N Fruit Syrup Co., Philadelphia, Pa. <i>Pure Old European Style (Maliny) Raspberry Syrup</i>	85.50	80.59	0.082	0.43†	32.8	5.9	16	Flavor natural; passed.
T.C.-64	K & N Fruit Syrup Co., Philadelphia, Pa. <i>Pure Strawberry Syrup</i>	83.66	76.80	0.027	0.48†	18.7	6.0	10	Flavor: not natural strawberry; misbranded.
T.C.-77	K & N Fruit Syrup Co., Philadelphia, Pa. <i>Pure Strawberry Syrup</i>	81.46	76.62	0.079	0.47†	26.9	5.6	14	Flavor not natural strawberry; misbranded.
T.C.-76	K & N Fruit Syrup Co., Philadelphia, Pa. <i>Pure Tutti-Frutti Punch</i>	82.26	77.70	0.126	0.57†	52.7	8.0	24	Passed except that fruit juices present were not named.
K.C.-497	Krasdale Foods, Inc., New York, N. Y. <i>Krasdale Strawberry True Fruit Flavored Syrup</i>	93.82	86.64	0.087	0.83†	28.8	0.9	14	Flavor natural; passed.
K.C.-505	Puritan Citrus Co., Brooklyn, N. Y. <i>Puritan Brand Syrup Grape</i>	79.50	73.24	0.019	2.59*	2.0	0.3	1	Should be labelled "Imitation Grape Syrup, Artificially Colored and Flavored".
K.C.-475	Snow Crest Beverages, Inc., Salem, Mass. <i>Snow Crest Concentrated Imitation Strawberry Flavored Syrup</i>	88.26	83.80	0.092	1.08†	19.9	3.8	7	Misbranded because labelled "95% Pure Juice".
K.C.-504	Snow Crest Beverages, Inc., Salem, Mass. <i>Snow Crest Pure Grape Flavored Syrup</i>	82.76	76.68	0.171	1.36*	37.2	5.5	24	Passed.
K.C.-466	Snow Crest Beverages, Inc., Salem, Mass. <i>Snow Crest Syrup, Imitation Raspberry Flavor</i>	84.04	78.60	0.030	0.99†	18.1	2.0	7	Misbranded because labelled "95% Pure Juice".

* As tartaric acid.

† As citric acid.

T.R.-1. Vermont Maple Flavored Syrup. Samuel Ades, Newark, N. J. Water, 32.66, and ash, 0.01, per cent; Winton lead no., 0.009. This was misbranded because it was an imitation maple syrup containing no maple at all that was sold in a plain unlabelled can.

Vegetable Products

Nine samples of miscellaneous vegetable products were submitted by the Commissioner; four samples were received from the New Haven and Stamford Health Departments and private citizens. Six samples were passed and seven were adulterated, misbranded or otherwise objectionable.

6454. Cooked Squash. New Haven Health Dept. This squash tasted very bitter. This phenomenon has been encountered at intervals ever since 1948¹, when we showed that it was due to the presence of a bitter glucoside naturally occurring in some summer squashes; presumably these squashes are sports from the normal varieties.

6378. Cooked Squash. Mrs. Clifford Treat, Manchester, Conn. Taste very bitter; see above.

K.C.-453. Flavoright Cherry Peppers. Roberts Food Corp., Brooklyn, N. Y. Test for benzoate negative; passed.

J.W.-428. Libby's Solid Pack Pumpkin. Libby, McNeill & Libby, Chicago, Ill. Water, 88.52 per cent. Passed.

S.O.-280. Lina Brand Fresh Cheese Peppers. Gus Sclafani, Stamford, Conn. Acetic acid, 1.53 per cent; salt present. Misbranded because the presence of brine and vinegar were not declared.

A.L.-157. Omasco Brand Sweet Variety Peas. Lyons Canning Co., Lyons, N. Y. The contents of this can were not peas at all but red kidney beans. Adulterated and misbranded.

K.C.-459. Park City Brand Home Style Kosher Pickles. Reliable Coffee Co., Inc., Bridgeport, Conn. Test for benzoate negative; passed.

6915. Peeled Potatoes. Martin Kosofsky, Meriden, Conn. Sulfur dioxide, 6 parts per million; citric acid, 0.45 per cent; ascorbic acid, not detected. Passed.

K.C.-460. Perri's Brand Lupini Beans. R. Perri & Sons, New Haven, Conn. Contained a dead worm, a flaxseed, a piece of charcoal, another unidentified seed, part of a seed coat and piece of plant stem. Adulterated.

J.W.-426 and 427. Puritan Boston Marrow Squash. Standard Beef Co., New Haven, Conn. Average moisture content, 90.78 per cent. Passed.

5284. Squash. First National Stores Supermarket, Stamford, Conn. This squash tasted extremely bitter; see *6454* and *6378* above.

E.S.-4249. Summer squash. George Brott, Hampton, Conn. Taste very bitter; see above.

¹Conn. Agr. Expt. Sta. Bul. 538, 40(1950); 549, 46(1951); 574, 43(1953).

Vinegar

Nine samples of wine vinegar were examined for the Commissioner; six samples were passed and three were adulterated or misbranded. Analyses are given in Table 13.

Water

This Station does not make sanitary analyses of drinking water; the only State laboratory that does is the Bureau of Laboratories of the State Department of Health in Hartford. As an accomodation we do sometimes, however, make pH and hardness determinations on well water for private citizens, and conduct certain other purely chemical analyses for Federal and State agencies. During 1953 27 samples of water (mostly well waters) were examined for our Forestry Department, the State Board of Fisheries and Game, the State Department of Health and private citizens; only three of these samples were of sufficient interest to be worth reporting here:

6090. *Solids from 10 Liters of Water.* State Dept. of Health. Calcium, very high; sodium, 6.4, potassium, 1.6, and magnesium, 0.6, per cent; manganese, 30, iron, 150, aluminum, 80, zinc, 500, copper, 200, molybdenum, 80, and boron, 80, parts per million; phosphorus not detected.

4108. *Well Water.* John Nixon, Naugatuck, Conn. pH, 6.35; hardness, 17 parts per million. Water too acid to use with copper tubing.

6415. *Well Water.* Ernest H. Hart, Orange, Conn. Contaminated with gasoline.

Miscellaneous

Eighteen samples of miscellaneous foods and unclassified materials were submitted by the Commissioner; three were passed and 15 were adulterated or misbranded:

E.C.-612. Clifton's Pure Preserved Wild Strawberries. Cape Code Preserving Kitchens, Medfield, Mass. Labelled "Wild Fruits Have More Flavor". Analysis showed: Total solids, 76.21, total sugars, 70.40, ash, 0.21, and acidity (as citric acid), 0.52, per cent; K_2O , 99.0, and P_2O_5 , 25.8, parts per million. This analysis indicated a ratio of 40 lb. of fruit to 55 lb. of sugar, which is less than the 45/55 lb. minimum ratio prescribed by Federal Regulation 29.0(a). Examination of the strawberries by Mr. Stoddard of our Plant Pathology Department showed that they were not of a cultivated variety and resembled wild strawberries, but it appeared probable that the berries had not been picked wild in the fields but had come from wild-type cultivated plants. Misbranded because substandard in fruit content.

K.F.-1154. Confectioner's Glaze E562. J. A. Joffe & Co., Mt. Vernon, N. Y. Labelled only: "Shake Well — Apply on Chocolate Surface with a good 1" brush — Inflammable — Keep Closed." Analysis showed this material to be a solution of white shellac in a 4 to 1 mixture of ethyl alcohol and ethyl acetate. Misbranded because the ingredients were not declared.

E.S.-3650. Del Frost Frozen Dessert. Frosty Products Distributors, Inc., Chicago, Ill. Labelled: "A vegetable fat frozen dessert — Ingredients:

TABLE 13. WINE VINEGAR

No.	Manufacturer or distributor and brand	Total solids, gm/100 cc	Ash, gm/100 cc	Total acidity as tartaric acid, gm/100 cc	Actual tartaric acid, gm/100 cc	Color	Remarks
W.M.-612	Bellevue Olive Oil Co., New York, N. Y. <i>Bellevue</i>	1.68	0.13	4.40	0.048	Natural	Not 5% acidity as labelled; misbranded.
S.O.-291	Grand Union Co., Stamford, Conn. <i>Wayne County</i>	1.15	0.13	4.90	0.045	Natural	Passed.
K.F.-1165	Old Dutch Mustard Co., Inc., Brooklyn, N. Y. <i>Doge</i>	1.16	0.12	5.00	0.067	Natural	Passed.
K.F.-1166	Old Dutch Mustard Co., Inc., Brooklyn, N. Y. <i>Doge</i>	1.32	0.12	5.13	0.058	Natural	Passed.
K.F.-1167	Old Dutch Mustard Co., Inc., Brooklyn, N. Y. <i>Doge</i>	1.32	0.12	5.13	0.056	Natural	Passed.
K.C.-512	Old Dutch Mustard Co., Inc., Brooklyn, N. Y. <i>Old Dutch</i>	1.27	0.07	5.11	0.032	Natural	Adulterated with distilled vinegar or acetic acid.
F.P.-76	S & W Fine Foods, Inc., San Francisco, Calif. <i>S & W</i>	1.54	0.28	5.11	0.17	Natural	Passed.
K.C.-539	Gus Sclafani, Stamford, Conn. <i>Lina</i>	1.24	0.11	5.13	0.064	Natural	Misbranded because not labelled "Reduced with water to 5% acidity".
W.M.-660	Gus Sclafani, Stamford, Conn. <i>Lina</i>	1.23	0.12	5.12	0.062	Natural	Passed.

Vegetable fat, milk solids, sugar, stabilizer, flavor and certified color. Vanilla flavor." Fat, 9.80 per cent. Constants of fat: Butyro refraction, 40°C., 36.0; Reichert-Meissl value, 9.62; Polenske value, 13.61; Kirschner value, 4.44. These constants indicated that the sample contained 1.22 per cent of butter fat and 8.58 per cent of coconut oil.

This sample was purchased by Harold Clark of the Food and Drug Commission at Bowman's Dairy in Chicago and brought back to Connecticut for analysis. Because it was not an all-milk product it was an imitation ice cream whose sale would be forbidden in this State under Section 420a of the 1949 supplement to the General Statutes.

K.N.-558. Farm-Maid Vegetable Garnish. Hi-Praize Food Products, Merrimack, N. H. Net contents: Declared, 9¾ oz., found, 9.74 oz. Passed.

E.S.-4747. Gumpert's Sky High Formula 25386. G. S. Gumpert Co., Inc., Jersey City, N. J. Labelled: "This product contains water and esters of modified polyhydric alcohols." Analysis showed that it was a 23.39 per cent aqueous solution of an organic compound that was probably polyoxyethylene stearate or polyethylene glycol "400" monostearate; the pH was 5.55.

This material was being sold as an ice cream "stabilizer". Because there was evidence that compounds of this type modified fat absorption and disturbed bile secretion, and that some of them caused gastrointestinal irritation¹, this product was not considered satisfactory for such use. The sample was further misbranded because the specific names of its ingredients were not declared on the label.

J.W.-431. Ham and Cheese Sandwich. Parkway Gas Station, Orange, Conn. Contained two thin (0.06") slices of ham and two equally thin slices of cheese. Misbranded because the label did not carry the name and address of the manufacturer, packer or distributor.

K.N.-559. Hi-Praize Horse-Radish Relish. Hi-Praize Food Products, Merrimack, N. H. Net contents: Declared, 6 oz.; found, 7.16 oz. Passed.

A.F.-81. and J.W.-424. Maypl Oats. Maltex Co., Burlington, Vt. Labelled as "The new Cracked Oat Cereal flavored with Vermont Maple Syrup — Oats, Flour, Sugar, Pure Maple Syrup, Artificial Flavoring". Misbranded because the emphasis on "Vermont Maple Syrup" and the pictures of sap-gathering were misleading in a product that contained artificial flavor and very little maple syrup.

K.C.-489. Phil's Sugar Bowl Lobster Salad Sandwich. Phil's Sugar Bowl, Bridgeport, Conn. Contained crabmeat instead of lobster; adulterated.

K.F.-1146. Quaker Yellow Enriched Degerminated Corn Meal. The Quaker Oats Co., Chicago, Ill. This sample was submitted to check its vitamin claims. Because the laboratory was not equipped at the time to make the requested assays, it was passed without analysis.

J.W.-433, 434 and 435. Roast Beef Sandwich. Parkway Gas Station, Orange, Conn. These sandwiches were wrapped in waxed paper and bore no labels. One (*J.W.-433*) contained two 0.08" slices of meat weighing 0.99 oz.,

¹Lehman, *Quarterly Bulletin of the Association of Food & Drug Officials of the U.S.*, 14, 86(1950).

while the others each contained only one such slice weighing 0.53 oz. The meat was not roast beef at all but corned beef or other salted meat. Adulterated.

W.M.-659. Rosella. Koester & Co. This sample was sold to a frankfort manufacturer as a "meat curing booster"; it was labelled only "Rosella Use contents for 300 pound batch of finished product Koester & Co." Qualitative analysis showed it to be a mixture of calcium phosphate, dextrose, tartaric acid and spices; no sulphite was present. Misbranded for failure to declare the manufacturer's address, net weight and ingredients.

A.L.-150. Temptation Virginia Roasted, Toasted Crystallized Peanuts. American Spanish Almond Co., Brooklyn, N. Y. Labelled: "Contains: Peanuts & Sugar." Coal tar dye present not declared; misbranded.

J.W.-432. Tuna Fish Salad Sandwich. Parkway Gas Station, Orange, Conn. This sandwich contained a fair quantity of fish, but was misbranded because it bore no manufacturer's or packer's name and address.

E.C.-560. Whitato. L. L. Antle & Co., Inc., Atlanta, Ga. Labelled in part: "SAVE \$\$\$ Treat your cut potatoes in your kitchen by using WHITATO — WHITATO costs less than ten cents each 100 lbs. of potatoes treated. Potatoes stay fresh and white *OUT OF WATER* for days when treated with *WHITATO*." Analysis showed 78.80 per cent of sodium metabisulfite (Na₂S₂O₅). Misbranded because the ingredient was not named, because it was not labelled "Contains a Chemical Preservative", and because no net weight was given.

Another sample of this product was analyzed in 1952¹.

Sixty-nine unofficial samples of foods and non-food materials were tested for the State Department of Agriculture, local police, physicians and private individuals; included were five A.O.A.C. collaborative samples of oil and shortenings containing antioxidants and two A.O.A.C. samples of synthetic sweeteners (dulcin and "P-4000"). The following may prove of interest:

5981. Ambergris. A. D. Teraila, Hartford, Conn. This substance, found floating in the Clinton River, proved not to be ambergris but a material resembling synthetic rubber.

4811. Beeswax. Richard Sweet, Hamden, Conn. Melting-point, 48-70° C.; index of refraction, 65°C., 1.4415; saponification equivalent, 1.57. Not beeswax but paraffin.

6938. Carbon from Motor. N. J. Dondi, North Haven, Conn. This carbon did not contain any sugar as suspected, but a considerable proportion of lead chloride was present.

7180. Carl Henry Bulk of the Nicotine Removed Cigarettes. Carl Henry, Inc., New York, N. Y. Nicotine, 1.26 per cent.

7181. Chesterfield Cigarettes. Liggett & Myers Tobacco Co. Nicotine, 1.54 per cent.

¹*Conn. Agr. Expt. Sta. Bul. 585, 41 (1954).*

A sample of this brand analyzed in 1927¹ contained considerably more nicotine (2.77 per cent on the dry basis).

6488A. *Devoe Devran Interior Enamel Quick Drying Machine Tool Gray*. Devoe & Reynolds Co., Inc., New York, N. Y. This paint was labelled to contain: Ester gum-modified phenolic ether resin, 28.3; linseed oil, 7; soy oil, 7; aromatic hydrocarbon, 57.6; and metallic dryers, 0.1, per cent. Analysis showed, however, that the volatile fraction was not an aromatic hydrocarbon but a petroleum distillate boiling between 128 and 156°C. and having a sulfonation test of 65.

6488B. *Devoe Devran Thinner*. Devoe & Reynolds Co., Inc., New York, N. Y. This thinner boiled between 76 and 81.5°C.; it was almost wholly methyl ethyl ketone.

4361. *E-Z Way Bowl Cleanser*. E-Z Way Products, Waterbury, Conn. Labelled "Poison Contains Hydrochloric Acid — Inert Ingredients Water 75%"; also "Guaranteed Not Injurious to Plumbing". Analysis showed it to be a 9.60 per cent solution of hydrochloric acid. While such a solution would not injure porcelain and perhaps not copper fixtures, it could definitely attack iron or steel.

5705. *Paper Caps*. Murray's Variety Store, New Haven, Conn. These caps contained potassium chlorate.

6372. *Rycosol 66 Cutting Fluid*. Reilly-Whiteman-Walton Co., Conshohocken, Pa. This material was submitted with complaints that it had caused dermatitis in several workers. Analysis showed: Mineral oil, 6.98; triethanolamine "tall oil" soap, 3.94; borax ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$), 0.61; sodium nitrite, 0.39; free triethanolamine, 0.35; diethanolamine, 0.21; lead, 0.002, and water, 87.52, per cent; iron, calcium, copper, aluminum, magnesium and manganese, traces. It was suspected that it was the "tall oil" soap to which the workmen were sensitive.

4297. *Soil*. Jacob Motlynizky, Stamford, Conn. This soil was contaminated with 1.07 per cent of machine oil.

3080. *Vitamin D Dairy Concentrate*. Joel G. Freeman, Mt. Vernon, N. Y. Labelled: "Vitamin D₂ (Irradiated Ergosterol concentrate) with an edible emulsifier contains no less than 800,000 U. S. P. units of Vitamin D₂ per cc." This product, which was a solution of vitamin D₂ in 60 per cent aqueous "Tween 20", was intended for fortifying milk with vitamin D; one bottle was supposed to contain sufficient concentrate to fortify 27,000 gallons of milk. A rat assay showed that it contained at least the 800,000 units of vitamin D per cc. that were claimed.

2958. *World Pure White Soap Flakes*. Kendall Mfg. Co., Lawrence, Mass. Analysis showed: Moisture, 0.77; soap, 96.79; free caustic, 0.00; sodium carbonate, 0.88; sodium chloride, 0.09; water-insoluble, 0.13, and alcohol-insoluble, 1.05, per cent; rosin present.

3469. *Yellow Liquid Found in Catch-Basin*. New Haven Park Dept. This proved to be a 0.06 per cent solution of sulphuric acid containing a yellow coal-tar dye.

¹Conn. Agr. Expt. Sta. Bul. 295, 343 (1928).

DRUGS

Alcohol

The two following samples were passed:

H.P.-184. Alcohol. Cedarcrest Sanatorium, Newington, Conn. Tests for methanol, acetone, diethyl phthalate, amyl alcohol and carbonizable residue negative; no bitter or unusual taste.

J.S.-234. Clifton Rubbing Alcohol Compound. Clifton Chemical Co., Brooklyn, N. Y. Alcohol, per cent by volume: Declared, 70; found, 72.30. Acetone present.

Barbiturates

Three barbiturate preparations were examined. Two were passed and one was misbranded:

W.S.-318. Elixir Butisol Sodium. Whitney Pharmacy, New Haven, Conn. This sample was sold by the Whitney Pharmacy in an unlabelled bottle without a prescription. Analysis showed it to be Elixir Butisol Sodium, a preparation of McNeil Laboratories, Inc., Philadelphia, Pa., which contains 0.2 gm./fl. oz. of sodium 5-ethyl-5-secondary butyl barbiturate. It is illegal to sell any barbiturate without a prescription.

W.S.-401. Phenobarbital Tablets. A. M. Schaefer, M.D., Hartford, Conn. These were half-grain phenobarbital tablets; passed.

J.S.-206. Tablets No. 1553 Phenobarbital Sodium. Eli Lilly & Co., Indianapolis, Ind. Phenobarbital sodium, grains/tablet: Declared, 1.50; found, 1.47. O. K.

Dextro-Amphetamine Sulfate Capsules

Six samples of dextro-amphetamine sulfate capsules were submitted by the Commissioner; analyses are given in Table 14. All samples resembled in appearance the "Dexedrine Spansules" of Smith, Kline and French in that the capsules were half brown and half colorless and the contents were in the form of tiny orange and white balls, but because there was no evidence that any of them were being sold as "Dexedrine", all contained the declared quantity of amphetamine, and all were dextro-rotatory, all six samples were passed.

Isopropyl Alcohol Rubbing Compound

The National Formulary IX requires this preparation to contain between 68 and 72 per cent of isopropyl alcohol by volume. Of three official samples, one was passed and two were too strong. Results are given in Table 15.

Miscellaneous Drugs

Seventeen official samples of miscellaneous drugs were examined; 13 were passed and four were adulterated or misbranded:

J.S.-131. Aqueous Suspension Estrogenic Substance Natural 2 mg. VCA Laboratories, Newark, N. J. Infrared comparison indicated the presence of

TABLE 14. DEXTRO-AMPHETAMINE SULFATE CAPSULES

No.	Manufacturer or distributor	Pharmacy	D-Amphetamine Sulfate mgm./capsule Declared	Found	Rotation, 1% soln. of base in N/10H ₂ SO ₄ , circular degrees
W.S.-396	A. Lewis, Newark, N. J.	McKinley Pharmacy, Bridgeport	15.0	14.3	+0.27°
W.S.-398	A. Lewis, Newark, N. J.	Riverside Pharmacy, Riverside	15.0	16.0	+0.23°
W.S.-399	Unknown	Jessup's Pharmacy, Stamford	15.0	14.3	+0.26°
W.S.-401	Unknown	Landy's Pharmacy, Bridgeport	15.0	16.0	+0.23°
W.S.-397	Unknown	Lupe's Drugstore No. 2, Bridgeport	15.0	14.3	+0.27°
W.S.-400	Unknown	Westport Pharmacy, Westport	15.0	16.0	+0.23°

estrogenic substances, and sample contained 2.1 mgm./cc. of chloroform-soluble material. Passed.

TABLE 15. ISOPROPYL ALCOHOL RUBBING COMPOUND

No.	Manufacturer or distributor and brand	Isopropyl alcohol, per cent by vol.	Remarks
J.S.-233	Clifton Chemical Co., Brooklyn, N. Y. <i>Clifton</i>	68.60	Passed
J.S.-238	Puritan Co., New York, N. Y. 91% <i>Isopropyl Alcohol Rubbing Com- pound</i>	87.30	Too strong
J.S.-235	Super Test Products, Brooklyn, N. Y. <i>Isopropyl Alcohol Bathing Compound</i>	76.80	Too strong

H.P.-182 and W.S.-402. Bevidox Crystalline (Vitamin B₁₂, Abbott) 30 micrograms per cc. Abbott Laboratories, North Chicago, Ill. These samples were forwarded to the Division of Nutrition of the U. S. Food and Drug Administration; Dr. O. L. Kline reported that both contained 30 micrograms of vitamin B₁₂ per cc. O. K.

J.S.-241. Boric Acid Ointment U. S. P. Lambert Pharmacal Co., St. Louis, Mo. The U. S. P. XIV requires Boric Acid Ointment to contain between 9 and 11 per cent of boric acid. Analysis of this sample showed 9.97 per cent of boric acid. O. K.

W.S.-389. Compound Tincture of Benzoin, U. S. P. Nelson Baker, New York, N. Y. The U. S. P. XIV requires this preparation to contain between 74 and 80 per cent of alcohol. Analysis of *W.S.-389* showed: Total solids, 19.05 gm./100 cc.; alcohol, 71.20 per cent by volume. Passed.

W.S.-394. Compound Tincture of Benzoin. Hamilton's Pharmacy, Stratford, Conn. Alcohol, 70.48 per cent by volume. Passed.

W.S.-390. Compound Tincture of Benzoin. Eli Lilly & Co., Indianapolis, Ind. Total solids, 17.76 gm./100 cc.; alcohol, 64.10 per cent by volume. Low in alcohol.

J.S.-246. Dill's Aspirin. The Dill Co., Morristown, Pa. Analysis showed: Acetylsalicylic acid, 4.99, and free salicylic acid, 0.001, grains/tablet. O. K.

J.S.-245. Dill's Candy Cough Lozenges. The Dill Co., Morristown, Pa. Labelled "Contains Licorice, Horehound, Cubeb, Cayenne Pepper, Tolu, Sugar, and Flavoring". Misbranded because the label bore no net weight declaration.

J.S.-244. Dill's Royal Cough Syrup. The Dill Co., Morristown, Pa. Labelled: "Ingredients: Alcohol 1½%, Chloroform 2½ Minims per fl. oz., Potassium Guaiacol Sulfonate, Menthol, Terpin Hydrate, Dilute Hydrocyanic Acid, Cascara Sagrada, Flavored with Pine Tar and Aromatics. Caramel color."; also "For Coughs and Hoarseness Due to Colds", and "Important: In case of a persistent cough or high fever, it is advisable to consult a physician". Since it was believed that this final statement met the warning requirements of the law, sample was passed.

J.S.-242. Eljay Saccharin Tablets Effervescent Soluble. Eljay Drug Co., Newark, N. J. Labelled: "Contains Saccharin Insoluble 1/5 gr., Sodium Bicarbonate, and Potassium Bitartrate. Each tablet in solution yields 1/4 grain soluble saccharin U. S. P." Analysis showed 0.257 grain/tablet of saccharin sodium. O. K.

R.W.-378. Maltine with Cod Liver Oil. Chilcott Laboratories Division, The Maltine Co., Morris Plains, N. J. Labelled in part: "Contains pure, biologically assayed, medicinal cod liver oil 30% by volume". Analysis showed 22.74 per cent of oil by weight, and 29.40 per cent by volume. Passed.

A sample of this preparation analyzed in 1952 was found deficient in oil.¹

J.S.-260. Norvet for Itching, Scratching Dogs & Cats Suffering from "Fungitch" (External Fungus Infection). Northwest Veterinary Supply, Hartford, Conn. Labelled: "Active Ingredients: Digenol (2.2' Di-hydroxy-5.5' Dichlorodiphenyl Methane) 1% in 70% Isopropyl Alcohol. Inert Ingredients: 99%." Analysis showed 70.0 per cent of isopropyl alcohol by volume; passed.

J.S.-257. Pabst Tonic. Pabst Brewing Co., Milwaukee, Wis. Declared ingredients were "Vitamins B and G, malt and hops — calcium hypophosphite — iron pyrophosphate". Misbranded because as a special dietary food it should "bear a statement of the proportion of the minimum daily requirement for such (vitamins and minerals) supplied by such food when consumed in a specific quantity during a period of one day" (Federal Regulations 125.01 — 125.05); also misbranded because not all ingredients were declared.

J.S.-247. Premarin Tablets. Ayerst, McKenna & Harrison Ltd., New York, N. Y. "Premarin" is stated to be "A preparation of orally active, water-soluble, conjugated estrogens derived from pregnant mares' urine"². These tablets were claimed to contain 1.25 mgm. of "Premarin"; analysis showed 0.77 mgm./tablet of chloroform-soluble material. Passed.

J.S.-252. Prescription No. 1893494. Starr Bros., New London, Conn. This prescription called for "Premarin" tablets; the tablets supplied were flatish orange-yellow ovals that closely resembled the authentic tablets *J.S.-247* but did not have their gloss, weighed 0.01 gm. more, and contained only 0.57 mgm. of chloroform-soluble material. Nevertheless infrared curves of the chloroform extracts from both samples appeared identical, so sample was passed.

J.S.-248. Trojan Stey. North Pharmacal Co., New York, N. Y. Labelled "Contains: Tetracaine 1% in a specially prepared base." Passed except that this appeared to be a new drug for which no new drug application had been filed.

Forty-eight unofficial samples were analyzed for the Food and Drug Commission, the Pharmacy Commission, the State Department of Health, the Norwich State Hospital, the New Haven Health Department, the Hamden, New Haven, Stamford, Stratford and Waterbury Police Departments, a pharmacist and private citizens. The police samples were mostly suspected narcotics. Thirteen samples were passed and 35 were adulterated, misbranded or otherwise objectionable. The following samples may prove of interest:

¹Conn. Agr. Expt. Sta. Bul. 585, 59 (1954).

²Modern Drug Encyclopedia, 5th Ed., p. 784 (1952).

4145. Anestol Liquid Analgesic Balm. Norwich Pharmacal Co., Norwich, N. Y. This sample was submitted because a baby had swallowed some of it, fortunately without harmful effects. It was labelled: "Active ingredients: Methyl Salicylate Synthetic and Menthol. Alcohol 64%." Analysis showed: Methyl salicylate, 9.79 per cent; alcohol, 59.60 per cent by volume; test for methanol negative.

5385. Dent's Sleep-Ettes. C. S. Dent & Co., Cincinnati, Ohio. Labelled "Each tablet contains Sodium Bromide (5 Grains)". Another sample of this preparation was reported in 1952¹; the present sample was considered misbranded for the same reasons, namely: (1), for failure to carry warning that frequent or continued use might lead to mental derangement; and (2), 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.

7605. Floropryl 0.05% in Peanut Oil. Maxwell Drug, Hartford, Conn. This sample, submitted by the Pharmacy Commission, was put up by Maxwell Drug on a prescription calling for 0.05% "Floropryl" in peanut oil. "Floropryl", which is the brand name of Merck & Co., Inc., for their di-isopropyl fluorophosphate, is supplied as a 0.1 per cent solution in peanut oil. Since the prescription called for only 0.05 per cent strength, the druggists claimed they had diluted the material as received from Merck with an equal volume of peanut oil; but because of the patient's complaint of eye irritation the Pharmacy Commission had submitted the sample to this laboratory to establish whether the prescription had in fact been correctly compounded.

Analysis showed that the only oil present was peanut oil, and that the fluorine content of the sample was equivalent to 0.052 per cent of di-isopropyl fluorophosphate, so the prescription was correctly compounded.

7606. Floropryl 0.1% in Peanut Oil. Merck & Co., Inc., Rahway, N. J. Di-isopropyl fluorophosphate, 0.092 per cent; oil was peanut oil. O. K.

3223. Genuine Medicinal Mineral Oil U. S. P. Regal Drug Co., New Haven, Conn. Adulterated with 1.00 per cent of alcohol.

6391. Marijuana Cigarettes. New Haven Police Dept. These cigarettes did not contain cannabis (marijuana) as suspected, but "wild indigo", which is not a narcotic.

5928. Pheny-O-Caffeine. Huxley Pharmaceuticals, New York, N. Y. Labelled: "Each pill contains acetanilide 2 grains, caffeine and camphor." Acetanilide, caffeine and camphor present; passed.

5384. Potassium Permanganate, 100 Tablets 5 Grain. Columbia Medical Laboratories, New York, N. Y. The N. F. IX requires Potassium Permanganate Tablets of 300 milligram or larger size to contain between 94 and 106 per cent of the labelled quantity of the compound. Analysis of this sample showed 4.94 grains/tablet of potassium permanganate; O. K.

6844. Prescription No. 5630. Mt. Carmel Pharmacy, Mt. Carmel, Conn. This prescription called for one drachm of ammonium chloride and one fluid

¹Conn. Agr. Expt. Sta. Bul. 585, 57 (1954).

ounce of syrup of tolu made up to 4 fl. oz. with water; it was submitted by the pharmacist because of a complaint that while it was all right when received it later developed a foreign odor. One drachm/4 fl. oz. is equivalent to 3.29 gm./100 cc. of ammonium chloride; analysis showed 3.32 gm./100 cc. of ammonium chloride, so the sample was correctly compounded. It did have a faint odor of toluene, however, which we suspected was acquired as a result of the customer's having interchanged the cap with a cap from a bottle of paint remover.

7160. *Sterile Aqueous Solution Demerol Hydrochloride*. Winthrop-Stearns, Inc., New York, N. Y. Demerol hydrochloride, mgm./cc.: Declared, 50; found, 32. This sample was submitted by the chief pharmacist of the Norwich State Hospital, who suspected that it had been tampered with. Our analysis showed that his suspicion was correct, and that the original material had been diluted with one-half volume of water, presumably to conceal clandestine abstraction of some of this narcotic.

5927. *Unknown Capsules*. New Haven Police Dept. These capsules were submitted because they were suspected of containing a narcotic, but the contents proved to be a mixture of acetophenetidin and antipyrine.

4271. *Unknown Powder*. Stratford Police Dept. This material was suspected of being cantharides, but analysis showed it to be only common salt.

Cosmetics

Ten official and six unofficial samples of cosmetics (including perfumes) were examined for the Commissioner, New Haven Police and a physician; 11 samples were passed and five were adulterated or misbranded:

W.S.-366. *BBB Beauty Bath Baché Bain de Beauté*. Ella Baché, Paris — New York. This preparation was labelled: "BEAUTY BATH is especially recommended for sensitive skin and even for the delicate skin of babies. Women who cannot wash their face with soap will use this cream mixed with milk successfully. Remove sponge from golden tube. Fill tube with milk until the first line. Then fill tube to brim with cream. Close and shake tube to blend contents. Pour emulsion inside the cover of the jar. Wash face and neck vigorously with sponge and pat dry with soft towel and even after the first treatment you will find your skin clean and soft as you have never felt it before. Use night and morning." Analysis showed: Water, 67.55; stearic acid, 31.10; borax ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$), 1.14, and perfume and undetermined, 0.21, per cent. The pH was 7.20.

The sample was submitted because of a consumer complaint that it had caused a rash, but it was tried on several members of our staff with no ill effect, so probably the complainant's reaction was an allergic one. Sample was passed.

3551 to 3555 inclusive. *Chanel No. 5*. Chanel Inc., New York, N. Y. These samples were submitted by the New Haven Police, who had seized stocks of perfume labelled "Chanel No. 5" being sold at a very low price that they suspected were not genuine; 3551 was an authentic sample submitted for comparison. Analyses were as follows:

No.	Alcohol, per cent by vol.	Esters (as ethyl acetate), gm./100 cc.
3551	73.50	2.64
3552	72.62	1.76
3553	61.37	3.12
3554	63.25	2.86
3555	52.25	2.02

As can be seen, none of the other samples had the same analysis as the genuine "Chanel No. 5" (3551), and only 3552 had an alcohol content approaching the genuine. The odors were also different, and while all samples had an amber hue the colors were lighter in all cases (most markedly so in 3552 and 3553).

4294. *Charles Antell Formula No. 9 with Lanolin and Hormones*. Charles Antell, Inc., Baltimore, Md. Labelled: "Contains Lanolin, Hormones, Neutral Oils, and a Bacteriostatic and Fungistatic Agent, Methyl Parasept. — For the Hair and Scalp." Submitted by a physician to be tested for sulphur and mercury, neither of which was present. ("Methyl Parasept" is methyl parahydroxybenzoate.) Passed.

J.S.-221. *Cotillion Cream Sachet*. Avon Products, Inc., New York, N. Y. This sample, labelled as "A perfume in cream form", was submitted because of a consumer complaint that it caused "skin burn". It was not analyzed, but was tested on the hands and arms of three members of our staff with no ill effect, and consequently was passed.

J.S.-271. *Faun Perfume*. Ravel, Paris — New York. Passed.

W.S.-314. *Gordon-Moore's Ruby Red Toothpaste, Flavour: Standard Peppermint*. Gordon Moore Ltd., London, England. Analysis showed: Water and peppermint flavoring, 17.78; calcium carbonate (chalk), 40.44, and sugar and coloring matter (tin lake of cochineal), 41.78, per cent. Passed.

J.S.-272. *Parfum Ibry*. Ybry, Inc., New York, N. Y. Passed.

J.S.-253. *Skin Freshener*. Barbara Gould, New York, N. Y. Analysis showed this to be a faintly colored (flesh-pink) 19.15 per cent solution of ethyl alcohol. Passed.

H.P.-181 and J.S.-254. *Special Throat Cream*. Barbara Gould, New York, N. Y. Labelled: "An invisible chin strap and contour treatment in cream form. Apply after cleansing, stroke upward on throat and neck, to stimulate circulation, thus help firm flabby skin, clear dull old-looking throat and neck. Use morning and night. Active Ingredient: Oil of Capsicum."

These samples were submitted because of a user's complaint that they caused a rash on her throat. It is true that concentrated solutions of capsicum can produce an "intolerable burning"¹ sensation, but when five members of our staff applied this "Special Throat Cream" to themselves there was only a slight sensation of warmth upon application and no irritation developed even upon leaving the material on overnight. For these reasons both samples were passed.

¹U.S. Dispensatory XXIV, p. 216

J.S.-214. Tintair Home Hair Coloring Touch-Up. Bymart-Tintair, Inc. New York, N. Y. This sample was submitted because another lot of this product had exploded. It consisted of a carton containing two bottles, labelled respectively "Tintair Touch-Up Color Essence — 2 Bamboo Blonde" and "Tintair Touch-Up Color Releaser"; an accompanying circular read: "Do not cover mixture at any time. It should not be mixed or stored or kept in a closed receptacle as it may burst. Throw away whatever remains of mixture".

Analysis showed the "Color Essence" bottle to contain an ammoniacal dye solution perfumed with lavender, and the "Color Releaser" bottle to contain a 6.22 per cent solution of hydrogen peroxide. If the complainant actually mixed two such solutions and stored them in a tightly stoppered bottle (as was understood to be the case), explosion of the container could easily be explained by the oxygen pressure produced by reaction between the hydrogen peroxide and the organic constituents of the "Color Essence". Misbranded for failure to give sufficiently prominent warnings of danger of explosion.

J.S.-270. White Christmas Parfum. Laravel, New York, N. Y. Passed.

COLLABORATION WITH OTHER DEPARTMENTS

Six hundred and fifty-one samples, not included in other reports from this laboratory, were analyzed for other Federal, State and Station departments. Distribution was as follows:

	Samples
State Dept. of Health (narcotics)	105
U. S. Geological Survey (water)	54
U. S. Treasury Dept. (narcotics)	10
State Police	56
Station departments:	
Administration	7
Biochemistry	9
Entomology	281
Forestry	4
Plant Pathology	7
Soils	102
Tobacco Laboratory	16
	651

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	2,020	12
Thermometers	106	17

INDEX

	Page
Acetophenetidin and antipyrin in capsules	52
Acetylsalicylic acid tablets	49
Acid, boric, ointment	47
Acid, hydrochloric, in bowl cleanser	46
Acid, sulphuric, in catch-basin	46
Alcohol	47
Alcohol, isopropyl, rubbing compound	47, 49
Ale	7, 14
Ambergris	45
Amphetamine sulfate, dextro, capsules	47, 49
"Anestol Liquid Analgesic Balm"	51
"Antell, Charles, Formula No. 9"	53
Antipyrin and acetophenetidin in capsules	52
Apples	23, 24, 25, 38
Apple wine, copper in	15
Babcock glassware	54
Bacon	29
Bacon chips	7
Baked products	6, 14
Barbiturates	47
"BBB Beauty Bath"	52
Beans, lupini	41
Beer	7, 8, 14
Beeswax	45
Benzene hexachloride in corn on the cob	39
Benzoin, compound tincture	49
Beverages, carbonated	10, 14, 15
"Bevidox Crystalline"	49
Blueberries	24
Boric acid ointment	49
Bowl cleanser	46
Butisol sodium elixir	47
Butter	14, 15, 16
Cake	6, 7, 14
Candy	13, 14, 17, 49
Capsicum in "Throat Cream"	53
Caps, paper	46
Capsules, unknown	52
Carbonated beverages	10
Carbon from motor, lead chloride in	45
Carrots	14, 15
Cereals	14, 21, 44
"Chanel No. 5"	52
"Charles Antell Formula No. 9"	53
Cheese	16, 18
Cheese chips	6, 7
Chicken fat	15
Chocolate candy	13
Cider	27
Cigarettes	16, 45
Cigarettes, marijuana	51
Clam bisque	23
Clam fry mix	14
Clams	23
Cleanser, bowl	46
Cocoa	13
Cod fish cakes	23
Cola drinks	10, 11

INDEX—Continued

	Page
Collaboration with other departments	54
Confectioner's glaze	42
Confectionery	13, 14, 17, 49
Contaminated or decomposed foods	14
Cookies	6, 14, 21
Copper in apple wine	15
Corn meal	44
Corn muffin mix	14, 21
Corn oil	34
Corn on the cob, benzene hexachloride in	39
Cosmetics	52
"Cotillion Cream Sachet"	53
Cough drops	49
Cough syrup	49
Cream	17
"Cream Sachet, Cotillion"	53
"Cream, Throat"	53
Currants	14
Dairy products	15, 16, 18
Dates	14
Deceptively packed foods	17
Decomposed or contaminated foods	14
Demerol hydrochloride solution	52
Dessert, frozen	42
Dressings, salad, and mayonnaise	36
Drugs	47
Dye, hair	54
Eclairs	6
Eggs	22
Extracts and flavors	22
Evaporated milk	17
Fat, chicken	15
Fennel seeds	14
Fish	14, 15, 22
Flatfish, filet of	14
Flavors and extracts	22
"Floropryl"	51
Flour	14, 16
Foods	6
Foods, miscellaneous	42
Frankforts	29, 30
"Freshener, Skin"	53
Frozen dessert	42
Fruit, fresh	23, 25
Fruit juices	24
Gelatin	14
Ginger ale	11
Ginger snaps	21
Glassware, Babcock	54
Glaze, confectioner's	42
Grape drinks	11, 12
Grape juice	24, 26
Gum	21
"Gumpert's Sky High Formula 25386"	44

INDEX—Continued

	Page
Hair dye	54
Ham and cheese sandwich	44
Hamburg	29, 30
Hamburg, Kosher	29, 31, 32
Honey	39
Horseradish	44
Hydrochloric acid in bowl cleanser	46
Ice cream, imitation	42
Ice cream stabilizer	44
Isopropyl alcohol rubbing compound	47, 49
Jelly, "mint"	28
Juice, grape	24, 26
Juice, orange	24, 26
Juices, fruit	24, 26
Kosher hamburger	29, 31, 32
Lard	29
Lead chloride in carbon from motor	45
Lettuce leaves	39
Lobster	23
Lobster salad sandwich	44
Lupini beans	41
Macaroni	7
Mackerel	14
"Maltine with Cod Liver Oil"	50
Maple syrup	39, 41
"Maypl Oats"	44
Marijuana cigarettes	51
Marshmallow, raspberry	13
Mayonnaise and salad dressings	36
Meat and meat products	14, 29, 30, 31, 32
Milk	15, 16, 17, 19
Milk, evaporated	16
Milk, vitamin D	16, 17, 19
Mineral oil	51
"Mint" jelly	28
Miscellaneous foods	42
"Nectars"	12
"Norvet"	50
Nuts	14, 45
"Oats, Maypl"	44
Oil, corn	34
Oil, mineral	51
Oil, olive	35
Oil, rice bran	33, 34
Oils, blended	33
Ointment, boric acid	49
Oleomargarine	34
Olive oil	35
Onion chips	6
Orange juice	24, 26
"Pabst Tonic"	50
Paint	46

INDEX—Continued

	Page
Paint thinner	46
Peanut brittle	13
Peanuts	45
Pear nectar	12
Peas	14, 41
Pepper	37
Peppers	14, 41
Perfume	52, 53
Permanganate, potassium, tablets	51
Personnel changes	4
Phenobarbital	47
"Pheny-O-Caffeine"	51
Pickles	14, 41, 44
Pie mix, banana	21
Pies, lemon	15
Pineapple nectar	12
Polyethylene glycol 400 monostearate	44
Polyoxethylene stearate	44
Pork chops	14
Potassium permanganate tablets	51
Potatoes, sulphite in	41
Poultry seasoning	37
"Premarin" tablets	50
Prescriptions	50, 51
Preserves	14, 15, 42
Pudding mix	17
Pumpkin	41
Raisins	14
Rice	14
Rice bran oil	33, 34
Roast beef sandwich	44
Rodent urine in flour	14
Rolls, mix for	14, 15
Root beer	10, 11, 16
"Rosella"	45
Saccharin tablets	50
"Sachet, Cotillion Cream"	53
Salad dressings and mayonnaise	36
Salt	14, 52
Sandwiches	44, 45
Saponin in beverages	10
Sausages	32
Seasoning, poultry	37
Selenium in soil	39
Shellac in confectioner's glaze	42
Shellfish	22
Shrimp chips	7
"Skin Freshener"	53
"Sleep-Ettes, Dent's"	51
Soap flakes	46
Sodas	10
Sodium metabisulfite	45
Soil, machine oil in	46
Soil, selenium in	39
Sole, filet of	14, 15
Soup	36
Spices	37
Spray residues	37

INDEX—Continued

	Page
Squash	41
Stabilizer, ice cream	44
Strawberries, wild, preserved	42
Sugar	14
Sulphite in "Whitato"	45
Sulphuric acid in catch-basin	46
Swordfish	23
Syrup, cough	49
Syrup, maple	39, 41
Thermometers	54
Thinner, paint	46
"Throat Cream"	53
Tin in diced carrots	15
"Tintair Home Hair Coloring Touch-Up"	54
"Tonic, Pabst"	50
Toothpaste	53
"Trojan Stey"	50
Tuna	23
Tuna fish salad sandwich	45
Urine, rodent, in flour	14
Vanilla flavor	22
Vegetable products	14, 15, 39, 41
Vinegar, wine	42, 43
Vitamin B ₁₂	49
Vitamin D milk	16, 17, 19
Walnuts	14
Water	42
Whiskey	13
"Whitato"	45
Wine, apple, copper in	15
Wine vinegar	42, 43