

---

---

The 64th Report on

# FOOD PRODUCTS

And the 52nd Report on

# DRUG PRODUCTS, 1959

Bulletin 647

October, 1961

---

---



H. J. FISHER  
Chief Chemist

THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION  
NEW HAVEN

## EDWARD ELLIS

Edward Ellis died suddenly of a heart attack on October 8, 1959; he was 63 years old.

Mr. Ellis was born and grew up in the Fair Haven section of New Haven and lived in the city all his life. He had served in the New Haven Fire Department and retired as a captain before joining the Station staff as watchman in February 1945. When John Sprague retired on October 31, 1956, Ellis was transferred to the grinding room of the Analytical Chemistry Department to take his place. He showed an immediate grasp of the problems involved in sampling agricultural products, and was extremely conscientious in carrying out his portion of the analytical process upon which the accuracy of our final results was so completely dependent. At the time he died he was only the sixth in a line of those who had served in this capacity that stretched for 70 years from 1889 to 1959.

He was survived by a son and a daughter.

## CONTENTS AND SUMMARY

Material	Page	From		Total	Adulterated, misbranded, or otherwise objectionable
		Dept. of Consumer Protection	Other sources		
<b>Foods</b>					
Alimentary pastes .....	6	10	....	10	9
Baked products .....	7	14	3	17	9
Beverages, carbonated, etc.:					
Ale and beer .....	10	30	....	30	29
Fruit sodas .....	11	5	....	5	3
Root beer .....	12	14	....	14	8
Uncarbonated fruit drinks .....	12	17	....	17	10
Miscellaneous .....	16	2	....	2	1
Breakfast cereals .....	16	1	9	10	4
Cacao products .....	16	....	9	9	1
Coffee .....	18	1	1	2	1
Confectionery .....	18	25	....	25	20
Contaminated or decomposed foods .....	20	148	44	192	95
Dairy products:					
Butter oil, cheese and dessert topping ..	25	1	3	4	1
Evaporated milk .....	26	....	17	17	3
Ice cream and ice cream mixes .....	26	2	10	12	1
Unfortified fluid milk .....	26	....	4	4	....
Vitamin D milk .....	26	....	225	225	10
Vitamin-mineral fortified milk .....	27	....	9	9	8
Vitamins A and D skimmed milk .....	27	....	13	13	9
Deceptively packaged foods .....	31	41	....	41	36
Egg products .....	32	1	....	1	1
Extracts and flavors .....	32	8	....	8	2
Fish .....	32	3	....	3	2
Flour .....	33	....	9	9	7
Fruit and fruit juice:					
Apple juice .....	35	7	....	7	1
Canned fruit .....	35	13	....	13	5
Grape juice .....	36	32	....	32	11
Orange juice .....	41	107	1	108	23
Other fruit juices .....	42	7	....	7	....
Jams and jellies .....	43	12	....	12	7
Meat and meat products:					
Bologna .....	46	4	....	4	....
Frankforts .....	46	86	1	87	43
Hamburg .....	51	208	11	219	61
Liverwurst .....	53	8	1	9	5
Miscellaneous .....	53	4	....	4	3
Polish sausage .....	54	4	....	4	3
Pork sausage .....	54	24	....	24	8
Nuts .....	55	5	....	5	5
Oils, vegetable .....	55	28	5	33	20
Popcorn .....	56	12	....	12	10
Pudding mixes .....	57	....	4	4	1
Salad dressings .....	57	9	....	9	2

## CONTENTS AND SUMMARY (Concluded)

Material	Page	From		Total	Adulterated, misbranded or otherwise objectionable
		Dept. of Consumer Protection	Other sources		
Spices and condiments .....	59	20	....	20	5
Spray residues:					
Aminotriazole in cranberries .....	60	56	1	57	7
Apples .....	62	10	....	10	....
DDT in milk .....	62	10	529	529	37
Forage .....	63	11	6	17	17
Miscellaneous .....	63	....	22	22	19
Syrups .....	64	6	1	7	....
Vegetables and vegetable products:					
Sweet potatoes .....	65	49	....	49	38
White potatoes .....	67	19	....	19	17
Miscellaneous .....	68	2	3	5	1
Vinegar .....	68	23	7	30	18
Water .....	71	....	33	33	4
Miscellaneous:					
Dog foods .....	71	4	....	4	....
Fuel oil additives .....	71	....	7	7	....
Other miscellaneous products .....	72	22	69	91	40
Totals .....		1,115	1,057	2,172	681
Drugs .....	77	12	2	14	3
Cosmetics .....	79	7	27	34	18
Devices .....	81	2	....	2	....
Collaborative .....	85	....	316	316	....
Total for all .....		1,136	1,402	2,538	702
Babcock glassware, etc. ....	85	....	1,816	1,816	2

## The Sixty-Fourth Report on FOOD PRODUCTS and the Fifty-Second Report on DRUG PRODUCTS 1959

H. J. Fisher

This report summarizes examinations of foods, drugs, cosmetics and miscellaneous materials submitted by the Commissioner of Consumer Protection and the Commissioner of Agriculture during the calendar year 1959, as well as like materials analyzed for the U. S. Geological Survey, the State Police, the State Supervisor of Purchases, local 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.

Two thousand, two hundred and twenty-two samples of foods, drugs, cosmetics, devices and miscellaneous materials were examined during the year. This was an increase of 294 over the number of samples analyzed in 1958, and of 621 over the year before, and represented an all-time high.

For the second year the number of samples examined for spray residues was greater than that of any one class of foods tested for other forms of adulteration and misbranding, totalling 635. Other classes of foods of which 100 or more samples were analyzed were: Meat and meat products (351 samples, of which 219 were hamburger); dairy products (284 samples, of which 247 were vitamin-fortified milks); contaminated or decomposed foods (192); and fruit and fruit juices (167, of which 108 were orange juice).

One member of the staff died during 1959; the obituary of Edward Ellis appears on page 2 of this bulletin. Four new members were added this year: Mr. Raymond West (B.S., University of Vermont) joined us as assistant chemist on February 16; Mr. Walter Oliver was employed as feed and fertilizer analyst on March 2; Mr. Richard Botsford (B.S., University of Connecticut) was appointed on March 20 to fill the position of spectrographer left vacant by the death of Waddy Mathis the preceding year; and on November 10 Mr. Frank Lesco was transferred from the Biochemistry Department to take over the duties in the grinding room formerly filled by Edward Ellis.

The writer wishes to express his gratitude to all the members of the staff for their loyal and efficient work. All had some part in carrying out

the tests reported in this bulletin, and if a few are singled out for mention it is only because a greater proportion of their work has lain in the fields of food, drug and cosmetic analysis rather than in those of feed, fertilizer and pesticide analysis whose results are reported elsewhere. In general most of the food analyses were made by Messrs. Wickroski, Squires and West, while the drugs and cosmetics were examined by Mr. Merwin. Dr. Hankin, together with Mr. George Smith, Miss Barbara Johnson and the other members of his staff, was responsible for all vitamin assays. Miss Shepard made all of the microscopic examinations and did most of the testing listed under "Contaminated or Decomposed Foods". Mr. Keirstead and Miss Agostini ran all the spray residue determinations (and particular note should be made of the fact that these two worked night and day seven days a week while the aminotriazole-in-cranberries project was on). After his appointment Mr. Botsford took over the spectrographic and infrared analyses and flame photometric sodium and potassium determinations that Miss Agostini had carried on since the death of Waddy Mathis.

In assigning credit, the work of Mrs. Gillett and Miss Caputo in typing and reading proof on this bulletin should not be overlooked. Attention should also be called to the fact that the responsibility for obtaining the official samples listed herein, and for taking any legal action resulting from our findings, rested with Agricultural Commissioner Gill and Commissioner of Consumer Protection Frassinelli, Division Chiefs Parry, Clark and Plank, and their inspectors. Except insofar as this Station possesses joint authority with the Commissioner of Consumer Protection in the promulgation of regulations, it has no actual part in enforcement of the Food, Drug and Cosmetic Act; its functions under that law are only to arrive by analysis or other means at conclusions as to whether a particular sample does or does not violate the law, and to report its findings to the appropriate Commissioner.

## FOODS

### Alimentary Pastes

Five samples of egg noodles, two each of macaroni and vermicelli, and one of a noodle product called "baked barley", were submitted by the Commissioner; one sample was passed and nine were misbranded:

*K.F.-2317. Goodman's Elbow Macaroni No. 35, Vitamin Enriched, Unsalted.* A. Goodman & Sons, Inc., Long Island City, N. Y. Labelled: "For Low Sodium Diets—Each 100 grams of Goodman's uncooked macaroni contains approximately 1.6 mgs. of sodium or less than 0.5 mgs. per ounce. An average serving of cooked macaroni (3½ oz.) contains less than 0.5 mgs. of sodium and approximately 100 calories." Analysis showed: Water, 8.26, ash, 0.68, protein, 12.66, fiber, 0.75, available carbohydrate, 76.80, and fat, 0.83, per cent; calories/100 gm., 365; sodium, 7.4 mg./100 gm. Sodium over four times claim; misbranded.

*K.C.-1139 and K.F.-2181. Goya Brand Fidelini, Enriched.* Unanue & Sons, Inc., New York, N. Y. Average analysis showed; Water, 9.50,

protein, 12.50, ash, 1.14, fiber, 0.39, lipoids, 0.12, and lipid P<sub>2</sub>O<sub>5</sub>, 0.04, per cent; riboflavin, 1.36, and niacin, 36.8, mg./lb.; egg yolk solids absent. Low in riboflavin and failed to carry required statement about the proportion of the minimum daily requirement of the vitamins supplied by a specified quantity of the product; misbranded.

*K.F.-2294 and 2347. Mrs. Asien's Home Style World's Finest Egg Noodles.* Asien Noodle Co., Inc., Wheeling, Ill. Labelled "contains not less than 9% Egg Yolk Solids". Average analysis showed: Water, 10.33, lipoids, 6.00, lipid P<sub>2</sub>O<sub>5</sub>, 0.115, and egg yolk solids (dry basis), 4.83, per cent; tartrazine absent. Deficient in egg yolk solids; misbranded.

*K.F.-2175 and 2176. Prince Egg Noodles.* Prince Macaroni Mfg. Co., Lowell, Mass. Labelled: "Contains 12% protein. Defatted Wheat Germ Added—Salt Free—Enriched. Each 100 grams (3½ oz.) uncooked contains about 1.6 milligrams of sodium." Average analysis showed: Water, 7.14, protein, 13.85, lipoids, 5.48, lipid P<sub>2</sub>O<sub>5</sub>, 0.12, and egg yolk solids (dry basis), 5.05, per cent; sodium, 9.4 mg./100 gm.; riboflavin, 2.18, and niacin, 28.7, mg./lb. Sodium content almost six times claim; misbranded.

*J.B.-398. Prince Medium Shells Macaroni 40, Vitamin Enriched, Wheat Germ Added.* Prince Macaroni Mfg. Co., Lowell, Mass. Riboflavin, 2.07, and niacin, 38.2, mg./lb., fill of container 70 per cent. Passed.

*K.F.-2177. Prince New! Vegetable Egg Noodles.* Prince Macaroni Mfg. Co., Lowell, Mass. Labelled: "Equivalent to 37% Fresh Vegetables. SALT FREE.—Each 100 grams (3½ oz.) uncooked contains about 1.6 milligrams of sodium." Analysis showed: Water, 7.70, protein, 12.77, lipoids, 4.58, lipid P<sub>2</sub>O<sub>5</sub>, 0.10, and egg yolk solids (dry basis), 3.71, per cent; sodium, 42.1 mg./100 gm.; riboflavin, 2.53, and niacin, 35.1, mg./lb.. Deficient in egg yolk solids; sodium content 26 times claim; misbranded.

*K.C.-1246. Streit's De Luxe Baked Barley.* A. Streit, Inc., New York, N. Y. Labelled "Streit's Pure Egg Noodle Products—Made from flour, egg yolk and salt". Analysis showed: Moisture, 7.12, lipoids, 5.60, lipid P<sub>2</sub>O<sub>5</sub>, 0.11, and egg yolk solids (dry basis), 4.35, per cent. Somewhat deficient in egg yolk solids; name misleading; misbranded.

### Baked Products

Six samples of bread, three of toast, two each of cookies and whole wheat wafers, and one of crackers, were examined for the Commissioner; six samples were passed and eight were misbranded:

*K.F.-2006. Devonsheer Protein Wafers 100% Whole Grain Wheat.* Devonsheer Melba Corp., New York, N. Y. Labelled: "Approx. 5 calories per wafer NO SUGAR NO SHORTENING . . . Unsalted if so indicated on package Milligrams of Sodium Per 100 grams 10 Per Slice 0.2." Analysis showed: Water 8.23, ash, 2.91, protein, 8.09, fiber, 2.30, available carbohydrate, 77.03, and fat, 1.44, per cent; calories/100 gm., 353; calories/1.70 gm. piece, 6.0. Passed.

*K.C.-1144. Dietetic Cookies by Hills.* Hills of Westchester, Washington, D. C. Labelled: "Salt Free, Sugar Free . . . Contains 1.25%

sucaryl". The label also carried an analysis, which compared as follows with our findings:

	Declared	Found
Protein, per cent .....	11.	12.37
Total carbohydrate, per cent .....	40.	52.94
Fat, per cent .....	37.	28.03
Sodium, mg./100 gm. ....	90.	23.
Average weight per cookie, gm. ....	3.5	4.58
Calories per cookie .....	10.	23.
Calories per ounce .....	130.	144.
Sodium, mg./cookie .....	2.0	1.1
Net weight, oz. ....	10.	7.76

Of the total carbohydrate, 1.73 per cent was sucrose and 1.70 per cent reducing sugar. Short weight 2.24 oz.; not "Sugar Free"; misbranded.

*A.L.-543. Divigard Home Style Hearth Baked Italian Bread.* Divigard Baking Co., Wolcott, Conn. Labelled: "Ingredients: Flour, Yeast, Water, Salt. 49 calories per average slice.—Protein 13.88". Analysis showed: Water, 34.78, ash, 1.55, protein, 10.24, fiber, 0.28, available carbohydrate, 52.83, and fat, 0.32, per cent; calories/100 gm., 255. Low in protein; misbranded.

*A.L.-534. Jane Parker Milk Bread.* Great Atlantic & Pacific Tea Co., New York, N. Y. Labelled "Each loaf contains the equivalent of A FULL 1/2 PINT OF WHOLE MILK"; also bore vitamin enrichment claims. Analysis showed: Water, 35.07, ash, 2.01, protein, 8.36, fiber, 1.47, lactose, 2.34, other available carbohydrate, 44.89, and fat 5.86, per cent; calories/-100 gm., 275; calories/33 gm. slice, 92; net wt., 21.13 oz.; Reichert-Meissl value of fat, 6.7; estimated per cent milk from R. M. value, 37; estimated per cent milk from lactose, 52. Passed.

*K.F.-2293. Loeb Dietetic Low Sodium Diet Toast with added gluten MADE WITHOUT SALT.* Loeb Dietetic Food Co., Inc., New York, N. Y. Labelled: "Ingredients: Wheat, gluten and soy flours, malt, skim milk solids, calcium phosphate, corn oil, yeast and LOEB STEDASALT, a table salt substitute containing ammonium chloride, potassium chloride, citric acid, glutamic acid.—Sodium content 20 mgs. per slice. Average calories per slice: 31". Analysis showed: Water, 8.80, ash, 1.58, protein, 15.73, fiber, 0.38, available carbohydrate, 71.28, and fat, 2.23, per cent; calories/100 gm., 368; calories/19.40 gm. slice, 35; sodium, mg./100 gm., 13; sodium, mg./slice, 1.2. Passed.

*S.O.-433. Minin Bread.* Minin Wheat Inc., Stamford, Conn. Labelled: "A Natural, Sweet, Non-Acid Bread—Contents: Non milled sliced organically grown wheat kernels, fresh yeast.—No Preservative—No Fat—No Starch—No Flour—No Sugar—No Salt—A Wheat PROTEIN Bread—100% Of The Wheat Germ". Analysis showed: Water, 44.18, ash, 1.30, protein, 9.82, fiber, 1.98, available carbohydrate, 42.19, and fat, 0.53, per cent; calories/100 gm., 213. Misbranded because not fat, starch and sugar-free (most of the 42 per cent available carbohydrate must be starch) and because the sodium content was not stated.

*S.O.-432. Minin Honey Cookies.* Minin Wheat, Inc., Stamford, Conn. Labelled: "Contains the entire NATURAL WHEAT GERM—Nothing Removed from the ORGANICALLY Grown Sliced Wheat Ker-

nels.—No Flour Used.—INGREDIENTS: Organic sliced wheat kernels, white clover raw honey, fresh milk, fresh eggs, vegetable fat, vanilla, leavening—VITAMINS E, B<sub>1</sub>, B<sub>2</sub>, G OF THE WHEAT KERNELS—No Preservative—No Starch—No Flour—No Salt—Only Organically Grown Wheat Used. Our wheat is grown on ORGANIC FARMS where only NATURAL FERTILIZERS are used. No chemicals, poisons or gases are used. The soil is planted every other year to rest the soil in order to produce a better wheat with a higher content of protein, minerals and vitamins." Analysis showed: Water, 15.87, ash, 2.06, protein, 9.19, fiber, 1.47, available carbohydrate, 67.92, and fat, 3.49, per cent; calories/100 gm., 340. Misbranded because not starch-free and because the sodium content was not declared.

*S.O.-435. Minin Raisin Bread.* Minin Wheat, Inc., Stamford, Conn. Labelled similarly to *S.O.-433* above. Analysis showed: Water, 39.2, ash, 1.31, protein, 9.35, fiber, 1.57, available carbohydrate, 48.08, and fat, 0.67, per cent; calories/100 gm., 236. "No Starch" and "No Sugar" claims false; sodium content not declared; misbranded.

*K.C.-1152. New! Delicious Flavor Trim Diet White Bread, No Shortening Added, Thin Sliced.* Duvernoy Westchester Corp., White Plains, N. Y. Labelled "High Protein Low Calorie Special Formula Bread"; also bore an analysis which compared as follows with ours:

	Declared	Found
Water, per cent .....	38.00	39.57
Ash, per cent .....	1.79	1.11
Protein, per cent .....	11.28	9.07
Fiber, per cent .....	0.56	0.25
Available carbohydrate, per cent .....	45.71	48.45
Fat, per cent .....	2.66	1.55
Calories/100 gm. ....	—	244.

The claimed analysis was close to the truth, but sample was misbranded because not high in protein (the average protein content of bread is 9.2 per cent), because its calorie content was not declared, and because the ingredient and analysis claims were nearly illegible.

*K.F.-2007. Old London Melba Toast Unsalted White.* King Kone Corp., New York, N. Y. Labelled: "UNSALTED—9 mg. of sodium per 100 grams 0.5 mg. of sodium per slice". Analysis showed: Water, 5.40, ash, 1.14, protein, 15.05, fiber, 1.03, available carbohydrate, 74.38, and fat, 3.00, per cent; calories/100 gm., 385; calories/4.4 gm. slice, 16.9; sodium, mg./100 gm., 15; sodium, mg./slice, 0.7. Sample was passed because the sodium claim on a per-slice basis was essentially correct.

*K.F.-2008. Old London Melba Toast White.* King Kone Corp., New York, N. Y. Labelled "Approximately 16 calories per slice". Analysis showed: Water, 6.20, ash, 3.11, protein, 14.36, fiber, 0.88, available carbohydrate, 73.00, and fat, 2.45, per cent; calories/100 gm., 371; calories/4.6 gm. slice, 17.1. Passed.

*K.F.-2195. Pechter's Real Jewish Onion Rye.* Harrison Baking Co., Harrison, N. Y. Labelled "No Fat Products—No Sugar—Low in Calories". Not analyzed; misbranded for failure to label the product as "Bread" and to list the percentages of protein, fat and available carbohydrate and the calorie content.

*K.C.-1184. Salt Free! Venus Toasted 100% Whole Wheat Wafers.* Venus Wheat Wafers, Inc., Boston, Mass. Analysis was as follows, as compared with claims:

	Declared	Found
Protein, per cent .....	11.	9.92
Available carbohydrate, per cent .....	73.	70.42
Fat, per cent .....	11.	6.54
Calories/100 gm. ....	423.	380.
Calories/4.2 gm. wafer .....	17.	16.
Sodium, mg./100 gm. ....	13.	6.6
Sodium, mg./wafer .....	0.54	0.28

Passed.

*A.L.-550. Wise Crisp and Crunchy Sesa-Teez made with Toasted Sesame Seed, High in Protein.* Wise Potato Chip Co., Berwick, Pa. Declared ingredients were "Toasted wheat flour, sesame seed, vegetable oil and salt". Analysis showed: Water, 4.94, ash, 5.34, protein, 11.17, fiber, 6.10, available carbohydrate, 48.59, and fat, 23.86, per cent; calories/100 gm., 454. Misbranded because although labelled as a special dietary food the percentages of protein, carbohydrate and fat and the calories per 100 grams and per cracker were not declared.

Besides the official samples, three unofficial samples of enriched bread were assayed for thiamine by a microbiological method utilizing *Lactobacillus viridescens*. Federal standards require enriched bread to contain between 1.1 and 1.8 milligrams of thiamine per pound. Two of the three samples essentially met this requirement; the other was deficient in thiamine:

*7581 and 8534. Enriched Wonder Bread.* Continental Baking Co., Inc., Rye, N. Y. Thiamine, mg./lb: 1.01 in 7581, 1.15 in 8534.

*7582. Tip Top White Enriched Bread.* Ward Baking Co., New York, N. Y. Thiamine, 0.83 mg./lb. Low.

### Beverages, Carbonated, Etc.

#### Ale and Beer

Four samples of ale and 26 of beer were submitted by the Commissioner because of suspected short volume; all samples except one were found to be misbranded:

*K.F.-2343 to 2346. Beer Master Premium.* Fuhrmann & Schmidt Brewing Co., Shamokin, Pa. Net contents: Declared, 12 fl. oz.; found (average of 24 cans), 11.82 fl. oz.

*K.F.-2263 to 2266. Bohemian Bock Beer.* Eastern Brewing Co., Hammonton, N. J. Net contents: Declared, 12 fl. oz.; found (average of 24 cans), 11.81 fl. oz.

*K.F.-2267 to 2269. Bohemian Light Beer.* Eastern Brewing Co., Hammonton, N. J. Net contents: Declared, 12 fl. oz.; found (average of 18 cans), 11.67 fl. oz.

*A.L.-549. Gunther Premium Dry Beer.* Gunther Brewing Co., Balti-

more, Md. Net contents: Declared, 12 fl. oz.; found (average of 6 cans), 11.98 fl. oz. Passed.

*K.F.-2276 to 2279. Hampden Ale.* Hampden Howard Breweries, Willimansett, Mass. Net contents: Declared, 12 fl. oz.; found (average of 24 cans), 11.65 fl. oz.

*K.F.-2280 to 2283. Hampden Beer.* Hampden Harvard Breweries, Willimansett, Mass. Net contents: Declared, 12 fl. oz.; found (average of 24 cans), 11.67 fl. oz.

*K.F.-2259 to 2263. Holland Premium Beer.* Eastern Brewing Co., Hammonton, N. J. Net contents: Declared, 12 fl. oz.; found (average of 24 cans), 11.78 fl. oz.

*P.S.-306 and 307. Phoenix Premium Beer.* Phoenix Brewery Corp., Buffalo, N. Y. Net contents: Declared, 12 fl. oz.; found (average of 12 cans), 11.77 fl. oz.

*K.F.-2339 to 2342. Premium F & S Beer.* Fuhrmann-Schmidt Brewing Co., Shamokin, Pa. Net contents: Declared, 12 fl. oz.; found (average of 24 cans), 11.77 fl. oz.

#### Fruit Sodas

Of five official fruit soda samples, two were passed and three were misbranded:

*P.R.-353. Clicquot Club Black Cherry Soda.* Clicquot Club Co., Millis, Mass. Benzaldehyde flavor; imitation cherry soda not so labelled; misbranded.

*K.F.-2403. Cott Quality California Orange Soda.* Cott Bottling Co., Manchester, N. H. Net contents: Declared, 12 fl. oz.; found (average of 6 cans), 12.18 fl. oz. Passed.

*K.C.-1091. Cott Quality True Fruit Grape Soda.* Cott Beverage Corp., New Haven, Conn. Ash, 30.6; K<sub>2</sub>O, 1.59, and methyl anthranilate, 0.09, mg./100 cc. Too much methyl anthranilate for a true fruit soda; misbranded.

*S.O.-450. Hoffman Sparkling Grape Soda with Vitamin C.* Hoffman Beverage Co., Long Island City, N. Y. Labelled: "No artificial flavor, color or preservative. 10 oz. supply an adult's minimum daily requirement of vitamin C.—Contains: Grape juice and other natural flavors, food acids (citric and tartaric), vitamin C, sugar and carbonated water". Analysis showed: Ash, 39.2; K<sub>2</sub>O, 4.15; ascorbic acid, 15.8, and methyl anthranilate, 0.24, mg./100 cc. The ascorbic acid (vitamin C) in 10 fluid ounces was 46.7 milligrams, which exceeds the 30 milligram minimum daily requirement for adults. Passed.

*P.R.-340. Polar Grape Soda.* Polar Ginger Ale Co., Hartford, Conn. Ash, 24, K<sub>2</sub>O, 3.7, and methyl anthranilate, 0.64, mg./100 cc.; coal-tar dye present. Imitation grape soda not so labelled; artificial color present not declared; misbranded.

**Root Beer**

Fourteen samples of root beer were submitted by the Commissioner, all except one to be checked for the presence of saponin, which is not permitted in beverages in this State. Six samples were passed, while eight contained saponin or some other hemolytic agent and were consequently adulterated:

*F.M.-225. Canada Dry Root Beer.* Canada Dry Corp., Mt. Vernon, N. Y. The cap read "Artificial Flavor", but passed.

*F.M.-202. Castle Root Beer.* Crystal Bottling Works, Ansonia, Conn. No saponin; passed.

*F.P.-428. Dad's Root Beer.* Dad's Root Beer Co., Chicago, Ill. Saponin present; adulterated.

*K.C.-1210. Dad's Root Beer, Papa Size.* Apollo Bottling Co., Inc., Bronx, N. Y. Saponin present; adulterated.

*K.C.-1222. Dad's Root Beer, Papa Size.* Dad's and Flip, Inc., New York, N. Y. Non-saponin hemolytic agent present; adulterated.

*P.R.-339. Fo-Me Root Beer.* Polar Ginger Ale Co., Worcester, Mass. No saponin; passed.

*K.C.-1221. Frank's Old Fashioned Root Beer.* Frank's Beverages, Philadelphia, Pa. Non-saponin hemolytic agent present; adulterated.

*P.R.-357. Hosmer Mountain Beverage Co. Root Beer.* Hosmer Mountain Beverage Co., Willimantic, Conn. No saponin; passed.

*K.C.-1207 and 1212 and S.O.-503. Minck Better Beverages Root Beer.* Minck Bros. & Co., Brooklyn, N. Y. Saponin present; adulterated.

*P.R.-341. Polar Root Beer.* Polar Ginger Ale Co., Worcester, Mass. No saponin; passed.

*F.P.-462 and 465. Royal Palm Root Beer.* Coca-Cola Bottling Co., East Hartford, Conn. *F.P.-462* contained saponin and was adulterated; tests on *F.P.-465* were inconclusive, and this sample was passed.

**Uncarbonated Fruit Drinks**

Seventeen official samples of uncarbonated fruit beverages were examined; seven were passed and ten were adulterated or misbranded:

*K.F.-2102. Dole Pineapple-Grapefruit Juice Drink, Vitamin C Enriched.* Hawaiian Pineapple Co., Ltd., San Jose, Calif. Labelled: "One 6 oz. serving contains 30 mgs. of Vitamin C." Analysis showed: Invert sugar, 10.67, sucrose, 1.30, and citric acid, 0.78, gm./100 cc; ash, 192, K<sub>2</sub>O, 91, P<sub>2</sub>O<sub>5</sub>, 13.6, and ascorbic acid, 23, mg./100 cc.; estimated per cent juice, 46. Passed.

*A.L.-535 and F.M.-274. Easy Juicer for All Lemon Uses.* Citrus Corporation of America, New Haven, Conn. Labelled "Contains Lemon Juice, Lemon Emulsion, Citric Acid, Water, Certified Food Color, Less than 1/10 of 1% Benzoate of Soda". Average analysis showed: Ash, 316, K<sub>2</sub>O, 6.6, and ascorbic acid, 0.0, mg./100 cc.; sulphur dioxide absent;

estimated per cent lemon juice, 4; net contents, 4.56 fl. oz. Misbranded because the plastic containers in the size, shape and color of lemons were deceptive for a product containing very little lemon juice.

*K.C.-1076. Grape Beverage.* Canada Dry Ginger Ale, Inc., New York, N. Y. Ash, 39.6; K<sub>2</sub>O, 3.88, and methyl anthranilate, 0.06, mg./100 cc. Passed.

*K.F.-2284. Hawaiian Golden Punch, the Pineapple-Passionfruit Drink.* Pacific Hawaiian Products Co., Fullerton, Calif. Labelled: "MADE WITH PINEAPPLE AND PASSIONFRUIT JUICES . . . Passionfruit comes from an exotic Hawaiian vine. The exquisite blossoms live in religious legend"; declared ingredients were "Water, pineapple juice, passionfruit juice, sugar, citric acid, sodium citrate, citrus oil, carotene, vitamin C".

The species *Passiflora* was so-named because parts of its flowers bore a fancied resemblance to emblems of the Crucifixion—the crown of thorns, etc. There are two cultivated varieties: The giant granadilla (*Passiflora Quadrangularis*) and the purple granadilla (*Passiflora edulis*). The first of these grows throughout the American tropics and subtropics and thrives in Florida, while the second and better-known variety is a native of Brazil but is also grown in California, Florida and particularly Australia. Neither is primarily a Hawaiian fruit.<sup>1</sup>

Analysis of *K.F.-2284* showed: Total solids, 12.89, total sugars, 12.43, citric acid, 0.40, and ash, 0.055, gm./100 cc.; K<sub>2</sub>O, 27.0, and P<sub>2</sub>O<sub>5</sub>, 3.3, mg./100 cc.; estimated per cent juice, 14. Misbranded because of the inconspicuousness of the ingredient declaration and the distributor's name.

*A.J.-62. Instant Tang Brand Breakfast Drink.* General Foods Corp., Battle Creek, Mich. This preparation was a powder, two rounded teaspoonfuls of which were supposed to be dissolved in four fluid ounces of water. It was labelled "More Vitamins A and C Than Fresh Or Frozen Orange Juice—Sugar, Citric Acid, Vegetable Stabilizers, Sodium Citrate, Calcium, Phosphate, Vitamin C, Hydrogenated Vegetable Oil, Vitamin A, Natural and Artificial Flavors, (includes Butylated Hydroxyanisole, a preservative) U. S. Certified Color", and also bore claims that two rounded teaspoonfuls supplied 300 per cent of the minimum daily requirement of Vitamin C, and 45 per cent of the minimum daily requirement of vitamin A, for a child. Analysis for ascorbic acid showed 5.01 milligrams per gram, or 32.6 milligrams per 6.50 gm. rounded teaspoonful. Since 300 per cent of the minimum daily requirement of a child one to 11 years old is 60 mg., and two rounded teaspoonfuls of *A.J.-62* would supply 65 mg., the vitamin C claim was correct. Analytical complications prevented our checking the vitamin A claim.

The flavor of "Tang" was not appealing to our staff, but sample was passed.

*A.J.-230 and 231. Jumbo Easy Juicer for All Lemon Uses.* Citrus Corporation of America, New Haven, Conn. These samples were essentially identical in packaging and labelling with the "Easy Juicer" samples

<sup>1</sup> Winton and Winton, *Structure and Composition of Foods*, II, 784-786.

A.L.-535 and F.M.-274 listed above. Average analysis showed: Ash, 302, K<sub>2</sub>O, 7.0, and ascorbic acid, 0.0, mg./100 cc.; estimated per cent juice, 5. Misbranded because deceptive.

*K.F.-2100. Libby's Pineapple-Grapefruit Juice Drink, Vitamin-C Enriched.* Libby, McNeill & Libby, Chicago, Ill. Labelled: "Ingredients Water, Concentrated Pineapple Juice, Sugar, Concentrated Grapefruit Juice, Citric Acid, Sodium Citrate, Orange Oil, Vegetable Gum, and Vitamin C.—*Vitamin C Enriched* (One 6 oz. serving supplies 30 mgs. of Vitamin C, the daily adult minimum requirement)." Analysis showed: Invert sugar, 10.31, sucrose, 2.10, citric acid, 0.76, and ash, 0.23, gm./100 cc.; K<sub>2</sub>O, 83.8, P<sub>2</sub>O<sub>5</sub>, 9.6, and ascorbic acid, 26, mg./100 cc.; estimated per cent juice, 48. Passed.

*K.F.-2359. Lincoln Orange-Pineapple Juice Drink, Vitamin-C Enriched.* Lincoln Foods, Inc., Lawrence, Mass. Claimed ingredients were "pure California Orange Juice and Hawaiian Pineapple Juice . . . water, concentrated orange juice, concentrated pineapple juice, cane sugar, vitamin C". Analysis showed: Invert sugar, 8.08, sucrose, 3.72, citric acid, 0.47, and ash, 0.11, gm./100 cc.; K<sub>2</sub>O, 62, P<sub>2</sub>O<sub>5</sub>, 8.8, and ascorbic acid, 19, mg./100 cc.; estimated per cent juice, 24. Misbranded because not high in vitamin C as intimated.

*K.C.-1196. Slim-Trim Fruit Punch.* Central Canning Co., Cedarville, N. J. Labelled: "One Calorie Per Ounce—Vitamin 'C' Enriched—Sweetened With Cylan\*—Non Carbonated—Children can drink to their hearts' delight but will not affect their appetite". Declared ingredients were "Water, Pure Fruit Juice, Citric Acid, Vegetable Gum, Ascorbic Acid (Vitamin C), True Fruit and Synthetic Flavors, Certified Food Colors and (\*) Sweetened with Cylan DU PONT (Calcium Cyclamate)". There was also a "proximate analysis", which compared as follows with our findings:

	Declared	Found
Ash, gm./100 cc. ....	0.25	0.19
Protein, gm./100 cc. ....	0.07	0.19
Available carbohydrate, gm./100 cc. ....	0.72	1.00
Fat, gm./100 cc. ....	0.00	0.00
Calories/100 cc. ....	3.9	4.8
Calories/fl. oz. ....	1.1	1.4
Sodium, mg./100 cc. ....	22.3	12.8
Sodium, mg./fl. oz. ....	6.6	3.8
Ascorbic acid, mg./100 cc. ....	20.0	21.

Total sugars were 0.48 mg./100 cc.; estimated juice content was 4 per cent.

The labelled analysis was essentially correct, and over—rather than underestimated the sodium content. Sample was nevertheless misbranded because of the misleading character of the reference to the use of an artificial sweetener and because not labelled "Imitation Fruit Punch".

*K.C.-1195. Slim-Trim Orange Drink.* Central Canning Co., Cedarville, N. J. This sample was labelled identically with *K.C.-1196* above,

except for the "Proximate Analysis", which compared as follows with our findings:

	Declared	Found
Ash, gm./100 cc. ....	0.23	0.18
Protein, gm./100 cc. ....	0.06	0.17
Available carbohydrate, gm./100 cc. ....	0.60	1.43
Fat, gm./100 cc. ....	0.00	0.00
Calories/100 cc. ....	3.5	6.4
Calories/fl. oz. ....	1.0	1.9
Sodium, mg./100 cc. ....	21.7	13.7
Sodium, mg./fl. oz. ....	6.4	4.1
Ascorbic acid, mg./100 cc. ....	20.0	30.

Total sugars were 0.77 mg./100 cc.; estimated juice content was 8 per cent.

Misbranded for the same reasons as *K.C.-1196* above.

*K.F.-2244. Sunkist Quick Frozen Concentrate for Citrus Punch.* Sunkist Growers, Ontario, Calif., Labelled: "From California—Arizona Citrus—Contains Sugar Syrup, Pure Lemon Juice, Lemon, Grapefruit And Orange Juice Concentrates And Natural Flavoring Oils—A good source of vitamin C". This was a concentrate designed to be diluted one-to-four with water. Analysis showed: Soluble solids, 12.72, sucrose, 11.90, invert sugar, 0.76, and ash, 0.58, gm./100 cc.; K<sub>2</sub>O, 37, and P<sub>2</sub>O<sub>5</sub>, 6.6, mgs./100 cc.; estimated per cent juice, 24. Passed.

*K.F.-2247. Sunkist Quick Frozen Concentrate for Pineapple Lemon Punch.* Sunkist Growers, Inc., Corona, Calif. Labelled "Contains sugar syrup, lemon juice, raspberry purée, concentrated lemon juice, natural flavors. Good source of vitamin C". This was also a concentrate for 1 to 4 dilution, whose analysis was: Soluble solids, 12.48, sucrose, 11.44, invert sugar, 0.99, and ash, 0.050, gm./100 cc.; K<sub>2</sub>O, 33, and P<sub>2</sub>O<sub>5</sub>, 5.8, mg./100 cc.; estimated per cent juice, 17. Passed.

*K.F.-2245. Sunkist Quick Frozen Concentrate for Raspberry Lemon Punch.* Sunkist Growers, Inc., Corona, Calif. Labelled "Contains sugar syrup, lemon juice, raspberry puree, concentrated lemon juice, natural flavor. Good source of vitamin C." Analysis of the 1 to 4 concentrate showed: Soluble solids, 10.97, sucrose, 10.12, invert sugar, 0.80, and ash, 0.053, gm./100 cc.; K<sub>2</sub>O, 33, and P<sub>2</sub>O<sub>5</sub>, 5.8, mg./100 cc.; estimated per cent juice, 17. Passed.

*K.F.-2246. Sunkist Quick Frozen Concentrated for Strawberry Lemon Punch.* Sunkist Growers, Inc., Corona, Calif. Labelled "A good source of Vitamin C—Contains sugar syrup, strawberry purée, lemon juice, concentrated lemon juice, black raspberry juice for color, natural flavor." Analysis showed: Soluble solids, 10.29, sucrose, 9.22, invert sugar, 1.02, and ash, 0.051, gm./100 cc.; K<sub>2</sub>O, 30, and P<sub>2</sub>O<sub>5</sub>, 3.7, mg./100 cc.; estimated per cent juice, 14. Passed.

*E.S.-105. Sweet-Sour Hi-Lemon 3'n 1 Cocktail Mix.* Martrude Corp. Brooklyn, N. Y. Labelled: "Contains: Pure Lemon Juice, Flavor Oil from Peels of Fresh Lemons, Acacia Solution, Cane Sugar, Water, Citric Acid, Artificial Color, Benzoate of Soda 1/10 of 1%." Analysis showed: Total solids, 41.92, invert sugar, 39.08, sucrose, 0.49, citric acid, 3.41, and ash,

0.020, gm./100 cc.; K<sub>2</sub>O, 9.33, and P<sub>2</sub>O<sub>5</sub>, 1.48, mg./100 cc.; estimated per cent lemon juice, 6; saponin absent; non-saponin hemolytic agent present. Adulterated because of the hemolytic agent.

*K.F.-2366. Tropicana Rich in Vitamin C Instant Orange Supreme Concentrated.* Tropicana Products, Inc., Bradenton, Fla. This sample was a 9½ fl. oz. pressurized can with a spout, labelled: "A Delightful Refreshing Beverage Full of Quick Energy Rich In Vitamin C Easy To Prepare—Ingredients: Concentrated Orange Juice and Solids, Sugar, Citric Acid, Sodium Citrate, Vitamin C, Orange Oil, 0.1% Sodium Benzoate (as a preservative), U. S. Certified (artificial) Color." Directions called for diluting three teaspoonfuls with a half-cup of water to form a glass of beverage. Analysis showed: Soluble solids, 10.38, sucrose, 4.44, invert sugar, 5.68, and ash, 0.26, gm./100 cc.; K<sub>2</sub>O, 50, P<sub>2</sub>O<sub>5</sub>, 8.0, and ascorbic acid, 30, mg./100 cc.; estimated per cent orange juice, 20. Misbranded because a 20 per cent juice product is not "concentrated".

**Miscellaneous**

Two miscellaneous beverage samples were examined for the Commissioner as follows:

*S.O.-469. Minin Organic-Moldin.* Minin Wheat, Inc., Stamford, Conn. Labelled: "A Natural Drugless Non-Poisonous Refreshing Drink—Made of Minin Organic Flourless Patented Bread, Water and Organic Clover Honey—No Drugs, Sugar, Fat, Salt or Preservative Used." Analysis showed: Total solids, 7.53, invert sugar, 6.50, sucrose, trace, ash, 0.08, and ether extract, 0.04, per cent; sodium, 10 mg./100 cc.; alcohol, 3.95 per cent by volume. Misbranded because several claims were false or misleading. Sample also probably came under the alcoholic beverage law.

*F.P.-424. Nehi Cream Soda.* Royal Crown Bottling Co., Agawam, Mass. Labelled "Artificial Flavor and Color." This sample was picked up because it had a bright red color not normally found in "cream" sodas. The flavor was vanilla-like, however, and it was passed.

**Breakfast Cereals**

*S.O.-434. Minin-Wheat Sliced and Flaked Organically Grown Wheat Kernels,* manufactured by Minin Wheat, Inc., Stamford, Conn., was labelled: "No Flour Used—Nothing Added—Nothing Removed—No Sugar, Fat, Salt or Preservatives—High Natural Wheat Protein—Over 11%". Analysis showed: Water, 10.92, ash, 1.84, protein, 15.85, fiber, 2.50, available carbohydrate, 67.80, and fat, 1.09 per cent; calories/100 gm., 344. Not sugar-and-fat-free; sodium content not declared; misbranded.

In connection with a study of a new microbiological method for thiamine, nine different breakfast cereals were purchased by us and assayed for this vitamin. Results are given in Table 1; six samples met their claims fairly closely, while three contained excesses of thiamine greater than 50 per cent of guaranty.

**Cacao Products**

Nine samples of cacao were submitted by the State Supervisor of Purchases to be checked for compliance with purchasing specifications calling for between 10 and 22 per cent of cacao fat; eight of these fully met this requirement, while one was slightly deficient. Analyses are given in Table 2.

TABLE 1. BREAKFAST CEREALS

No.	Manufacturer and brand	Thiamine, mg./oz.		Remarks
		Declared	Found	
7586	Best Foods, Inc., New York, N. Y. <i>H-O Quick Oats</i> .....	0.49	0.50	Passed
7584	General Mills, Inc., Minneapolis, Minn. <i>New Wheaties</i> .....	0.15	0.37	Thiamine over twice claim
7585	Kellogg Co., Battle Creek, Mich. <i>Kellogg's Rice Crispies</i> .....	0.11	0.20	Thiamine almost twice claim
8533	Kellogg Co., Battle Creek, Mich. <i>Kellogg's Rice Crispies</i> .....	0.11	0.15	Passed
7583B	Pabulum Products Div., Mead, Johnson & Co., Evansville, Ind. <i>New Pabulum High Protein Cereal</i> .....	0.30	0.39	Passed
7583E	Pabulum Products Div., Mead, Johnson & Co., Evansville, Ind. <i>Pabulum Barley Cereal</i> .....	0.30	0.43	Excessive thiamine
7583A	Pabulum Products Div., Mead, Johnson & Co., Evansville, Ind. <i>Pabulum Mixed Cereal</i> .....	0.30	0.28	Passed
7583C	Pabulum Products Div., Mead, Johnson & Co., Evansville, Ind. <i>Pabulum Oatmeal</i> .....	0.30	0.30	Passed
7583D	Pabulum Products Div., Mead, Johnson & Co., Evansville, Ind. <i>Pabulum Rice Cereal</i> .....	0.40	0.45	Passed

TABLE 2. COCOA

No.	Manufacturer or distributor and brand	Moisture, per cent	Ash, per cent	Fat, per cent
8859	Favorite Food Products, New York, N. Y. <i>Favorite</i> .....	.....	.....	11.05
6734	Manufacturer unknown. <i>B L T C</i> .....	4.44	6.32	18.14
6735	Manufacturer unknown. <i>J.T.B. Velvet</i> .....	4.80	5.50	10.90
8495	Ross-Darwin Food Co., Inc., New Haven, Conn. <i>Ross-Darwin</i> .....	.....	.....	10.78
8860	Ross-Darwin Food Co., Inc., New Haven, Conn. <i>Ross-Darwin</i> .....	.....	.....	9.83
9706	Vintage Canning Co. <i>Our Mother's</i> .....	.....	.....	10.13
9705	White Coffee Corp., Long Island City, N. Y. <i>F S H</i> .....	.....	.....	10.48
7374	White Coffee Corp., Long Island City, N. Y. <i>Uncas</i> .....	.....	.....	14.07

### Coffee

S.O.-523, *Regular Grind Fireside Egg Coffee, Fresh Egg Added*, manufactured by Livingston Coffee Co., Chicago, Ill., was submitted by the Commissioner primarily because there was no manufacturer's address; it was definitely misbranded for this reason. We were also interested in attempting to check the claim that egg had been added, but because much more investigation of this point was done the following year and will be discussed in our 1960 Report, in this present bulletin we are reporting the following analytical figures without further comment: Moisture, 4.66; lipoids, 8.16, and lipid  $P_2O_5$ , 0.014, per cent.

8327, *Copley Coffee*, distributed by First National Stores, Somerville, Mass., was analyzed as follows: Moisture, 1.86; lipoids, 6.89, and lipid  $P_2O_5$ , 0.007, per cent.

### Confectionery

One sample of "bubble gum", two of "chocolates", seven of chocolate candy, and 14 of other candies, were examined for the Commissioner; five samples were passed and 19 were adulterated or misbranded:

F.M.-247. *Bubble Gum*. Bradley Products, New York, N. Y. This sample consisted of a yellow plastic cane over 27 inches long containing 12 balls of gum in its handle. Deceptively packed; misbranded.

J.B.-421 and 430. *Butterlets*. Brock Candy Co., Chattanooga, Tenn. Mineral oil (0.25 per cent) present but no butter; adulterated and misbranded.

A.F.-368. *Elsie's Sugar and Salt Free Chocolates*. Elsie's Home Made Candies, Farmington, Conn. These two one-ounce bars were labelled: "Ingredients: Chocolate Liquor, Skim and Whole Milk, Mannitol, Cocoa Butter and Vanillin, an Artificial Flavor, Emulsifier Added." Analysis showed: Lactose, 10.57, and sucrose, 1.21, per cent; sodium, 98 mg./100 gm. Misbranded because neither sugar- nor salt-free as well as for failure to carry a name and address.

A.F.-369. *Elsie's Sugar Free and Salt Free Chocolate Bar*. Elsie's Home Made Candies, Farmington, Conn. This sample consisted of two bars bearing the same ingredient statement as A.F.-368 above, but cream-colored instead of chocolate-brown. Analysis showed: Lactose, 10.63, and sucrose, 1.14, per cent; sodium, 139 mg./100 gm. Misbranded.

F.P.-401. *Esta-Lee Candies*. Esta Lee Candies, Worcester, Mass. These were blocks of Turkish paste colored pink, green, red, yellow and brown with undeclared coal-tar dye; starch present not declared. Misbranded.

K.C.-1145. *Estee Delicious Dietetic Imitation Assorted White Chocolates*. Estee Candy Co., Inc., New York, N. Y. Declared ingredients were "Vegetable Fat, Skim Milk Solids, Hexitols, Whole Milk Powder, Casein, Pre-Cooked Soy Bean Meal, Almonds, Filberts, Cashews and Brazil Nuts, Lecithin, Artificial Flavors"; there was also an analysis which compared

as follows with our findings (calories were calculated assuming a value of only 2 calories per gram for the hexitols):

	Declared	Found
Protein, per cent .....	13.	13.00
Carbohydrates, per cent .....	17.4	16.35
Hexitols, per cent .....	28.	26.17
Fat, per cent .....	35.	39.42
Sodium, mg./100 gm. ....	91.	148.
Sodium, mg./8 gm. piece .....	7.59	12.
Calories/100 gm. ....	491.	509.
Net wt., oz. ....	4.00	3.95

The declared analysis was essentially correct except that the sodium was underestimated. The fat was apparently not cacao fat and may have been hardened peanut oil (the butyro refraction at 40°C. was 37.5, and there was no chocolate odor and a faint chocolate flavor.) Since there is no such thing as "white chocolates", it is difficult to see how anything can be "imitation white chocolates" as this product was labelled; sample was nevertheless passed.

P.S.-258. *Imported Swiss Chocolate*. Chocolate Padock, Zürich, Switzerland. This sample consisted of two foil-wrapped cigar-shaped pieces of candy, almost white on the outside and very light brown inside. Declared ingredients were "sugar, veg. fat, hazelnuts, powdered milk, almonds, cocoabeans, cocoabutter." Misbranded because not chocolate.

K.F.-2221 *Jane Arden Home Made Candies Peanut Clusters*. Jane Arden Home Made Candies, Providence, R. I. Sugar present not declared; misbranded.

K.C.-1302 and 1303. *Kiddie Xmas Stocking*. Crystal Pure Candy Co., Chicago, Ill. Net weight: Declared, 6.5 oz.; found (average of 12 stockings), 4.47 oz. Short weight 2.03 oz.; misbranded.

K.F.-2297. *Lady Anne Assorted Puffs*. Specialty Candy Co., Baltimore, Md. Labelled "Made with 100% Pure Sugar"; passed.

K.F.-2298. *Lady Anne Molasses Mint Puffs*. Specialty Candy Co., Baltimore, Md. Labelled as above; passed.

K.F.-2296. *Lucy Ellen Fruit Leaves*. Community Industries Association, Sullivan, Ill. Passed.

K.C.-1290 and 1291. *Merry Christmas*. Leader Candies, Inc., Brooklyn, N. Y. Declared net weights were respectively 5 and 8 ounces; average net weights found (5 stockings each) were 4.63 and 7.60 oz. Short weight; misbranded.

S.O.-502. *More than 850 Wampum Beads O'Candy*. Milko Candy Co. No address; misbranded.

K.C.-1255. *Paula's Dietetic Hard Candies for Sugar Restricted Diets—No Salt Added—Non-Cariogenic*. Estee Dietetic Sales Co., Inc., New York, N. Y. Declared ingredients were "Sorbitol, Mannitol, Citric Acid,

Natural & Artificial Flavors, Certified Food Colors". Analysis, as compared with claims, was as follows:

	Declared	Found
Water and ash, per cent .....	29.50	0.66
Protein, per cent .....	0.00	0.00
Mannitol and sorbitol, per cent .....	70.50	98.42
Fat, per cent .....	0.00	0.07
Calories/100 gm. ....	268.	198.
Calories/2.6 gm. candy .....	10.	5.1
Sodium, mg./100 gm. ....	6.2	6.9
Sodium, mg./candy .....	0.25	0.26
Net wt., oz .....	2.00	2.60

Sample was misbranded because the declared water and ash content were far from the truth; there was also some question as to whether the "Non-Cariogenic" statement did not make it a drug.

*K.F.-2209 and 2210 and P.S.-228. "Peel-Away" Hollow Milk Chocolate.* Chocolate Division of the W. & F. Mfg. Co., Inc., Buffalo, N. Y. These were candy novelties in the respective forms of: A yellow baby chick emerging from a blue shell; a yellow rabbit holding an orange carrot; and a yellow lamb. The outer coatings were from 95.0 to 96.5 per cent paraffin; adulterated.

*A.L.-526. Snow Crest Choc-O-Lettes.* Snow Crest Beverages, Inc., Salem, Mass. These were cake decorations whose declared ingredients were "Cocoa Powder, Sugar, Vegetable Butter, and Confectioners Glaze with Lecithin Added". Analysis showed 18.57 per cent of fat with a butyros refracton of 43.0 at 40°C. Passed.

*K.F.-2222 and 2348. Tom's Coconut Log.* Tom Huston Peanut Co., Columbus, Ga. Orange coal-tar dye present not declared; misbranded.

*K.C.-1173. Woolly Willie Delicious Milk Chocolate flavored.* R. M. Palmer Co., Reading Pa., This was a large cream-colored candy in the shape of a lamb. Other samples of this product were examined in 1956 and 1957<sup>2</sup>; misbranded because not chocolate.

#### Contaminated or Decomposed Foods

One hundred and forty-eight samples of foods were submitted by the Commissioner because of suspected insect or rodent infestation, contamination with foreign materials or decomposition, or because of complaints that they had made people ill. Included were: Thirteen samples of apple sauce; 12 each of canned vegetable products and flour; 11 of fruit juices; 10 each of meat products and pickles; nine each of bread (and bread crumbs) and sodas; eight of evaporated milk; six of soups; four each of baby food, confectionery and gelatin desserts; three each of cake and cookies, fish, lentils, lima beans and split peas; two each of dry skim milk, maple syrup, potato chips and sugar; and one each of ale, cheese, coffee, corn meal, corn muffins, crabmeat, dog food, egg noodles, paper, rolls, rye, turkey and wine vinegar. Seventy-seven samples were passed and 71 were adulterated. The adulterated samples were the following:

<sup>2</sup> Conn. Agr. Expt. Sta. Bul. 617, 25 (1958); 629, 26 (1959).

*F.M.-186, 187, 208 and 209. Best of Record Flour.* Empire Milling Co., Minneapolis, Minn. Contaminated with mouse feces and urine.

*E.S.-101. Bread.* Superior Bakery, Inc., North Grosvenordale, Conn. Rodent feces present.

*A.J.-272. Brown Wrapping Paper.* Grand Union, East Hartford, Conn. Odor of decomposed meat, probably from *A.J.-271* below.

*K.C.-1284. Cake.* Zwerdling Bakery, Westport, Conn. Bottom portion of this cake had an off odor that was traced to the wrapping-paper used.

*A.J.-241. Coca Cola.* Coca Cola of Hartford, East Hartford, Conn. Portion of smoked cigarette present.

*S.O.-543. Coca Cola.* Coca Cola Bottling Co. of New York, Bridgeport, Conn. Brown mold present.

*A.J.-271. Corned Beef.* Grand Union, East Hartford, Conn. Incipiently decomposed.

*A.J.-249. Corn Muffins.* Mayron's Bake Shop, Hartford, Conn. Contaminated with vanillin.

*A.J.-211. Deerfoot Farms Frankforts.* Deerfoot Farms, Southborough, Mass. Piece of braided string or rope present.

*F.M.-179. De Gruyter Milk-Mocca Chocolate.* De Gruyter Royal Factories, 's Hertogenbosch, Holland. Green mold present.

*S.O.-530 and 532. Dole's Pineapple-Grapefruit Juice.* Hawaiian Pineapple Co., Ltd., San José, Calif. Pieces of sand and dirt in *S.O.-530*; three larvae of black carpet beetle (*Attagenus piceus*, Oliv.) in *S.O.-532*.

*E.C.-1115. Domino Pure Cane Sugar, Extra Fine Granulated, Kosher for Passover.* American Sugar Refining Co., Boston, Mass. Contaminated with 22.04 per cent of salt in the form of coarse crystals.

*E.C.-140. Egg Noodles.* Joseph A. Bauer, Willimantic, Conn. Live adult saw-toothed grain beetles (*Oryzaephilus surinamensis*, L.) present.

*A.J.-145 and 146. Finest Apple Sauce.* First National Stores, Somerville, Mass. Copper, 8, and tin, 40-50, parts per million.

*F.M.-171 and P.R.-297. Finest Brand Golden Sweet Corn, Cream Style.* First National Stores, Inc., Somerville, Mass. House fly in *F.M.-171*; *P.R.-297* was sour.

*A.F.-333-335. Flour.* First National Stores, Inc., East Hartford, Conn. Contaminated with mouse feces and urine.

*K.C.-1236. Fresh Cod Fillets.* Four Ascarid worms present.

*K.N.-4198. Frozen Turkey.* Heintz Poultry Farm, Yalesville, Conn. Fat rancid.

*K.F.-2170. Green Giant Golden Sweet Corn, Cream Style.* Green Giant Co., Le Sueur, Minn. Pieces of brown paper present.

- F.M.-316. Hamburg.* Health Dept., Milford, Conn. Off-odor.
- E.C.-1126. Hard Rolls.* First National Stores, Inc., New London, Conn. Piece of grape skin in one roll.
- A.J.-242. Hires Root Beer.* Hires Bottling Co., Hartford, Conn. Empty match-book present.
- A.F.-353. Holland Dry Pale Dry Ginger Ale.* Light Rock Beverage Co., Hartford, Conn. Portion of a zipper present.
- F.M.-184 and 185. Imco Special, Not Enriched, International Bakery Proved Flour, Bleached, Bromated, High Gluten.* International Milling Co., Minneapolis, Minn. Urine stains on bags.
- A.J.-77. Instant Maxwell House Coffee.* Maxwell House Division, General Foods Corp., Hoboken, N. J. Glass fragments present.
- A.J.-109. Jane Parker Rye Bread, Swedish.* Great Atlantic & Pacific Tea Co., New York, N. Y. A piece of steel was partially imbedded in this slice of bread.
- A.J.-66. Jewish Rye Bread.* Mayron's Bakery, Hartford, Conn. Looped through one slice of this bread was a piece of fine copper ribbon.
- A.L.-546. Joan Carol Butter, Egg and Honey White Enriched Bread.* First National Stores, Inc., Somerville, Mass. Fragments of dried-up insects and mold present.
- F.M.-293. Kasco Dog Pellets.* Corn Products Co., New York, N. Y. Two dried-up adult Indian meal moths (*Plodia interpunctella*) and one live larva present.
- A.J.-267 and 268. LeGout Gelatin Dessert, Imitation Raspberry Flavor.* Fearn Food, Inc., Franklin Park, Ill. Small iron shavings present.
- F.M.-299 and 300. Lina Brand Stuffed Cherry Peppers with Anchovies.* Gus Sciafani, Stamford, Conn. Traces of mouse feces present.
- S.O.-553. Mott's Apple Sauce, Economy Size.* Duffy-Mott Co., Inc., New York, N. Y. Incipiently decomposed.
- K.F.-2255 and 2256. 100% Pure Vermont Maple Syrup.* Camille La Madeleine, West Glover, Vt. Creosote-like flavor.
- F.P.-452. Orange Juice (Reconstituted).* Mrs. Joseph Caruso, Hazardville, Conn. One piece of grass present.
- E.C.-1150. Page & Shaw Min-Etts.* Page & Shaw, Inc., Cambridge, Mass. Two Indian meal moth larvae present.
- E.C.-1134. Pepsi-Cola.* Pepsi-Cola Bottling Co., New London, Conn. Traces of brown mold present.
- K.C.-1206. Pepsi-Cola.* Pepsi-Cola Bottling Co., Fairfield, Conn. Two small black ants present.
- A.J.-188. Pepsi-Cola.* Pepsi-Cola New Haven Bottlers, Hamden, Conn. Moldy.

- S.O.-489. Pepsi-Cola.* Orlando Food Stores, Stamford, Conn. Broken-up pieces of spaghetti present.
- P.S.-214. Pepsi-Cola.* Pepsi-Cola Bottling Co., Agawam, Mass. Blue mold present.
- J.B.-441. Pumpernickel Bread.* Mrs. Novack, New Britain, Conn. Moldy.
- A.J.-259. Puritan Maid Baking Co. Bread Crumbs, Genuine Toasted.* Puritan Maid Baking Co., Wethersfield, Conn. Contaminated with cinnamon.
- F.M.-181 and 182. Reserve Five Star High-Gluten Flour, Bleached & Bromated, Milled from Fancy Northwestern Wheat.* National Flour Co. of Hartford, Inc., Hartford, Conn. Urine stains on bags.
- F.M.-298. Rye.* Rose Mill, Milford, Conn. Urine stains on bag.
- K.F.-2182. Sliced White American Cheese.* Health Dept., Waterbury, Conn. One hair, several threads, trace of dirt and pieces of lead-zinc-silver alloy present.
- F.M.-163. Slice of Bread.* Health Dept., Ansonia, Conn. Rat feces present.
- K.C.-1200. Slice of Rye Bread.* Health Dept., Fairfield, Conn. Caraway seeds and portion of unidentified beetle present.
- A.J.-218 and 219. Smith's California Large Lima Beans.* Allen V. Smith, Inc., Marcellus Falls, N. Y. *A.J.-218* consisted of one, and *A.J.-219* of three, one-pound packages. Two lumps of dirt were found in *A.J.-218*; no adulteration was found in two boxes of *A.J.-219*, while the third contained several lumps of dirt and a stone.
- A.J.-138 and J.S.-497 and 498. Smith's Jumbo Lentils.* Allen V. Smith, Inc., Marcellus Falls, N. Y. *A.J.-138* consisted of two one-pound packages, of which one was O.K. while the other contained traces of sand and stems and one grain of barley. There were several lumps of dirt in the two boxes comprising *J.S.-497 and 498*.
- E.S.-106. Split Peas.* Paul M. Edman, Madison, Conn. Stone present.
- F.M.-453. Stop & Shop Superior Quality Orange Juice, Quick Frozen, Concentrated.* Stop & Shop, Hazardville, Conn. Cowy odor; black grease on outside of can.
- A.J.-234. Stratford Farms Unsweetened Prune Juice.* T. Friedman & Sons, Inc., Philadelphia, Pa. White and brown mold present.
- S.O.-531. Sunnyfield Flour.* Great Atlantic & Pacific Tea Co., Stamford, Conn. Contaminated with 20.88 per cent of salt.
- F.M.-296. Wilson's Southern Plantation Yellow Granulated Corn Meal.* Wilson's Corn Products, Inc., Rochester, Ind. One dead adult beetle, pieces of broken insects and insect webbing present.
- Forty-four unofficial samples were submitted by the State Department of Health, the University of Connecticut, the Bridgeport, Hamden, New

Britain and New Haven health departments, attorneys, a grocer, insurance companies, a veterinarian and private citizens. Included were: Nine samples of sodas; seven of vegetable products; six of milk; five of confectionery; two of cleaning compounds; and one sample each of canned pineapple, cake, cheese, cookies, crackers, a crow repellent, fish, flour, fresh cherries, grape juice, maple syrup, popsicles, roast beef, sodium hypochlorite and turkey stew. Twenty samples were passed and 23 were adulterated. The adulterated samples were the following:

8571. *Blue Ribbon Beverages Lemon & Lime Soda*. Blue Ribbon Beverage Co., Inc., New Haven, Conn. Soot present.

8487. *Candy Cupboard Soft Center Chocolates*. Candy Cupboard Division, New England Confectionery Co., Cambridge, Mass. Two of the candies contained a pupa and an early instar larva of some Lepidopteron species (probably *Plodia* or *Anagasta*) and traces of insect eggs and webbing.

7588. *Coca-Cola*. Charles F. Wood, Jr., Wallingford, Conn. Small pieces of chewed-up apple present.

9588. *Coca-Cola*. Edward Sullivan, New Haven, Conn. About one-half gram of sand and dirt present.

8650. *Corn Cob*. Marion Condon, West Haven, Conn. Deposit of yellow (*Cophalothecium*) mold.

8649. *Cott Extra Dry Ginger Ale*. Cott Beverage Corp., New Haven, Conn. Piece of apple skin present.

8443. *Cott Orange Soda*. Cott Beverage Corp., New Haven, Conn. Moldy.

9070. *Del Monte Brand Quality Sliced Pineapple in Extra Heavy Syrup*. California Packing Corp., San Francisco, Calif. Slivers of iron present.

7548. *Educator Graham Crackers*. Magowen-Educator Food Co., Lowell, Mass. Wood fragments present.

7746. *Favorita Brand Antipasto of Eggplant in Oil*. Eastern Specialty Packing Co., Inc., New Haven, Conn. Glass fragments present

7620. *Green Paste Cleaner*. Francis M. Barry, Hampden, Mass. Mercury, 10 parts per million.

9798. *Joan Carol Date Nut Loaf*. First National Stores, Inc., Somerville, Mass. Nail present.

6905. *Lafayette Beverages*. Lafayette Bottling Co., New Britain, Conn. Eleven large iron screws and trace of oil present.

9444. *Liquid in Jelly Tumbler*. John A. Brown, New Haven, Conn. This liquid, which was claimed to have been offered as a beverage, was a 3.91 per cent sodium hypochlorite solution.

9067. *Milk*. Health Dept., Bridgeport, Conn. This milk had a malty odor, apparently due to *Streptococcus lactis*, var. *maltigenes*<sup>3</sup>.

<sup>3</sup> J Dairy Science, 37, 1316 (1954); Foster et al., *Dairy Microbiology*, 14.48 (1957).

9608. *Miss Cynthia Butter Crunch*. Cynthia Sweets Co., Boston, Mass. Mouse feces and insect webbing present.

9065. *Oh Henry!* Williamson Candy Co., Chicago, Ill. All six bars comprising this sample were infested with dead adult and live larval saw-toothed grain beetles.

9268. *Sealtest Homogenized Vitamin D Approved Milk*. National Dairy Products Corp., Hartford, Conn. Clump of bacteria present.

6505. *7 Up*. Seven-Up Bottlers, Inc., Norwalk, Conn. Traces of mold present.

7456. *Sparkling Pepsi-Cola*. Pepsi-Cola New Haven Bottlers, Hamden, Conn. Clump of mold present.

8484. *Sparkling Pepsi-Cola*. Mrs. Vernell Hemingway, New Haven, Conn. Plant stems and pieces of leaves and trace of dirt present.

6899 and 7069. *Squirrel Brand Candy*. Squirrel Brand Co., Cambridge, Mass. Piece of wood and a woody stem present.

8340. *Vegemato*. Vegemato Division, Naas Food, Inc., Portland, Ind. Clump of mold present.

## Dairy Products

### Butter Oil, Cheese and Dessert Topping

One sample of butter oil was submitted by the Commissioner, two of ricotta cheese by the manufacturer, and one of a dessert topping by the Bridgeport health department; all except this last were passed:

E.S.-104. *Butter Oil*. Lincoln Dairy, West Hartford, Conn. This was claimed to have imparted an objectionable flavor to ice cream, but we found nothing wrong with the odor or flavor. Analysis showed: Butyro refraction, 40°C., 42.0; free oleic acid, 0.09, per cent; Kreis test negative.

7046. *Calabro's Whole Milk Ricotta Cheese*. Calabro's Dairy, Stratford, Conn. Water, 75.77; casein, 9.00; albumin, 0.10; other protein, 0.85; fat, 10.68, and lactose, 3.02, per cent.

8575. *Dzert Whip Topping*. Presto Foods, Inc., East Hartford, Conn. Labelled: "a Pasteurized Blend of Fresh Cream, Milk Solids Not Fat, Stabilizer, Sugar, Artificial Color and Flavor". Analysis showed: Total solids, 38.90, fat, 22.26, protein, 1.21, lactose, 6.25, and sucrose, 4.58, per cent; butyro refraction of fat (40°C.), 50.0; Reichert-Meissl value of fat, 3.40; Polenske value of fat, 0.75; Kirschner value of fat, 2.13. Not more than 12 per cent of the total fat was butter fat; adulterated and misbranded.

7047. *Gambardella Ricotta Cheese*. Gambardella-Calabro Cheese Corp., New Haven, Conn. Water, 74.08; casein, 8.61; albumin, 0.10; other protein, 1.12; fat, 11.49, and lactose, 3.42, per cent.

### Evaporated Milk

Seventeen samples of evaporated milk were analyzed spectrographically for lead for the Commissioner of Agriculture; nine were "Carnation" brand, and there was one sample each of "Borden's", "Beauty", "Page", "Pet", "Shurfine", "Stop & Shop", "Sweet Life" and "United". No lead was found except in the following three samples:

*C.C. 10,129, 10,133 and 10,134. Carnation Evaporated Milk.* Carnation Co., Los Angeles, Calif. Average lead content, 0.57 part per million.

### Ice Cream and Ice Cream Mixes

Two "dietary" ice creams were examined for the Commissioner, and butter fat was determined in three samples of ice cream and seven of ice cream mixes for manufacturers. Results on the unofficial samples are not of general interest. The two official samples were the following:

*W.M.-4145. Vanilla Dietary Ice Cream, Artificially Sweetened, Saccharine Sweetened, 82 Grains Saccharine To 45 Lbs. Of Mix.* Knudsen Bros. Dairy, Inc., North Haven, Conn. Declared analysis was: "Protein, 5.3, fat, 10.2, and carbohydrates, 19.6, per cent; calories/oz. contributed by lactose, 22; calories/oz. contributed by carbohydrates other than lactose, 16; total calories/oz., 54." Analysis showed: Water, 64.99, ash, 0.90, protein, 5.23, sucrose, 2.12, lactose, 5.46, sorbitol, 11.09, and fat, 10.21, per cent; calories/100 gm., 187; calories/oz., 53. Passed.

*W.M.-4144. Vanilla Dietary Ice Cream.* Sealtest Foods, New Haven, Conn. Labelled: "Artificially Sweetened with Sucaryl (Calcium) 0.11% and Sorbitol 13.00%—NO SUGAR ADDED." Analysis showed: Water, 64.17, ash, 0.98, protein, 4.69, sucrose, 2.22, lactose, 5.36, sorbitol, 10.97, and fat, 11.61, per cent; calories/100 gm., 192; calories/oz., 54. Misbranded because the "NO SUGAR ADDED" statement was misleading and because it failed to declare the percentages of protein, fat and available carbohydrate and the calorie content.

### Unfortified Fluid Milk

The fat contents of four samples of whole milk were determined for dairymen; values between 3.6 and 5.1 and averaging 4.08 per cent were obtained.

Besides these samples, 529 samples of milk were tested for DDT; these are reported under "Spray Residues" on page 00.

### 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 such milk on the market by feeding tests on rats. In the 25-year period 1935-1959 inclusive, 3,725 samples have been tested; 91 per cent contained the required 400 units of vitamin D per quart or were sufficiently close thereto to be passed.

In 1959, 225 samples were examined for the Commissioner of Agriculture. Results of the assays are shown in Table 3; 10 samples were

definitely substandard. The percentage of samples fully or substantially meeting guaranties was 96.

### Vitamin-Mineral Fortified Milk

Each quart of Vitamin Mineral Fortified Milk is required to contain not less than the following quantities of vitamins and minerals: Vitamin A, 4,000, and vitamin D, 400, U. S. P. units; thiamine, 1, riboflavin, 2, niacin, 10, iron, 10, and iodine, 0.1, milligrams. Seven samples of such milk were submitted by the Commissioner of Agriculture, and two other samples were purchased by us and assayed for thiamine only. One sample was passed; of the others, two were low in one or more vitamins and six contained 50 per cent or greater excesses of one or more vitamins. Assays are given in Table 4.

### Vitamins A and D Skimmed Milk

Each quart of Vitamins A and D Skimmed Milk is required to contain not less than 2,000 U.S.P. units of Vitamin A and 400 U.S.P. units of vitamin D, and not more than 0.5 per cent of butter fat. Of 13 samples submitted by the Commissioner of Agriculture, four were passed, four were low in vitamin A, and five contained 50 per cent or greater excesses of this vitamin (a 429 per cent excess in one case). Assays are given in Table 5.

TABLE 3. VITAMIN D MILK

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
Baltic	Sunrise Farm Dairy (John Ozga) ....	1	1	....	....
Berlin	Johnson's Dairy .....	2	2	....	....
	Lower Lane Dairy .....	1	1	....	....
	Rose Hurst Dairy .....	1	1	....	....
Bethany	Maple Hill Farms .....	2	2	....	....
	Chris Nielsen & Sons .....	2	2	....	....
	A. C. Petersen Farms .....	2	2	....	....
	Talcott View Farms .....	1	1	....	....
	A. J. Wade Dairy Farms .....	1	1	....	....
	The Bolton Dairy, Inc. ....	1	1	....	....
Bolton	Beechmont Dairy .....	1	1	....	....
	Dewhurst Dairy .....	1	1	....	....
	Mitchell Dairy Div., Borden's .....	1	1	....	....
Bridgeport	E. H. Elton Dairy .....	2	2	....	....
	Roberge Dairy, Inc. ....	2	2	....	....
Bristol	Burr Dairy .....	2	2	....	....
	McAllister Dairy .....	2	2	....	....
Clinton	Marcus Dairy .....	2	2	....	....
	Rider Dairy Co. ....	2	2	....	....
Cromwell	Kinney's Dairy .....	2	2	....	....
	Sprecher Dairy .....	1	1	....	....
Danbury	Wall's Dairy Farm .....	2	2	....	....
	Bergren's Dairy .....	1	1	....	....
Derby	Homestead Farm Dairy .....	2	2	....	....
	Drabik Farms .....	2	2	....	....
East Haddam	Devine's Dairy .....	2	2	....	....
East Hampton					
East Hartford					
East Lyme					
East Norwalk					

TABLE 3. VITAMIN D MILK (Continued)

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
Easton	Center Farm Dairy	1	1	....	....
	Marsh Dairy	2	2	....	....
	Snow's Milk Farm	2	1	....	1
East Windsor	Bassdale Farm Dairy	2	2	....	....
	Cordtsen Dairy	2	2	....	....
Ellington	Moser's Farm Dairy	1	1	....	....
	Enfield Dairy	2	2	....	....
Enfield	Riverview Dairy (Marshall A. Smith)	2	2	....	....
	Smyth Farm Dairy	2	1	....	1
Fairfield	Wade's Dairy	2	2	....	....
	R. H. Gifford Dairy	2	2	....	....
Forestville	Round Hill Farms	2	2	....	....
Greenwich	Maple Shade Farms, Inc.	2	2	....	....
Guilford	Brock-Hall Dairy	2	2	....	....
Hamden	Bayer's Milk	2	2	....	....
	Farmers' Co-Operative, Inc.	2	2	....	....
Hartford	Hilltop Dairy (G. L. Pinckney)	2	2	....	....
	H. P. Hood & Sons	1	1	....	....
Jewett City	National Dairy Products Corp.	2	2	....	....
	Norman's Dairy	2	2	....	....
Kensington	Ferndale Dairy	1	1	....	....
	Rockland Dairy Farms	2	1	....	1
Lisbon	Stanley Wildowsky	2	1	....	1
	Toll Gate Farms, Inc.	2	2	....	....
Litchfield	Dari-Maid Milk (C. H. Keeney)	2	1	....	1
	Dart's Dairy	2	1	....	1
Manchester	Wilkie Dairy	2	2	....	....
	Countryside Dairy	1	1	....	....
Meriden	Charles Greenbacker & Sons, Inc.	1	1	....	....
	E. J. Kaemmer & Son	1	1	....	....
W. F. Knapp	W. F. Knapp	1	1	....	....
	Meadow Brook Dairy	2	2	....	....
Schwink's Dairy, Inc.	Schwink's Dairy, Inc.	1	1	....	....
	Sievert's Dairy Farm, Inc.	2	2	....	....
Triple Springs Farm	Triple Springs Farm	1	1	....	....
	Wayside Dairy	1	1	....	....
Middletown	Brookfield Dairy	2	2	....	....
	Daniels Farm	2	2	....	....
Green Acres Farm	Green Acres Farm	1	1	....	....
	Hillside Dairy	2	1	....	1
Pleasant View Dairy	Pleasant View Dairy	2	2	....	....
	Sunshine Dairy (Alex Guida & Sons)	2	2	....	....
Milford	Clover Dairy	1	1	....	....
	A. J. Platt & Sons	2	2	....	....
Milldale	Riverside Dairy	3	3	....	....
	Guida-Seibert Dairy Co.	1	1	....	....
New Britain	The Heslin Dairy Co.	2	2	....	....
	J. J. Shapiro & Sons	2	2	....	....
A. J. Spring & Sons	A. J. Spring & Sons	2	2	....	....
	Miller's Farm Dairy	2	2	....	....
New Canaan	Millstream Farm	3	2	....	1
	New Hartford	H. P. Hood & Sons	2	2	....
New Haven	Eddy Dairy	1	1	....	....
	J. William Holt & Son Dairy	1	1	....	....
Newington	Mortensen Dairy	1	1	....	....
	J. A. Moylan & Son Dairy	1	1	....	....
Spring Brook Farm Dairy	1	1	....	....	

TABLE 3. VITAMIN D MILK (Concluded)

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
New London	Michael's Dairy	2	1	1	....
	New London and Mohegan Dairies	2	2	....	....
New Milford	Radway's Dairy	2	2	....	....
	Conn's Dairy	2	2	....	....
North Haven	Knudsen Bros.	1	1	....	....
Norwalk	Clover Farms Dairy	2	2	....	....
Norwich	Beebe's Dairy	1	1	....	....
	Broad Brook Dairy	1	1	....	....
Orange	Preston Dairy	1	1	....	....
	McDermott Dairy	3	3	....	....
Oxford	Great Oak Farm	2	1	....	1
Plainfield	Wauregan Dairy Farm	1	1	....	....
Plainville	Petersen's Dairy	2	2	....	....
Putnam	Fisher Bros. Dairy	2	1	....	1
Redding	Burritt's Dairy	2	2	....	....
Rocky Hill	Charles Gilbert	1	1	....	....
	Krol's Dairy	1	1	....	....
Seymour	Sunny Crest Farm	1	1	....	....
	Sun Valley Farms	1	1	....	....
Ajello Bros.	Ajello Bros.	1	1	....	....
	Bomba Bros.	1	1	....	....
Southbridge, Mass.	Chatfield Dairy	1	1	....	....
	W. W. Sherman & Sons	1	1	....	....
South Kent	Newton Dairy	2	2	....	....
South Meriden	Diamond Hill Dairy	1	1	....	....
South Norwalk	Harrick's Dairy	2	2	....	....
	Sealtest Sheffield Farm Div., National Dairy Products Co.	2	2	....	....
Suffield	Stony Brook Farm	2	2	....	....
	Talcottville	Welles Farm	2	2	....
Terryville	Freimuth Dairy	2	2	....	....
	High Farm Dairy (Jos. Kozikowski)	2	2	....	....
Thomaston	Fred J. Wood Dairy	1	1	....	....
Torrington	Clover Dairy	1	1	....	....
	Co-Operative Dairy	1	1	....	....
Trumbull	Greenwood's Dairy	2	2	....	....
	Parker's Dairy	1	1	....	....
Wallingford	Beaumont Farm	2	2	....	....
	J. H. Daly	2	2	....	....
Washington	Fairview Dairy	2	2	....	....
	J. P. Novak	2	2	....	....
Waterbury	Marsh Dairy Farm	1	1	....	....
	Brookside Dairies, Inc.	2	2	....	....
Webster, Mass.	Tranquility Farm Dairy	2	2	....	....
	Waterbury Co-Operative Dairy, Inc.	2	2	....	....
West Hartford	Choinière's Dairy	2	2	....	....
	Deary Bros.	2	2	....	....
Westport	Lincoln Dairy	2	2	....	....
	Ferris Dairy	2	2	....	....
Wethersfield	Lobdell's Dairy	1	1	....	....
	Kenwood Farms	1	1	....	....
Wilton	Orem's Dairy	2	2	....	....
Windsor	J. Noga & Son	2	2	....	....
Winsted	J. O. Johnson & Son	1	....	....	1
Yantic	Driscoll's Dairy	2	2	....	....
Totals		225	215	2	10

TABLE 4. VITAMIN - MINERAL FORTIFIED MILK

No.	City or town	Dairy	Vitamin A, units/qt.	Vitamin D, units/qt.	Riboflavin, mg./qt.	Niacin, mg./qt.	Thiamine, mg./qt.	Remarks
C.C.-6947	Hamden	Brock-Hall Dairy Co.	6,895	.....	2.6	9.4	2.4	Low in niacin; excessive vitamin A and thiamine.
C.J.-5942		Brock Hall Dairy Co.	4,617	.....	2.5	11.2	.....	Passed
7765		Brock-Hall Dairy Co.	.....	.....	.....	.....	3.5	Excessive thiamine
C.J.-5939	Kensington	Ferndale Dairy Co.	7,511	.....	4.4	12.2	.....	Excessive vitamin A and riboflavin
C.J.-5940	Meriden	Charles Greenbacker & Sons	4,555	.....	4.0	10.3	.....	Excessive riboflavin
C.J.-5941		Schwink's Dairy	5,797	.....	4.3	10.8	.....	Excessive riboflavin
C.J.-5938	New Britain	Guida-Seibert Dairy Co.	5,411	.....	2.9	15.1	.....	Excessive niacin
C.J.-3214	Torrington	Torrington Creamery	3,727	satisfactory	3.6	9.4	.....	Low in vitamin A and niacin; excessive ribo- flavin
7766	Waterbury	Brookside Dairies, Inc.	.....	.....	.....	.....	2.6	Excessive thiamine

TABLE 5. VITAMINS A AND D SKIMMED MILK

No.	City or town	Dairy	Vitamin A, units/qt.	Vitamin D, units/qt.	Remarks
C.C.-6946	Berlin	Ferndale Dairy, Inc.	3,221	.....	Excessive vitamin A
C.J.-3212		Ferndale Dairy, Inc.	5,175	.....	Excessive vitamin A
C.J.-5937		Ventres Dairy	1,802	.....	Low in vitamin A
C.C.-6943	East Hartford	Bergren's Dairy Farms	3,873	.....	Excessive vitamin A
C.J.-3210		Bergren's Dairy Farms	10,585	.....	Vitamin A over five times proper quantity
C.C.-6942	Hartford	National Dairy Products Corp.	2,488	.....	Passed
C.J.-3211		National Dairy Products Corp.	1,807	satisfactory	Low in vitamin A
C.C.-6945	Newington	Spring Brook Farm Dairy	1,807	.....	Low in vitamin A
C.J.-3213		Spring Brook Farm Dairy	1,807	satisfactory	Low in vitamin A
C.J.-3215	Torrington	Co-Operative Dairy Co.	2,517	satisfactory	Passed
C.J.-3216	Waterbury	Litchfield Farm (Brookside)	3,845	satisfactory	Excessive vitamin A
C.C.-6944	Webster, Mass.	Deary Bros.	2,190	.....	Passed
C.J.-3217	West Haven	Clark Dairy	2,545	satisfactory	Passed

## Deceptively Packaged Foods

A food is misbranded under the law if its container is "so made, formed or filled as to be misleading". In effect this means that it is illegal to pack foods in opaque containers that are larger than necessary, because such a practice is misleading to the purchaser. In 1959, 41 samples were submitted by the Commissioner because of suspected slack fill; five samples were passed and 36 were misbranded. The deceptively packed samples were the following:

*J.B.-419 and S.O.-569. Candy Cigarettes.* Four Star Candy Co., Newark, N. J. Average fill of container, 50 per cent.

*K.F.-2249, 2270 and 2271. Candy Cigarettes.* Smiley Candy Co., Easton, Pa. Average fill of container, 52 per cent.

*J.B.-408 and 438 and F.M.-287. Candy Cigarettes.* Candy Cigarettes World Candy Co., Brooklyn, N. Y. Average fill of container, 49 per cent.

*F.M.-297. Croyden House Chinese Fried Rice.* Blue Ribbon Foods, Inc., Suffern, N. Y. Fill of container 50 per cent.

*J.B.-435. Duncan Hines Quick Rice Pudding.* Hines Park Foods, Ithaca, N. Y. Fill of container 52 per cent.

*K.C.-1257 and K.F.-2324 and 2336. Fifties 50 Packets of Candy Cigarettes.* Howard B. Stark Co., Milwaukee, Wis. Average fill of container, 44 per cent.

*K.C.-1270. Fluff-O-Matic Rice in 3 Cooking Bags.* Min-O-Matic Foods, Inc., Houston, Texas. Fill of container 61 per cent.

*K.C.-1205. Goodman's Vegetable Noodle Soup Mix.* A. Goodman & Sons, Inc., Long Island City, N. Y. Fill of container 60 per cent.

*P.R.-272. Idle Wild Farm's Brown Gravy Mix.* Idle Wild Farm, Inc., Pomfret Center, Conn. Fill of container not over 50 per cent.

*K.F.-2398. King Size Candy Cigarettes.* Ce De Inc., Bloomfield, N. J. Fill of container 44 per cent.

*K.C.-1193 and F.M.-252. Mrs. Grass Chicken-y Rich Noodle Soup Mix, with Golden Nugget.* I. J. Grass Co., Inc., Chicago, Ill. Average fill of container, 53 per cent.

*K.C.-1194 and 1271. Mrs. Grass Vegetable Noodle Soup Mix.* I. J. Grass Noodle Co., Inc., Chicago, Ill. Average fill of container, 48 per cent.

*A.J.-261. Popeye Candy Treats.* Four Star Candy Co., Inc., Newark, N. J. Fill of container 45 per cent.

*F.M.-282. Salt Water Taffy.* Phoenix Candy Co., Brooklyn, N. Y. Fill of container 60 per cent.

*P.S.-265. 7-Minit Banana Quick Bread Mix.* 6 O'Clock Foods, Inc., Morristown, Pa. Fill of container 65 per cent.

*K.C.-1223. Tato Mix.* Dakey Co., Chicago, Ill. Fill of container 62 per cent.

*J.B.-425 and K.F.-2322. 10 Big Surprises for Party Give Aways.* Leader Novelty Candy Co., Brooklyn, N. Y. Average fill of container, 38 per cent.

*K.F.-2203, 2205 and 2207 and F.M.-199. Treasure Egg.* E. Rosen Co., Providence, R. I. Average fill of container, 44 per cent.

*E.C.-1135, K.C.-1256, K.F.-2335 and S.O.-566 and 567. World's Finest Candy Cigarettes.* World Candies, Inc., Brooklyn, N. Y. Average fill of container, 38 per cent.

### Egg Products

The only sample in this classification analyzed this year was *K.F.-2275, Brill Eg*, manufactured by H. C. Brill Co., Inc., Newark, N. J. This was labelled as "A Dry Product High in Egg Yolk Solids", and its declared ingredients were "Dried Egg Yolks, Lecithin, Salt, Vegetable Protein, Dextrose". Analysis showed: Water, 5.56, lipoids, 30.00, lipid  $P_2O_5$ , 0.63, dextrose, 25.17, sucrose, 3.87, and salt, 1.77, per cent; estimated per cent egg yolk solids, 60.1. Misbranded because the sucrose was not declared.

### Extracts and Flavors

Four samples of root beer flavors, three cocktail "head" preparations and one vanilla extract were examined for the Commissioner; six samples were passed and two were adulterated:

*J.B.-423. Atlas Brand Creamy Root Beer Soda Water Flavor.* H. Kohnstamm, New York, N. Y. No saponin; passed.

*J.B.-397. Crane's Old Fashioned Cocktail Mix, Non-Alcoholic.* Dell Food Corp., East Orange, N. J. Saponin absent; passed.

*A.J.-108. Creamy Crown Cocktail Glamorizer.* Lemon Corporation of America, New York, N. Y. Saponin present; adulterated.

*J.B.-424. Frostee Old Fashioned Root Beer Beverage Base.* Frostee Co., Baltimore, Md. No saponin; passed.

*K.C.-1301. Lecroy's Pure Vanilla Extract.* John Lecroy & Son, Camden, N. J. Vanillin, 0.19 and coumarin, 0.00, per cent; Winton lead number, 0.55; per cent of color insoluble in amyl alcohol, 34. Passed.

*F.M.-174. Old Fashioned Mix Holland House Cocktail Mix.* Holland House Sales Co., Woodside, N. Y. Non-saponin hemolytic agent present; adulterated.

*F.M.-142. Red Diamond Brand Liquid #20841 Root Beer Beverage Base.* Liquid Carbonic Corp., Chicago, Ill. No saponin; passed.

*J.B.-422. Ueko Brand Root Beer Soda Water Flavor.* V. & E. Kohnstamm, New York, N. Y. No saponin; passed.

### Fish

Of three samples of canned tuna submitted by the Commissioner, one was passed and two were misbranded:

*K.F.-2370 and 2371. Bumble Bee Fancy Solid White Tuna.* Columbia River Packers' Association, Inc., Astoria, Oregon. Declared net weight was 7 ounces; net weights found were 7.12 oz. for *K.F.-2370* and 6.73 oz. for *K.F.-2371*. *K.F.-2371* was short weight 0.27 oz. and therefore misbranded.

*F.M.-284. Contadina Tonno in Pure Olive Oil.* Hershel California Fruit Producers Co., San José, Calif. The contents of this can were identified by the Division of Microbiology of the U. S. Food and Drug Administration as bluefin tuna packed in olive oil. Sample was nevertheless misbranded because the name of the fish was not given in English.

### Flour

Seven samples of cake flour were analyzed for the State Supervisor of Purchases to check their compliance with purchasing specifications calling for: A maximum of 13.8 per cent of moisture; 6.0-9.5 per cent protein, and not more than 0.40 per cent ash (both on a 14 per cent moisture basis); a pH of 4.8-5.3; 1.2-1.5 mg./lb. of riboflavin; and 16.0-20.0 mg./lb. of niacin. Two other samples purchased by us were used in testing a new microbiological method for thiamine. Analyses are given in Table 6; of the total of nine samples, two were passed and seven were deficient in one or more respects.

TABLE 6. FLOUR

No.	Manufacturer or distributor and brand	Moisture, per cent	Protein, per cent	Ash, per cent	Fiber, per cent	pH of 10% suspension	Riboflavin, mg./lb.	Niacin, mg./lb.	Thiamine, mg./lb.	Remarks
8120	Connecticut Flour Corp., New Haven, Conn. <i>Lite Maid</i>	14.44	9.06	0.81	.....	5.2	.....	.....	.....	High in moisture and ash
9193	Connecticut Flour Corp., New Haven, Conn. <i>Lite Maid</i>	10.91	8.32	0.64	0.09	5.7	.....	.....	.....	pH and ash high
9510	Connecticut Flour Corp., New Haven, Conn. <i>Lite Maid</i>	9.26	8.66	0.50	.....	5.6	.....	.....	.....	pH and ash high
6671	Connecticut Flour Corp., New Haven, Conn. <i>Sparkling Jewel</i>	.....	9.12	0.60	.....	.....	.....	.....	.....	High in ash
6670	Connecticut Flour Corp., New Haven, Conn. <i>Special Hi-Ratio</i>	.....	9.23	0.62	.....	.....	.....	.....	.....	High in ash
7579	General Mills, Inc., Minneapolis, Minn. <i>Betty Crocker Gold Medal</i>	.....	.....	.....	.....	.....	.....	.....	2.68	Enriched flour should contain 2.0-2.5 mg./lb. of thiamine; passed
7791	Manufacturer unknown <i>White Swan</i>	.....	8.32	.....	.....	5.0	0.17	3.80	.....	Not enriched flour
9192	Manufacturer unknown <i>White Swan</i>	9.26	7.41	0.48	0.28	5.7	.....	.....	.....	pH and ash high
7580	Pillsbury Co., Minneapolis, Minn. <i>Pillsbury's Best XXX Bleached Enriched All Purpose</i>	.....	.....	.....	.....	.....	.....	.....	2.84	Passed

## Fruit and Fruit Juice

## Apple Juice

Seven samples of apple juice and sweet cider were examined for the Commissioner; six were passed and one was adulterated:

*A.J.-221. Avon Cider Mill Cold Pure Cider.* Avon Cider Mill, Avon, Conn. Specific gravity (20°C.) 1.0426; invert sugar, 9.33, and ash, 0.23, gm./100 cc; alcohol, 0.27 per cent by volume; potassium carbonate in ash, 68.9 per cent; DDT absent. Passed.

*A.J.-263. Delicious Apple Cider.* Hilltop Orchard, Branford, Conn. Specific gravity (20°C.) 1.0436; invert sugar, 9.92, and ash, 0.17, gm./100 cc.; potassium carbonate in ash, 88 per cent. Passed.

*K.F.-2386. Granadaisa Pure Sweet Pasteurized Apple Cider.* Granadaisa Foods, Inc., New York, N. Y. Copper, 2 parts per million. Passed.

*K.C.-1148. Purity Brand Apple Juice.* Purity Food Co., Bridgeport, Conn. Specific gravity (20°C.), 1.0473; invert sugar, 10.10, malic acid, 0.49, and ash, 0.27, gm./100 cc.; potassium carbonate in ash, 85.1 per cent. Passed.

*K.F.-2353. Seneca Pure Apple Cider.* Seneca Grape Juice Corp., Dundee, N. Y. Specific gravity (20°C.), 1.0504; invert sugar, 11.77, and ash, 0.18, gm./100 cc.; potassium carbonate in ash, 88 per cent; benzoate absent. Passed.

*A.J.-220 and A.L.-548. Sweet Cider.* Hazenhurst Orchards, Hamden, Conn. Analyses of the two samples were:

	<i>A.J.-220</i>	<i>A.L.548</i>
Specific gravity, 20°C. ....	1.0262	1.0468
Invert sugar, gm./100 cc. ....	5.38	10.38
Ash, gm./100 cc. ....	0.17	0.20
Potassium carbonate in ash, per cent .....	91.4	76.7
Alcohol, per cent by volume .....	0.37	—
DDT .....	absent	—

The low specific gravity, sugar and ash plainly indicated that *A.J.-220* was adulterated with water; *A.L.-548* was passed.

## Canned Fruit

Eight samples of "Maraschino" cherries and five of canned peaches were submitted by the Commissioner; eight samples were passed and five were misbranded:

*F.M.-203. Co-Op Maraschino Cherries.* National Co-Operatives, Inc., Albert Lea, Minn. Sulphur dioxide, 3 parts per million. Passed.

*F.M.-263. Evertasty Salad Cherries.* B. M. Reeves Co., Inc., New York, N. Y. Sulphur dioxide, 2 p.p.m. Passed.

*K.F.-2109. Overland Maraschino Cherries.* S. S. Pierce Co., Boston, Mass. Sulphur dioxide, 4 p.p.m. Passed.

*K.C.-1165. Paradise Brand Maraschino Cherries.* Paradise Packing

Co., Brooklyn, N. Y. Sulphur dioxide, 276 p.p.m., not declared. Misbranded.

*K.C.-1249. Raffetto Cocktail Cherries with Stems.* G. B. Raffetto, Inc., New York, N. Y. Sulphur dioxide, 28 p.p.m., not declared. Misbranded.

*K.C.-1228. Rex Maraschino Cherries.* Bonoil Packing Corp., Brooklyn, N. Y. Sulphur dioxide, 166 p.p.m., not declared. Misbranded.

*K.F.-2250. Shurfine Maraschino Cherries.* Cookson's Market, Waterbury, Conn. Sulphur dioxide, 3 p.p.m. Passed.

*F.M.-120. Sundae Snack Brand Cherries.* Sea Snack Co., Philadelphia, Pa. Sulphur dioxide, 307 p.p.m., not declared. Misbranded.

*A.J.-181 and 182. "Yor Garden" Halves Ripe Yellow Freestone Peaches—Elberta Variety—in Extra Heavy Syrup.* First National Stores, Inc., Somerville, Mass. Each sample was a case of 24 one pound one ounce cans. Average net weights found were 17.82 oz. for *A.J.-181* and 17.33 oz. for *A.J.-182*. Respective Brix gravities of the syrup portions were 27.7 for *A.J.-181* and 23.6 for *A.J.-182*. *A.J.-182* was misbranded because its syrup was not extra heavy; *A.J.-181* was passed.

*A.J.-178 to 180. "Yor Garden" Sliced Ripe Yellow Freestone Peaches—Elberta Variety—in Extra Heavy Syrup.* First National Stores, Inc., Somerville, Mass. These samples were also cases of 24 one pound one ounce cans. Average values found were: Net weight, 17.90 oz.; Brix gravity of syrup, 27.6. Passed.

### Grape Juice

Thirty samples of grape juice and two of grape juice concentrate were examined for the Commissioner; 21 samples were passed and 11 were adulterated or misbranded. Analyses are given in Table 7.

TABLE 7. GRAPE JUICE

No.	Manufacturer or distributor and brand	Total solids, gm./100 cc.	Invert sugar, gm./100 cc.	Total acidity as tartaric acid, gm./100 cc.	Actual tartaric acid, gm./100 cc.	Ash, mg./100 cc.	K <sub>2</sub> O, mg./100 cc.	P <sub>2</sub> O <sub>5</sub> , mg./100 cc.	Methyl anthranilate, mg./100 cc.	Remarks
K.C.-1123	Abbey Garden, Inc., New York, N. Y. <i>Abbey Garden, Unsweetened</i>	15.95	14.30	1.03	0.68	334	197	30.3	0.22	Passed
K.F.-1997	Birds Eye Div., General Foods Corp., White Plains, N. Y. <i>Birds Eye Concentrated Concord</i>	54.92	53.60	2.00	0.84	444	218	42.0	0.36	Misbranded because not a 4 to 1 concentrate as directions imply
K.F.-2242	Birds Eye Div., General Foods Corp., White Plains, N. Y. <i>Birds Eye Concentrated Sweetened</i>	59.25	56.73	1.98	0.75	408	194	60.0	.....	Misbranded for same reason as K.F.-1997
K.C.-1245	F. F. Products, Inc., Philadelphia, Pa. <i>F. F. De Luxe Finer Foods Pure Concord, Sugar Added</i>	17.02	15.34	1.03	0.64	301	161	23.4	.....	Passed
K.C.-1251	F. F. Products, Inc., Philadelphia, Pa. <i>F. F. De Luxe Finer Foods Pure Concord, Sugar Added</i>	19.03	18.22	0.93	0.66	278	110	25.2	.....	Passed
S.O.-550	F. F. Products, Inc., Philadelphia, Pa. <i>F. F. De Luxe Finer Foods Pure Concord, Sugar Added</i>	18.99	17.90	0.94	0.66	281	108	25.2	.....	Passed
S.O.-551	F. F. Products, Inc., Philadelphia, Pa. <i>F. F. De Luxe Finer Foods Pure Concord, Sugar Added</i>	18.63	17.58	0.91	0.50	195	89	20.6	.....	Adulterated with water

TABLE 7. GRAPE JUICE (Continued)

No.	Manufacturer or distributor and brand	Total solids, gm./100 cc.	Invert sugar, gm./100 cc.	Total acidity as tartaric acid, gm./100 cc.	Ash, mg./100 cc.	K <sub>2</sub> O, mg./100 cc.	P <sub>2</sub> O <sub>5</sub> , mg./100 cc.	Methyl anthranilate, mg./100 cc.	Remarks
K.C.-1120	First National Stores, Inc., Somerville, Mass. <i>Finast Pure Concord, Sugar Added</i> .....	18.41	17.45	0.79	225	115	27.1	0.23	Passed
K.C.-1252	First National Stores, Inc., Somerville, Mass. <i>Finast Pure Concord, Sugar Added</i> .....	17.82	17.01	0.94	281	135	24.0	.....	Passed
K.C.-1177	Theresa Friedman & Sons, Inc., Philadelphia, Pa. <i>F.F. De Luxe Finer Foods Pure Concord, Sugar Added</i> .....	18.59	17.36	0.94	238	109	21.1	.....	Passed
K.C.-1180	Theresa Friedman & Sons, Inc., Philadelphia, Pa. <i>F.F. De Luxe Finer Foods Pure Concord, No Sugar Added</i> .....	16.18	15.06	0.95	231	102	21.7	.....	Passed
K.C.-1213	Theresa Friedman & Sons, Inc., Philadelphia, Pa. <i>F.F. De Luxe Finer Foods Pure Concord, Sugar Added</i> .....	16.98	15.38	0.89	208	95	23.1	.....	Adulterated with water
F.M.-270	H.W. Given Co., Ardmore, Pa. <i>Ardmore Farms 100% Pure Concord</i> .....	20.28	18.40	1.18	355	201	33.7	.....	Passed
K.C.-1124	Grand Union Co., East Paterson, N. J. <i>Freshpak, Sugar Added</i> .....	18.70	17.44	0.99	317	174	27.9	0.23	Passed
K.C.-1125	Great Atlantic & Pacific Tea Co., New York, N.Y. <i>A &amp; P Concord Natural Unsweetened</i> .....	14.72	13.97	0.83	248	134	21.6	0.32	Passed
K.F.-2361	Honey Dew Food Stores, Inc., Teaneck, N. J. <i>Honey Dew Pure Concord Unsweetened</i> ....	16.60	14.80	1.09	312	185	30.8	.....	Passed

TABLE 7. GRAPE JUICE (Continued)

No.	Manufacturer or distributor and brand	Total solids, gm./100 cc.	Invert sugar, gm./100 cc.	Total acidity as tartaric acid, gm./100 cc.	Ash, mg./100 cc.	K <sub>2</sub> O, mg./100 cc.	P <sub>2</sub> O <sub>5</sub> , mg./100 cc.	Methyl anthranilate, mg./100 cc.	Remarks
A.J.-63	Shamrock Foods, Inc., Evanston, Ill. <i>Shamrock Real-Fine Pure Unsweetened</i> .....	14.75	13.98	0.90	312	169	19.6	0.32	Passed
A.J.-65	Tea Garden Products Co., San Leandro, Calif. <i>Tea Garden Quality Pure Concord, No Sugar Added</i> .....	14.94	14.00	0.69	335	172	40.3	0.17	Passed
J.B.-434	Trupak Finer Foods, Inc., New York, N. Y. <i>Trupak Juices of Concord Grapes, Naturally Sweetened</i> .....	16.50	15.16	0.93	204	112	19.2	.....	Adulterated with water
K.C.-1121	Tulip, Inc., Philadelphia, Pa. <i>F.F. De Luxe Finer Foods Pure Concord, Sugar Added</i> .....	18.47	18.03	0.90	159	69	16.3	0.09	Adulterated with water
K.C.-1176	Tulip, Inc., Philadelphia, Pa. <i>F.F. De Luxe Finer Foods Pure Concord, Sugar Added</i> .....	18.58	17.12	1.02	247	140	19.4	.....	Passed
K.C.-1178	Tulip, Inc., Philadelphia, Pa. <i>F.F. De Luxe Finer Foods Pure Concord, Sugar Added</i> .....	15.35	13.89	0.98	268	147	23.8	.....	Passed
K.C.-1179	Tulip, Inc., Philadelphia, Pa. <i>F.F. De Luxe Finer Foods Pure Concord, Sugar Added</i> .....	16.91	15.22	1.04	283	155	25.2	.....	Passed
K.C.-1243	Tulip, Inc., Philadelphia, Pa. <i>F.F. De Luxe Finer Foods Pure Concord, Sugar Added</i> .....	18.91	17.86	0.86	191	103	21.2	.....	Adulterated with water
K.C.-1244	Tulip, Inc., Philadelphia, Pa. <i>F.F. De Luxe Finer Foods Pure Concord, No Sugar Added</i> .....	16.70	15.38	0.95	236	114	20.8	.....	Adulterated with water

TABLE 7. GRAPE JUICE (Concluded)

No.	Manufacturer or distributor and brand	Total solids, gm./100 cc.	Invert sugar, gm./100 cc.	Total acidity as tartaric acid, gm./100 cc.	Ash, mg./100 cc.	K <sub>2</sub> O, mg./100 cc.	P <sub>2</sub> O <sub>5</sub> , mg./100 cc.	Methyl anthranilate, mg./100 cc.	Remarks
A.J.-110	Tulip, Inc., Philadelphia, Pa., F.F. De Luxe Finer Foods Pure Concord, Sugar Added	18.58	17.36	0.93	203	82	21.7	.....	Adulterated with water
A.J.-111	Tulip, Inc., Philadelphia, Pa., F.F. De Luxe Finer Foods Pure Concord, Sugar Added	18.57	17.52	0.93	203	83	22.1	.....	Adulterated with water
S.O.-552	Tulip, Inc., Philadelphia, Pa., F.F. De Luxe Finer Foods Pure Concord, No Sugar Added	16.85	15.70	0.91	211	85	26.4	.....	Adulterated with water
K.C.-1260	Unanue & Sons, Inc., New York, N.Y. Fancy Goya Pure Concord Enriched with Dextrose	19.49	18.20	0.94	268	162	21.6	.....	Passed
J.B.-431	Wakefern Food Corp., Cranford, N.J. Shop Rite Superior Quality Unsweetened	15.73	15.01	0.92	289	125	24.0	.....	Passed
K.C.-1122	Welch Grape Juice Co., Inc., Westfield, N.Y. Welch Pure Concord, No Sugar Added	15.37	14.10	0.99	265	139	23.2	0.28	Passed Protein 0.43 gm./100 cc.; passed
K.F.-2292	Welch Grape Juice Co., Inc., Westfield, N.Y. Welch Pure Concord, No Sugar Added	16.16	14.34	0.92	276	152	25.6	.....	.....

It is interesting to compare the analyses of these market juices with those of the over 150 authentic Concord grape juices analyzed by Robinson, Owens and Kertesz in 1947.<sup>4</sup> Eliminating the definitely adulterated samples and all of the "F F De Luxe" brand samples from the three distributors (whose purity was uncertain), there were eight samples of unsweetened and five of sweetened grape juice examined by us in 1959. Average values for these samples, as compared with the averages for the New York authentic juices, were as follows:

	Conn. unsweetened, 1959	Conn. sweetened, 1959	New York authentic, 1947
Total solids, gm./100 cc.	15.53	18.94	16.36
Invert sugar, gm./100 cc.	14.31	17.70	14.40
Total acidity, gm./100 cc.	0.92	0.97	1.29
Tartaric acid, gm./100 cc.	0.58	0.57	—
Ash, mg./100 cc.	296.	289.	434.
K <sub>2</sub> O, mg./100 cc.	159.	158.	225.
P <sub>2</sub> O <sub>5</sub> , mg./100 cc.	26.9	26.9	29.0
Methyl anthranilate, mg./100 cc.	0.26	0.23	—

The most striking thing about this comparison is the discrepancy between the ash and K<sub>2</sub>O contents of the market and authentic juices. Because true tartaric acid was not determined by Robinson, Owens and Kertesz on their samples, no direct comparison of the tartrate contents of market and authentic juices is possible; nevertheless the most probable explanation for the loss of ash and K<sub>2</sub>O from the market product is the partial removal of potassium acid tartrate in the course of processing the juices for bottling. The fact that total acidity also drops (to 81 per cent of its original value) tends to confirm this.

### Orange Juice

One hundred and seven samples of orange juice were submitted by the Commissioner, and one sample was received from the State Supervisor of Purchases; most of these were "fresh" juices in quart paper containers. Eighty-five samples were passed and 23 were adulterated or misbranded. The adulterated and misbranded samples (most of which were short volume only) were the following:

K.N.-4548. *Ardmore Farms Reconstituted Orange Juice.* H. W. Given Co., Ardmore, Pa. Short volume 0.56 fl. oz.

A.J.-74, 86, 104 and 120 and W.M.-3518. *Borden's 100% Pure Orange Juice.* Borden Co., New York, N. Y. Shortage in volume ranged between 0.22 and 3.27 fl. oz., and averaged 1.07 fl. oz. A.J.-104 was also adulterated with about 19 per cent water.

S.O.-467. *Florida Sip Brand 100% Pure Orange Juice.* Salada-Sheriff-Horsey, Inc., Plant City, Fla. Short volume 0.73 fl. oz.

K.N.-4232. *Florida Orange Juice, Grove Sweet.* Dairy Service Corp., Brooksville, Fla. Short volume 1.23 fl. oz.

S.O.-456, 542, 547, 561 and 581. *Ivey's King Sun Brand Florida Orange Juice.* Osceola Fruit Distributors, Kissimmee, Fla. All five were

<sup>4</sup> N. Y. Agr. Expt. Sta. (Geneva) Tech. Bul. 285 (1949).

short volume, ranging from 0.22 to 1.06 fl. oz. and averaging 0.65 fl. oz. In addition, S.O.-547, 561 and 581 were adulterated with about 23 per cent of added water.

F.H.-2996 and S.O.-500, 521, 525, 527, 544, 546, 570, 572 and 591. *Sealtest Brand 100% Pure Orange Juice Direct from Florida*. National Dairy Products Corp., New York, N. Y. These 10 samples were short volume from 0.13 to 1.41 fl. oz.; the average deficiency was 0.65 fl. oz.

#### Other Fruit Juices

Three samples of lemon juice, two of grapefruit juice, and one each of an apple-grape juice mixture and lime juice, were examined for the Commissioner; all were passed:

K.N.-4117. *Bluebird Florida Grapefruit Juice, Sugar Added*. Southern Fruit Distributors, Inc., Orlando, Fla. Ash, 298, and  $K_2O$ , 166, mg./100 cc.

J.B.-344. *Concentrated Tempo Lemon Juice*. Henry Thayer Co., Cambridge, Mass. Labelled: "1 Tablespoon Equals 1 Lemon—Concentrated; More Than Double Strength—Preserved with sulfur dioxide and 0.1% sodium benzoate." Analysis showed: Ash, 787, and  $K_2O$ , 364, mg./100 cc; ascorbic acid, trace or none; sulphur dioxide, 50 p.p.m.; estimated per cent lemon juice, 240.

K.F.-2141. *Florida Key Tempo Lime Juice*. Henry Thayer Co., Cambridge, Mass. Labelled: "Preserved with sulphur dioxide and 0.1% sodium benzoate". Analysis showed: Ash, 292,  $K_2O$ , 125, mg./100 cc.; ascorbic acid, trace or none.

F.H.-2963. *Florida Sip Brand Sugar Added Grapefruit Juice*. Sun Pop Co., Plant City, Fla. Labelled: "A small amount of sugar is added to this juice to keep its sweetness and tartness in balance." Analysis showed: Invert sugar, 3.61, sucrose, 5.99, and citric acid, 1.28, gm./100 cc.; ash, 332, and  $K_2O$ , 198, mg./100 cc.; Brix gravity, 11.8.

A.J.-235. *Natural Lemon Juice in the Easy Juicer For All Lemon Uses*. Citrus Corporation of America, Boston, Mass. Ash, 399, and  $K_2O$ , 170, mg./100 cc.

A.J.-233. *Realemon Brand Reconstituted Lemon Juice, Natural Strength, Not a Concentrate*. Realemon-Puritan Co., Chicago, Ill. Labelled: "1/10 of 1% Benzoate of Soda Added—1/50 of 1% Sulphur Dioxide Added—Made from concentrated lemon juice standardized with purified water to the strength of freshly squeezed lemon juice." Analysis showed: Ash, 349, and  $K_2O$ , 139, mg./100 cc.; estimated per cent lemon juice, 91.

K.F.-2291. *Winter Hill Apple-Grape Juice, No Sugar Added*. Rowse Co., Greenville, N. H. Labelled "A blend of pure apple juice with concentrated grape juice and water." Analysis showed: Total solids, 12.70, invert sugar, 11.30, total acidity (as tartaric acid), 0.39, actual tartaric acid, 0.12, and ash, 0.228, gm./100 cc.;  $K_2O$ , 120, and  $P_2O_5$ , 21.0, mg./100 cc.

#### Jams and Jellies

Federal regulations require jams and other fruit preserves to contain not less than 45 parts of fruit to each 55 parts of added sugar; their soluble solids content must also be not less than 68 per cent (65 per cent in the case of apricot, peach, pear, plum and a few other fruits). For jellies, the standards set the same fruit to sugar ratio and a 65 per cent soluble solids content.

Twelve samples of jams and jellies were submitted by the Commissioner to check their compliance with these standards and with special dietary claims; five samples were passed and seven were misbranded. Analyses are given in Table 8.

TABLE 8. JAMS AND JELLIES

No.	Manufacturer or distributor and brand	Soluble solids, per cent	Invert sugar, per cent	Sucrose, per cent	Ash, mg./100 gm.	K <sub>2</sub> O, mg./100 gm.	P <sub>2</sub> O <sub>5</sub> , mg./100 gm.	Estimated per cent juice	Parts of juice to 55 parts sugar	Remarks
K.F.-2065	John Bozzuto & Sons, Inc., Waterbury, Conn. P.G.A. Finest Apple Mint Jelly, Flavoring and Artificial Color Added	64.87	63.00	1.78	90	40	8.3	25	22	Low in fruit; misbranded
K.F.-2028	John Bozzuto & Sons, Inc., Waterbury, Conn. P.G.A. Finest Pure Preserves Strawberry	70.00	58.20	11.59	214	104	20.7	48	41	Passed Low in fruit for a preserve, but passed because of doubt as to whether standards applied to marmalade
K.F.-2080	First National Stores, Inc., Somerville, Mass. Mirabel Pure Orange Marmalade	67.64	50.82	16.72	98	43	6.2	19	16	
K.F.-2316	First National Stores, Inc., Somerville, Mass. Mirabel Pure Orange Marmalade	69.13	50.75	18.29	92	39	5.7	15	15	Passed; see K.F.-2080 above
A.L.-454	Glaser Grandell Co., Chicago, Ill. Everbest Spiced Pure Plum with Lemon	64.97	54.42	0.85	280	122	16.2	46	49	Passed
P.R.-246	Kettle Cove Industries, Inc., Manchester, Mass. Kettle Cove Fresh Mint Jelly, Certified Green Color Added	61.89	49.02	3.69	209	53	12.7	50	59	Low in soluble solids; not "Mint Jelly"; misbranded
K.F.-2135	Lincoln Foods, Inc., Lawrence, Mass. Lincoln Dietetic Low Calorie Strawberry Jelly Made Without Sugar	41.94	20.39	2.55	366	73	16.7	37	97	Calories per teaspoonful: Declared, 2; found, 4.6. "Made without sugar" claim misleading; misbranded

TABLE 8. JAMS AND JELLIES (Concluded)

No.	Manufacturer or distributor and brand	Soluble solids, per cent	Invert sugar, per cent	Sucrose, per cent	Ash, mg./100 gm.	K <sub>2</sub> O, mg./100 gm.	P <sub>2</sub> O <sub>5</sub> , mg./100 gm.	Estimated per cent juice	Parts of juice to 55 parts sugar	Remarks
K.C.-1018	Lincoln Foods, Inc., Lawrence, Mass. Lincoln Dietetic-Sugar Free Grape Spread	36.73	9.28	0.15	456	109	20.1	76	...	Not "SUGAR FREE"; misbranded
A.L.-506	Lincoln Foods, Inc., Lawrence, Mass. Lincoln 4 Fruit Jubilee	62.74	31.24	26.10	194	63	12.4	38	40	Low in soluble solids; misbranded
F.P.-414	Lincoln Foods, Inc., Lawrence, Mass. Lincoln 4 Fruit Jubilee	62.50	30.39	25.65	189	63	14.2	38	40	Low in soluble solids; misbranded
K.F.-2058	Perelli Bros., New Haven, Conn. Primrose Pure Jelly Mint Flavored Apple	65.23	60.72	4.42	85	36	5.4	24	21	Low in fruit; misbranded
K.F.-2057	Perelli Bros., New Haven, Conn. Primrose Pure Sweet Orange Marmalade	65.07	51.49	13.45	127	52	10.3	26	23	Passed for same reason as K.F.-2080 & 2316 above

## Meat and Meat Products

## Bologna

Bologna is a form of sausage, and as such the same limitations (not over 3.5 per cent fillers, 10 per cent added water and 200 parts per million of sodium nitrite) apply to it as to frankfurts. Of four samples submitted by the Commissioner all were passed.

## Frankfurts

Eighty-six samples of frankfurts were examined for the Commissioner; 43 samples were passed and 43 were misbranded. Analyses of the misbranded samples are given in Table 9.

In addition, one sample from the New Hampshire State Department of Health was analyzed for ascorbic acid with negative results.

TABLE 9. MISBRANDED FRANKFURTS

No.	Manufacturer or distributor and brand	Water, per cent	Protein, per cent	Lactose, per cent	Dextrose, per cent	Starch, per cent	Dry skim milk, per cent	Added water, per cent	Sodium nitrite, per cent	Remarks
K.F.-2304	Armour & Co., Waterbury, Conn. <i>Armour's Skinless</i> .....	51.04	14.13	2.56	1.07	0.00	4.97	1.64	104	Excessive dry skim milk
K.F.-2303	Armour & Co., Waterbury, Conn. <i>Campfire Skinless</i> .....	56.85	15.00	2.71	1.13	0.00	5.26	4.37	108	Excessive dry skim milk
J.B.-364	A.Y.O. Packing Co., New Britain, Conn. ....	52.50	13.88	1.55	2.08	0.75	3.08	1.38	210	Excessive sodium nitrite; adulterated
J.B.-379	A.Y.O. Packing Co., New Britain, Conn. <i>A.Y.O. Skinless</i> .....	48.55	14.00	1.78	1.28	0.63	3.46	0.00	76	Total fillers 4.09%; starch not declared
J.B.-380	A.Y.O. Packing Co., New Britain, Conn. <i>A.Y.O. Spectral</i> .....	45.06	13.63	1.59	1.31	0.78	3.09	0.00	68	Total fillers 3.87%; no filler declared
J.B.-405	Colonial Provision Co., Boston, Mass. <i>Family Pak Skinless</i> .....	57.35	14.13	2.27	0.94	0.00	4.41	7.15	60	Excessive dry skim milk
J.B.-403	Columbia Packing Co., Boston, Mass. <i>Gem Skinless</i> .....	49.27	12.38	2.37	2.06	0.00	4.60	6.35	50	Excessive dry skim milk
J.B.-404	Columbia Packing Co., Boston, Mass. <i>Gem King Size Skinless</i> ..	56.27	14.88	2.54	2.46	0.00	4.93	3.79	50	Excessive dry skim milk
J.B.-402	Columbia Packing Co., Boston, Mass. <i>Southampton Skinless</i> ..	49.53	13.63	2.54	1.84	0.00	4.93	2.05	38	Excessive dry skim milk
P.S.-224	Connecticut Packing Co., Bloomfield, Conn. <i>Copaco Skinless</i> .....	48.34	11.50	1.48	1.15	4.15	2.87	6.46	58	Total fillers 7.05%; no filler declared
A.F.-340	Connecticut Packing Co., Bloomfield, Conn. <i>Skinless</i> .....	52.36	14.75	1.45	0.55	0.00	2.82	0.00	92	No filler declared
A.F.-345	Connecticut Packing Co., Bloomfield, Conn. <i>Wintonbury Farms Skinless</i> .....	54.95	12.00	1.28	0.61	2.12	2.49	10.51	57	Total fillers 4.61%; excessive added water
K.F.-2169	Fulton Markets, Waterbury, Conn. <i>Bulk</i> .....	46.02	16.63	2.44	0.29	0.00	4.74	0.00	77	Excessive dry skim milk
K.F.-2157	Grand Union Stores, Newtown, Conn. <i>All Meat</i> .....	51.63	12.50	2.47	0.61	0.00	4.80	8.51	38	Dry skim milk present not permitted in all-meat frankfurts

TABLE 9. MISBRANDED FRANKFORTS (Continued)

No.	Manufacturer or distributor and brand	Water, per cent	Protein, per cent	Lactose, per cent	Dextrose, per cent	Starch, per cent	Dry skim milk, per cent	Added water, per cent	Sodium nitrite, p.p.m.	Remarks
J.B.-377	Hartford Provision Co., New Britain, Conn. <i>Capitol Regular</i>	54.62	12.00	3.30	0.00	0.00	6.41	15.78	37	Excessive dry skim milk and added water
J.B.-400	Hartford Provision Co., New Britain, Conn. <i>Capitol Superior Quality</i>	53.92	14.50	1.93	0.35	0.68	3.75	1.28	65	Total fillers 4.43%; starch not declared
P.R.-273	Hone Pride Provision, Inc., Stafford Springs, Conn.	47.78	15.25	4.02	0.53	0.00	7.81	0.00	90	Excessive undeclared dry skim milk
K.C.-1202	Miller's Stratford Provision Co., Stratford, Conn.	54.59	11.75	1.42	0.91	0.00	2.76	11.55	93	Excessive added water present; "Pasteurized Process Cheese", which is not a permitted ingredient, declared
A.J.-136	John Morrell & Co., Chicago, Ill.	50.00	13.75	0.82	1.84	0.00	1.59	0.00	10	
P.S.-215	E. E. Muckee & Sons, Hartford, Conn.	45.68	12.25	2.44	0.00	0.00	4.74	3.44	87	Excessive dry skim milk
P.R.-361	Premier Packing Co., Inc., Boston, Mass. <i>Zest</i>	52.31	13.75	3.74	trace	0.00	7.26	7.71	84	Excessive dry skim milk
J.B.-362	R. & L. Provision Co., New Britain, Conn.	55.27	11.88	3.33	0.74	1.52	6.47	16.99	60	Total fillers 7.99%; excessive fillers and added water; starch present, not declared
K.F.-2352	Roessler Packing Co., New Haven, Conn. <i>Roessler's All Beef Yellow Tag</i>	59.58	15.63	2.13	0.00	0.00	4.14	2.98	80	Excessive dry skim milk
K.C.-1286	Roessler Packing Co., New Haven, Conn. <i>Roessler's King Size Skinitless</i>	56.65	15.38	2.37	0.35	0.00	4.60	1.73	115	Excessive dry skim milk
K.F.-2351	Roessler Packing Co., New Haven, Conn. <i>Roessler's King Size</i>	60.31	15.00	1.96	trace	0.00	3.81	5.75	98	Declaration of artificial color almost illegible

TABLE 9. MISBRANDED FRANKFORTS (Continued)

No.	Manufacturer or distributor and brand	Water, per cent	Protein, per cent	Lactose, per cent	Dextrose, per cent	Starch, per cent	Dry skim milk, per cent	Added water, per cent	Sodium nitrite, p.p.m.	Remarks
K.C.-1287	Roessler Packing Co., Bridgeport, Conn. <i>Sheep Casing</i>	56.26	14.25	2.34	0.33	0.00	4.54	5.73	135	Excessive dry skim milk
K.F.-2391	Roessler Packing Co., New Haven, Conn. <i>Roessler's Yellow Tag</i>	52.10	18.75	3.54	0.35	0.00	6.87	0.00	82	Excessive dry skim milk
K.C.-1285	Roessler Packing Co., New Haven, Conn. <i>Roessler's Yellow Tag Skinitless</i>	55.82	13.88	2.27	0.55	0.00	4.41	6.62	144	Excessive dry skim milk
J.B.-365	Martin Rosol, Inc., New Britain, Conn. <i>Martin Rosol Skinitless</i>	56.03	15.62	1.75	0.83	0.48	3.40	0.00	68	Total fillers 3.88%; starch present not declared
P.R.-283	P. W. Rounsevell, Boston, Mass. <i>Maple Leaf Pure Meat</i>	55.90	13.13	3.92	0.31	trace	7.61	14.26	146	Excessive dry skim milk and added water; not "Pure Meat"
P.S.-220	Stanley Provision Co., Inc., Hartford, Conn. <i>Nutmeg</i>	44.71	13.38	2.10	0.70	0.00	4.08	0.00	120	Excessive dry skim milk
P.S.-237	Stanley Provision Co., Inc., Hartford, Conn. <i>Nutmeg</i>	60.74	13.63	2.24	0.87	0.00	4.35	12.46	100	Excessive dry skim milk and added water
P.S.-261	Stanley Provision Co., Inc., Hartford, Conn. <i>Nutmeg</i>	58.56	12.38	1.21	0.89	0.00	2.35	12.40	112	Excessive added water
P.S.-268	Stanley Provision Co., Inc., Hartford, Conn. <i>Nutmeg</i>	51.99	13.50	1.35	0.91	0.78	2.62	1.75	88	Total fillers 3.40%; starch present not declared
J.B.-363	Star Packing Co., New Britain, Conn.	52.35	15.00	3.06	0.81	0.00	5.94	0.87	92	Excessive dry skim milk
J.B.-378	Star Packing Co., New Britain, Conn.	53.41	13.75	2.75	trace	0.00	5.34	6.05	66	Excessive dry skim milk
J.B.-381	Star Packing Co., New Britain, Conn.	49.20	12.38	2.30	0.00	0.00	4.47	6.08	120	Excessive dry skim milk
A.J.-158	Stop & Shop, Inc., Boston, Mass. <i>Stop &amp; Shop Skinitless</i>	55.81	11.50	1.86	0.63	0.00	3.61	14.97	70	Excessive added water
A.J.-177	Stop & Shop, Inc., Boston, Mass. <i>Stop &amp; Shop Skinitless</i>	54.64	13.51	2.21	0.72	0.00	4.29	6.76	81	Excessive dry skim milk

TABLE 9. MISBRANDED FRANKFORTS (Concluded)

No.	Manufacturer or distributor and brand	Water, per cent	Protein, per cent	Lactose, per cent	Dextrose, per cent	Starch, per cent	Dry skim milk,		Remarks	
							Added	Sodium		
							per cent	per cent		
A.J.-198	Stop & Shop, Inc., Boston, Mass.	53.34	12.63	2.20	0.63	0.00	4.27	8.94	80	Excessive dry skim milk Soy flour 7.05%; total fillers 11.98%. Made from tuna fish instead of meat; should be labelled "Imitation Frankforts". Not high in protein and low in fat and calories as labelled Soy flour 2.41%; total fillers 7.48%. See K.F.-2201
K.F.-2201	Stop & Shop Skinless ..... Tuna Products Corp., Boston, Mass. Sealady Meatless .....	55.70	16.25	2.54	0.61	0.00	4.93	9.74	20	
K.F.-2217	Tuna Products Corp., Boston, Mass. Sealady Meatless .....	56.36	15.75	2.61	0.76	0.00	5.07	4.68	47	
A.J.-100	Tuna Products Corp., Boston, Mass. Sealady Meatless .....	55.31	16.15	2.61	0.78	0.00	5.07	6.75	20	Soy flour 6.11%; total fillers 11.18%. See K.F.-2201 above

## Hamburg

State regulations define "Hamburg, Hamburger" as "comminuted fresh beef, with or without addition of suet", and require that it contain no more than 30 per cent of fat. While added flavoring is permitted under Federal regulations, it is not under the laws of this State. Neither Federal nor State regulations permit the addition of sulphur dioxide to any meat product, because it reddens meat and makes it look fresh when it is not, covers up the odor of decomposition and destroys vitamin B<sub>1</sub> (thiamine).

Two hundred and eight samples of hamburg were submitted to us by the Commissioner in 1959, chiefly for fat determinations and to test for sulphite; in addition, tests for sulphite were made on an unknown number of samples by inspectors in the field. Ten samples were analyzed for markets and one for the New Haven health department. Of the total of 219 samples, 158 were passed and 61 were misbranded. Analyses of the misbranded samples are given in Table 10; in no case was added sulphite found.

Three of the markets selling hamburg with excessive fat in 1959 (Goodwill Market and A. Wortman & Sons in Hartford and Easy Shop Market in Newington) were also doing so in 1958.<sup>5</sup> While the total number of misbranded samples was twice as great this year as in 1958<sup>5</sup>, this was apparently due to the fact that six times as many samples were taken, since the percentage of deficient samples was 44 in 1958 and only 28 in 1959.

<sup>5</sup> Conn. Agr. Expt. Sta. Bul. 635, 47 (1960).

TABLE 10. MISBRANDED HAMBURG

No.	City or town	Market	Fat, per cent
K.F.-2183	Ansonia	Sav-Mor Super Markets .....	40.08
K.F.-2257		Sav-Mor Super Markets .....	36.84
7851		Sav-Mor Super Markets .....	33.04
K.C.-1156	Bridgeport	Stone Bros. ....	31.97
J.B.-393	Bristol	A. & F. Market .....	38.60
A.F.-347	Canaan	Canaan Super Market .....	32.24
S.O.-495	Danbury	Market Basket .....	31.75
S.O.-466		Waterbury Packing Co. Market .....	34.97
P.R.-384	Danielson	Foodarama Super Market .....	36.04
P.R.-394		Foodarama Super Market .....	31.29
F.P.-422	East Hartford	Villa's Super Market .....	32.86
K.C.-1160	Fairfield	Grand Union .....	31.31
J.B.-411	Forestville	Tony's Week End Market .....	39.14
E.C.-1145	Groton	J. & G. Market .....	30.25
K.F.-2199	Hamden	Towers .....	32.70
P.S.-276	Hartford	Goodwill Market .....	39.54
P.S.-257		Keney Super Market .....	35.14
P.S.-262		Keney Super Market .....	40.22
P.S.-263		Keney Super Market .....	30.19
P.S.-254		Market Basket .....	34.15
P.S.-246		Neal's Market .....	30.90
P.S.-210		A. Wortman & Sons .....	30.05
P.S.-223		A. Wortman & Sons .....	32.21
P.S.-319		A. Wortman & Sons .....	33.99
A.L.-537	Meriden	Country Cousin Diner .....	19.37*
A.L.-498		Home Meat Center .....	33.97
F.M.-243	Milford	Jack Josephson .....	31.49
F.M.-190	New Haven	Capitol Market .....	30.83
F.M.-205		Capitol Market .....	31.15
F.M.-189		City Market .....	34.06
F.M.-328		City Market .....	35.94
F.M.-194		Connecticut Beef Co. ....	37.67
F.M.-223		Connecticut Beef Co. ....	34.11
F.M.-314		Grand Meat Market .....	33.15
F.M.-196		Meat King .....	41.20
F.M.-191		Shiffrin's Market .....	35.54
F.M.-219		Shiffrin's Market .....	38.67
7921		Standard Beef Co. ....	33.69
J.B.-383	Newington	Easy Shop Market .....	37.21
E.C.-1111	New London	Beit Bros. Super Markets .....	34.01
E.C.-1110		First National Stores, Inc. ....	33.90
E.C.-1109	Norwich	Poultry Wing & Meat Market .....	36.85
E.C.-1121		Poultry Wing & Meat Market .....	32.62
P.R.-360	Plainfield	Brodeur's Super Market .....	30.23
P.R.-304	Putnam	Weiss Super Market .....	32.80
S.O.-460	South Norwalk	The Butcher Shoppe .....	30.59
K.C.-1306	Stratford	Grand Union Co. ....	32.98
E.C.-1108	Taftville	Universal Food Stores .....	31.06
E.C.-1120		Universal Food Stores .....	31.36
A.F.-330	Thomaston	Thomaston Beef Co. ....	38.44
A.F.-343	Torrington	People's Market .....	30.59
A.F.-332		Thrifty Market .....	32.97
A.L.-496	Wallingford	Home Meat Center .....	36.36
K.F.-2198	Waterbury	Bargain Food Market .....	37.07

\*Adulterated with 2.02 per cent dry skim milk and 1.40 per cent starch; onion, salt, spices present.

TABLE 10. MISBRANDED HAMBURG (Concluded)

No.	City or town	Market	Fat, per cent
K.F.-2227	Waterbury	Fyne Market .....	38.72
K.F.-2197		Patsy's, Inc. ....	33.14
K.F.-2188		Waterbury Beef Co. ....	40.30
K.F.-2228		Waterbury Beef Co. ....	31.36
F.M.-256	West Haven	Chick's Drive In .....	46.16
F.M.-380		Chick's Drive In .....	40.58
P.R.-303	Willimantic	M. Rabinowitz & Sons .....	32.18

### Liverwurst

State regulations set the same requirements for liver sausage as for all sausage, and in addition specify that it must contain not less than 30 per cent of liver. Eight samples of liver sausage were examined for the Commissioner in 1959, and one sample was analyzed for a Federal meat inspector; four samples were passed and five were misbranded. The misbranded samples were the following:

*K.F.-2143. Deerfoot Farms Liverwurst.* Deerfoot Farms Co., Southborough, Mass. Water, 49.98, protein, 14.44, lactose, 2.50, dextrose, 1.18, starch, 0.00, dry skim milk, 4.85, and added water, 0.00, per cent; sodium nitrite, 18 p.p.m. Excessive dry skim milk.

*F.M.-207. Hummel Bros. Liverwurst.* Hummel Bros., New Haven, Conn. Water, 55.78, protein, 12.50, lactose, 0.00, dextrose, 1.46, starch, 3.38, and added water, 5.78, per cent; no sodium nitrite. Undeclared starch present.

*E.S.-107. Hygrade's Chunk Liverwurst, Non Fat Dry Milk Added.* Hygrade Food Products Corp., Detroit, Mich. Water, 51.26, protein, 15.38, lactose, 2.47, dextrose, 0.44, starch, 0.00, dry skim milk, 4.80, and added water, 0.00, per cent; sodium nitrite, 10 p.p.m. Excessive dry skim milk.

*K.F.-2162 and F.M.-175. Super Right Brand Liver Sausage, Non Fat Dry Milk Added.* Great Atlantic & Pacific Tea Co., New York, N. Y. Average analysis showed: Water, 48.56, protein, 14.88, lactose, 2.63, dextrose, 0.19, starch, 0.00, dry skim milk, 5.11, and added water, 0.00, per cent; sodium nitrite, 19 p.p.m. Excessive dry skim milk.

### Miscellaneous

One sample each of bacon, cooked ham, "honey ham" and "minced luncheon sausage" was examined for the Commissioner; all except the "minced luncheon sausage" were misbranded:

*A.J.-165. Bacon.* Connecticut Packing Co., Bloomfield, Conn. Both this material (which looked more like salt pork than bacon) and *A.J.-164* below were advertised as "Practically Salt Free". Analysis showed: Total

ash, 0.87, and salt, 0.67, per cent. Not "practically salt free", and sodium content not declared; misbranded.

*A.J.-159. Faneuil Hall Brand Minced Luncheon Sausage.* Colonial Provision Co., Boston, Mass. Declared ingredients were "Beef, Unskinned Pork Shoulder Trimmings, Partially Defatted Pork Fatty Tissue, Beef Hearts, Beef Lips, Non Fat Dry Milk, Salt, Corn Syrup, Dextrose, Flavoring, Hydrolyzed Plant Protein, Sodium Nitrite, Sodium Nitrate". While analysis showed 2.34 per cent of lactose and/or maltose, it was not known how much of this came from the dry skim milk and how much from the corn syrup solids. Sample was therefore passed.

*A.J.-164. Fully Cooked Ham.* Connecticut Packing Co., Bloomfield, Conn. Total ash, 2.89, and salt, 2.28, per cent. Not "Practically Salt Free" as advertised; sodium content not declared; misbranded.

*K.F.-2312. Honey Ham.* Roessler Packing Co., New Haven, Conn. "Dried Skim Milk" declared but not present; misbranded.

#### Polish Sausage

Four samples of "Kielbasa" or Polish-style sausage were submitted by the Commissioner; all except one were misbranded:

*K.F.-2219. A.Y.O. Kielbasa.* A.Y.O. Packing Co., New Britain, Conn. Water, 55.90, protein, 18.00, lactose, 0.50, dextrose, 0.68, starch, 0.00, dry skim milk, 0.97, and added water, 0.00, per cent; sodium nitrite, 70 p.p.m. Passed.

*K.F.-2235. Gem Polish Style Sausage, Non Fat Dry Milk Added.* Columbia Packing Co., Boston, Mass. Water, 51.33, protein, 10.63, lactose, 1.59, dextrose, 1.48, dry skim milk, 3.09, and added water, 13.21, per cent; sodium nitrite, 8 p.p.m. Excessive added water; misbranded.

*K.F.-2191. Polish Style Sausage, Non Fat Dry Milk Added.* Columbia Packing Co., Boston, Mass. Water, 52.40, protein, 13.75, lactose, 1.75, dextrose, 1.79, starch, 0.50, dry skim milk, 3.40, and added water, 2.28, per cent; sodium nitrite, 50 p.p.m.; coal-tar dye absent. Total fillers 3.90 per cent; starch present not declared; misbranded.

*K.F.-2313. Roessler's Polska Kielbasa.* Roessler Packing Co., New Haven, Conn. Water, 58.86, protein, 15.00, lactose, 0.00, dextrose, 0.00, starch, 0.00, and added water, 0.00, per cent; coal-tar dye present. "Non Fat Milk Solids" declared but not present; coal-tar dye present not declared; misbranded.

#### Pork Sausage

Pork sausage may not contain more than 50 per cent of total fat. Of 24 samples submitted by the Commissioner, 16 were passed and eight were misbranded because of excessive fat. Analyses of the misbranded samples are given in Table 11.

TABLE 11. PORK SAUSAGE CONTAINING EXCESSIVE FAT

No.	Manufacturer or distributor and brand	Fat, per cent
F.M.-173	Deerfoot Farms Co., Southborough, Mass. <i>Deerfoot Farms</i> .....	51.86
F.M.-177	Deerfoot Farms Co., Southborough, Mass. <i>Deerfoot Farms</i> .....	59.19
K.F.-2163	Great Atlantic & Pacific Tea Co., New York, N. Y. <i>Super Right</i> ..	57.36
K.F.-2225	Great Atlantic & Pacific Tea Co., New York, N. Y. <i>Super Right</i> ..	56.19
K.F.-2194	Hartford Provision Co., New Britain, Conn. <i>Capitol</i> .....	53.70
K.F.-2187	M. M. Mades Co., Somerville, Mass. <i>Triple M</i> .....	52.38
F.M.-170	Roessler Packing Co., New Haven, Conn. <i>Roessler's Yellow Tag</i>	50.63
K.F.-2200	Towers, Inc., Hamden, Conn. <i>Sausage Meat</i> .....	54.67

#### Nuts

Three official samples of pistachios and two of peanuts were examined; all were misbranded:

*F.M.-250. Bes-By Salted Nuts.* R. A. Mathewson Co., Manchester, Conn. These were pistachios whose shells were dyed red with undeclared coal-tar dye.

*J.B.-409 and A.L.-529. Dandy Candy Sugar Toasted Peanuts.* Dandy Candy, Newark, N. J. Undeclared red coal-tar dye present.

*K.F.-2223. Nut Shelf Quality Brand Salted Red Pistachios.* Kelling Nut Co., Chicago, Ill. Labelled "Table Salt, Colored With U. S. Certified Pure Food Color Or Pure Cornstarch, Edible Gelatin". Analysis showed salt, starch and coal-tar dye all to be present. Ingredient declaration misleading.

*K.F.-2251. Skinner's Salted Nuts.* Skinner's Salted Nuts, Inc., Ridgefield Park, N. J. Labelled "if pistachios in shell with brine, corn starch or vegetable coloring added". Analysis showed that these pistachios were colored red with coal-tar dye but that no starch was present. Ingredient declaration false since coal-tar dye is not a "vegetable coloring".

#### Oils, Vegetable

Thirteen samples of blended oils, five of peanut oil, four of olive oil, three of soy oil, two of cottonseed oil and one of oleomargarine were examined for the Commissioner, and two samples each of blended oils and olive oil and one of oleomargarine were tested for the State Supervisor of Purchases, a dealer, a druggist and a private citizen. Thirteen samples were passed and 20 were adulterated or misbranded; the deficient samples were the following:

*K.C.-1296 and 1313. Ave Maria Brand Peanut Oil.* Vulcania Food Products, Hoboken, N. J. Dirt in bottoms of cans; adulterated.

*K.C.-1247 and 1265. Enrico Caruso Brand, a Special Blend of 75% Choice Corn Oil and Pure Peanut Oil Enriched with 25% Imported Olive*

*Oil.* Caruso Products Distributing Corp., Pelham Manor, N. Y. Peanut oil absent; short volume (ave.) 3.8 fl. oz. Adulterated and misbranded.

*K.C.-1269 and 1314. Fabiola Brand Peanut Oil.* Fabiola Food Products, Hoboken, N. J. Dirt in bottoms of cans; adulterated.

*K.F.-2239. 44 Brand Salad Oil Refined Winterized Cotton Seed Oil.* American Vegetable Oil Co., Somerville, Mass. Short volume 1.3 fl. oz.

*7003. Majestic Brand Salad Oil.* American Edible Oil Co., Brooklyn, N. Y. Labelled "Made from Cottonseed Pure Vegetable Oil". Short volume 2.0 fl. oz.

*F.M.-206 and S.O.-497. Marca D'Oro Brand 80% Corn and Peanut Oil 20% Pure Olive Oil.* Import Oil Co., New York, N. Y. No peanut oil; short vol. (ave.) 1.2 fl. oz. Adulterated and misbranded.

*F.M.-286. 100% Cream Olive Oil.* Giovanni Minervini, Hoboken, N. J. Short volume 3.3 fl. oz.

*F.M.-266. Paramonte Brand Extra Quality Compound Oil, 75% Corn or Peanut Oil 25% Pure Olive Oil.* Imported and Domestic Oil Co., Brooklyn, N. Y. Short volume 3.6 fl. oz.

*J.B.-370, A.L.-508 and F.M.-245. Prosperity Brand Extra Fine Quality 78% Corn and/or Peanut Oils 22% Pure Virgin Olive Oil.* J. Ossola Co., New York, N. Y. Cottonseed oil present not declared; short volume (ave.) 6.3 fl. oz. Adulterated and misbranded.

*A.L.-514. Pure Olive Oil Virgin, Reginella Brand Pure Imported Olive Oil.* Venice Importing Co., New York, N. Y. Short volume 0.4 fl. oz.

*8620. Salad Oil.* Milano Super Market, New Haven, Conn. This oil was offered to this market as a blend of 20% olive oil with 80% of either straight peanut oil or a peanut-corn oil mixture. Analysis showed it to be essentially straight corn oil, artificially flavored.

*F.M.-327. Sanzari Brand 75% Corn, Peanut Oil, 25% Pure Imported Olive Oil.* Imported and Domestic Oil Co., Brooklyn, N. Y. No peanut oil; adulterated.

*A.L.-559. Violetta Brand Blend of 75% Choice Corn and Peanut Oil 25% Pure Olive Oil.* Esposito Bros., Brooklyn, N. Y. Short volume 1.4 fl. oz.

*A.F.-365. VSF Vegetable Salt Free Margarine.* Swift & Co., Chicago, Ill. Labelled: "VSF contains NO SALT—VSF is a top-quality Vegetable Salt Free Margarine—VSF is made especially for those who prefer or require a Vegetable Salt Free Margarine". Analysis showed only 8 mg./100 gm. of sodium, which is equivalent to only 0.01 per cent salt. Sample was therefore essentially salt-free as claimed, but it was misbranded because the sodium content was not declared.

#### Popcorn

Twelve samples of popcorn were submitted by the Commissioner; two were passed and 10 were misbranded:

*F.M.-164 and 165. Butter Flavored Popcorn.* Hunt Potato Chip Co., Worcester, Mass. Declared ingredients were "Hybrid corn, seasoning, salt". Average analysis showed: Total oil, 16.74 per cent; butyro refraction of oil (40°C), 52.9; Reichert-Meissl value of oil, 6.40; Polenske value of oil, 8.22; Kirschner value of oil, 1.93; estimated per cent butter fat in total fat, 21.8; oil-soluble coal-tar dye present. Misbranded for failure to list butter and the other fatty ingredient and to declare artificial color.

*F.M.-257 to 259. A. P. Franke's Savin Rock Honey Popcorn.* A. P. Franke, West Haven, Conn. These samples were identical except for their colors, which were respectively bright green, greenish black and orange. Analysis showed *F.M.-257* to contain a green, and *F.M.-259* an orange, coal-tar dye; *F.M.-258* was apparently colored with carbon black. Artificial color present not declared; misbranded.

*J.B.-412. Giant Size Pop Corn.* Harbor Sales, Boston, Mass. Undeclared yellow oil-soluble dye present; misbranded.

*K.F.-2318. Kresge Caramel Corn.* S. S. Kresge Co., Detroit, Mich. Declared ingredients were "Popcorn, Sugar, Salt, Vegetable Oil, Soda, Lecithin, Corn Syrup, Butter". Analysis indicated the presence of about 0.96 per cent butter and no artificial color; passed.

*K.F.-2301 and 2302 and F.M.-273 and 289. Made Rite Cheese Flavored Popcorn.* Made Rite Potato Chip Co., Fall River, Mass. Undeclared mixture of yellow oil-soluble and water-soluble coal-tar dyes present; misbranded.

*J.B.-413. Super Value Old Fashioned Caramel Corn Variety.* Food Specialty Co., South Beloit, Ill. Declared ingredients were identical with those of *K.F.-2318* above. Analysis was inconclusive as to the presence of butter; passed.

#### Pudding Mixes

Three starch-base pudding mixes and one gelatine dessert were submitted by the State Supervisor of Purchases to be checked for compliance with purchasing specifications. The specification for the starch-base mixes called for the following maximum percentages: Moisture, 3.5; starch, 30; sucrose, 35; dextrose, 40, and total sweetening agents, 75. That for gelatine desserts called for not more than 2 per cent moisture and 1 per cent salt, between 6 and 12.5 per cent of gelatine, buffering salts not exceeding 33 per cent of the total acidity (as citric acid), and sucrose as the sweetening agent. Of the four samples, all except the following were passed:

*7577. Butterscotch Pudding.* T. A. Faulds Co., Boston, Mass. Moisture, 6.78; total ash, 0.90; water-soluble ash, 0.82; sucrose, 23.87; dextrose, 43.75; starch, 22.30; gelatine, 0.00, and citric acid, 0.08, per cent. Excesses of moisture, dextrose and total sweetening agents (77.65 per cent).

#### Salad Dressings

Five low-calorie dressings, two French dressings, and one sample each of an Italian and "slaw" dressing, were examined for the Commissioner; seven samples were passed and two were misbranded:

*W.M.-3785. Emling Dietetic French Dressing.* C. F. Emling Co., Chicago, Ill. Labelled: "NO SODIUM—NO SUGAR—NO OIL—LOW CALORIE. —Contains: Tomato Purée, vinegar, sorbitol, algin derivative, vegetable juices, natural spices, potassium and ammonium chlorides, calcium phosphate, and 0.191% sucaryl . . . Especially prepared for special diets—Each teaspoon contains approximately 85 milligrams of carbohydrates, 25 milligrams of protein, 4 milligrams of fat, and .020 gram of sorbitol. Sorbitol is a carbohydrate but is absorbed more slowly. Trace of sodium as found in natural spices. 1.3 calories per teaspoon." Analysis showed: Water, 89.51, ash, 0.69, protein, 0.63, fiber, 0.63, invert sugar, 0.81, sucrose, 0.88, sorbitol, 5.04, fat, 0.32, and acetic acid, 1.49, per cent; sodium, 14 mg./100 gm.; calories/100 gm., 32. Calculated to a teaspoonful basis, these results compared as follows with claims.

	Declared	Found
Carbohydrates, mg./teaspoonful .....	85	337
Protein, mg./teaspoonful .....	25	32
Fat, mg./teaspoonful .....	4	16
Sodium, mg./teaspoonful .....	trace	0.7
Calories/teaspoonful .....	1.3	1.6

This was a low calorie dressing as claimed, but it was not sugar-free and contained four times as much carbohydrate and fat as was declared; it was therefore misbranded.

*K.F.-2319. Marzetti's Delicious French Dressing.* T. Marzetti Co., Columbus, Ohio. Labelled: "Consists of vegetable oil, vinegar, sugar, salt, spices, tragacanth and eggs". Calculated composition from the analysis was: Egg yolk, 4.19; egg white, 0.04; corn or soy oil, 49.42; vinegar (4% acidity), 29.00; sugar, salt, spices, gum, 16.04, and added water, 1.31, per cent. Passed.

*K.F.-2321. Marzetti's Famous and Original Slaw Dressing.* T. Marzetti Co., Columbus, Ohio. Declared ingredients were "refined corn oil, vinegar, sugar, salt, spices, tragacanth and eggs". Calculated composition from the analysis was: Egg yolk, 7.95; egg white, 0.16; corn oil, 37.96, vinegar (4% acidity), 22.50; sugar, salt, spices, etc., 30.48, and added water, 0.95, per cent. Passed.

*K.F.-2320. Marzetti's Italian Dressing.* T. Marzetti Co., Columbus, Ohio. Labelled "Contains highly refined Golden Corn Oil, Vinegar, Imported Olive Oil, Salt, Spices and Flavoring. Calculated composition from the analysis was: Egg yolk, 3.67; egg white, 0.00; corn oil, 48.96; olive oil, 7.06; vinegar (4% acidity), 13.00; salt, spices, etc., 5.21, and added water, 22.10, per cent. Passed.

*A.L.-542. Mayonette Low Calorie Replacement for Whip Salad Dressing and Mayonaisse.* Frenchette Div., Carter Products, Inc., New York, N. Y. Labelled in part: "only 8 calories in a full tsp.—Contains veg. oil, agar, egg solids, starch, spices and flavors, salt, vinegar, benzoic acid 0.1%, antioxidant, sorbic acid added as a preservative, cyclamate 0.073%, saccharin 0.007% . . . Available Carbohydrates 4.25%, Fats 13.2%, Proteins 0.85%. — 80% LESS CALORIES than mayonaisse. MORE DELICIOUS or Double Your Money Back—WHAT A DIFFERENCE in CALORIES!—Mayonaisse has between 65% to 80% oil. This one pint contains as many as 3400 calories!—Mayonette has very

little oil. This one pint contains only 685 calories!" Calculated composition from the analysis was: Egg yolk, 3.96, egg white, 5.63, cottonseed oil, 12.91, vinegar (4% acidity), 18.25, gums, starch, spices, salt, etc., 7.02, and added water, 52.23, per cent; calories/100 gm., 147; calories/teaspoonful, 7.4.

The average calorie content of mayonnaise is 719 per 100 grams<sup>6</sup>, or 3,261 per pint. One-fifth of this is 652, as against 667 calories per pint found in *A.L.-542*; the "80% LESS CALORIES than mayonnaise" claim is therefore correct. Sample was nevertheless misbranded because the typographical arrangement was such as to give the misleading impression that the product was a mayonnaise and contained "ONLY 8 CALORIES" in the whole pint jar rather than in a teaspoonful.

*K.C.-1208. Non-Fattening Frenchette Dressing for Salads.* Frenchette Div., Carter Products, Inc., New York, N. Y. Labelled in part: "NO OIL—SHAKE WELL—Approx. 1 CALORIE per tablespoon—Water, vinegar, tomato, salt, seasonings, tragacanth, algin deriv., agar, sorbic acid as a preservative, U. S. certified food colors; and cyclamate 0.30%, saccharin 0.025% . . . Carbohydrates 0.37%, Fats 0.35%, Proteins 0.45% . . . 98% LESS CALORIES Than French Dressing—Approx. 1 CALORIE per tablespoon—French dressing contains 60 calories per tablespoon". Analysis showed: Water and volatile, 93.05, ash, 3.29, protein, 1.31 (claimed 0.45), fiber, 0.45, available carbohydrate, 0.98 (claimed 0.37), and fat, 0.92 (claimed 0.35), per cent; calories/100 gm., 17; calories/tablespoonful, 2.6 (claimed 1).

French dressing contains 394 calories per 100 grams<sup>7</sup>, which is 59 calories per tablespoon—near enough to the 60 claimed by the manufacturers of "Frenchette"; their product therefore does contain about 96 per cent less calories than French dressing. Sample was passed.

*K.C.-1278 and A.L.-538. Non-Fattening You-All Low-Calorie Salad Dressing.* Seeman Bros., Inc., New York, N. Y. Labelled claims for this product were similar to those for *K.C.-1208* above, including the "Only 1 Calorie Per Tablespoon—98% Less Than Regular French Dressing". Average analysis showed: Water and volatile, 95.43, ash, 1.68, protein, 0.69 (claimed 0.5), fiber, 0.35, available carbohydrate, 1.71 (claimed 0.3), and fat, 0.82 (claimed 0.0), per cent; calories/100 gm., 15; calories/tablespoonful, 2.3 (claimed 1.0). Passed.

*K.C.-1092. Oronoque Orchards French Dressing.* Winton Bros., Stratford, Conn. Calculated composition from the analysis was: Egg yolk, 2.87; egg white, 0.89; cottonseed oil, 53.38; vinegar (4.67% acidity), 25.68, and sugar, salt, spices and gums, 17.18, per cent. Passed.

#### Spices and Condiments

Eleven samples of black pepper, eight of prepared horseradish, and one of sea salt were examined for the Commissioner; 15 samples were passed and five were adulterated or misbranded. The deficient samples were the following:

<sup>6</sup> *Conn. Agr. Expt. Sta. Bul.* 373, 547 (1935).

<sup>7</sup> *U.S.D.A. Agriculture Handbook* 8, "Composition of Foods," p. 43 (1950).

*K.F.-2306. Good & Hot Prepared Horse Radish.* Ralph Zolen, Bridgeport, Conn. Some turnip present; adulterated.

*K.C.-1230. Grandma's 100% Pure Horse Radish.* Franklin Produce Exchange, Inc., New York, N. Y. Adulterated with turnip.

*J.B.-406 and K.C.-1268. Lecroy Spices Pure Ground Black Pepper.* John Lecroy & Son, Inc., Camden, N. J. There are as yet no legal standards for spices under the present law, but our old regulations<sup>8</sup> required black pepper to contain "not less than 6.75 per cent of nonvolatile ether extract, not less than 50 per cent of starch, not more than 7 per cent of total ash, nor more than 1.5 per cent of ash insoluble in hydrochloric acid". Analysis of *J.B.-406* showed: Non-volatile ether extract, 8.15; starch, 25.11; total ash, 4.80, and acid-insoluble ash, 0.00, per cent. Microscopic examination of both samples indicated the presence of about 50 per cent of pepper hulls. Adulterated.

*J.B.-394. Safe Owl Finer Foods Pure Black Pepper.* Safe Owl Products, Inc., Brooklyn, N. Y. Non-volatile ether extract, 5.45, starch, 27.27, total ash, 2.60, and acid-insoluble ash, 0.05, per cent; excessive hulls shown by microscopic examination. Adulterated.

*P.S.-273. Searle's Vitamin B<sub>1</sub> and B<sub>2</sub> Coated Golden Sea Salt.* Golden Salt Co., Walla Walla, Wash. Labelled: "Free Running Salt—Each Three Grams (1/10 oz.) Of Vitamin B<sub>1</sub> & B<sub>2</sub> Coated Salt Provides At Least The Following Adult Daily Minimum Requirements: 100% Vitamin B<sub>1</sub>—Contents—TABLE SALT—5% TRI CALCIUM PHOSPHATE VITAMINS. Each three grams (1/10 oz.) of salt contain at least the following: VITAMIN B<sub>1</sub> (1 MG.)—RIBOFLAVIN B<sub>2</sub> (1.2 MG.)—COLOR—No artificial color is used. Vitamin B<sub>2</sub> adds a natural golden color to the salt." Analysis was as follows, as compared with claims:

	<u>Declared</u>	<u>Found</u>
Thiamine, mg./3 gm. ....	1.0	0.54
Riboflavin, mg./3 gm. ....	1.2	1.08

Vitamin contents below claims; misbranded.

### Spray Residues

#### Aminotriazole in Cranberries

Tuesday morning November 10th the news came over the radio that Secretary of Health, Education and Welfare Flemming had announced that 3-amino-1,2,4-triazole had been found in some lots of Western cranberries, and that since there was some evidence that long-continued feeding of this substance could produce thyroid tumors in rats, he did not recommend eating any cranberries from untested lots. With Thanksgiving only 16 days away it was obvious that there would be a demand on us to try to test all brands of cranberries on Connecticut dealers' shelves in time for the holiday sales.

At the moment we heard the news there was only one published method for aminotriazole in cranberries, and this was not claimed to be

<sup>8</sup> Rules and Regulations Relating to the Food and Drug Law of Connecticut, Revision of July 1, 1937, p. 94.

sensitive to less than 0.5 part per million of the compound. A little quick telephoning led to a day-long visit of Mr. Lloyd Keirstead to the laboratory of the American Cyanamid Company (the manufacturers of aminotriazole) in Stamford November 11th. With the help of advice from Dr. Elmore Easter of their staff, he was eventually able to work out a practical method which gave a blank of no more than 0.02 p.p.m. and showed a recovery of 86 per cent on known mixtures of aminotriazole with cranberries. (The blank was established on cranberries picked by Mr. Harold Clark of the Department of Consumer Protection from a wild bog four miles from the nearest State Highway.) By working over the weekend and into the night, by 2:30 A.M. on Tuesday November 17th we knew we had a method we could rely on and were set to go. [Because it appears likely that a method generally applicable to all fruits and vegetables will soon be adopted by the A.O.A.C. our method will not be reproduced here; suffice it to say that in principle it depended on alcoholic extraction, destruction of interfering colors with hydrogen peroxide, separation of other interfering substances by percolation through two resin columns (Amberlite IR-120 and Dowex 50-X2), diazotization and coupling with N<sup>1</sup>-naphthylethylenediamine in normal acid solution, and reading of the resulting dye in a 10 cm. quartz tube.] Using this method and working on two day-and-night shifts (weekends and all), Mr. Keirstead and Miss Sunrae Agostini between them succeeded in testing 55 official samples of raw cranberries and canned cranberry sauce by the day before Thanksgiving. Counting Mr. Clark's sample of wild cranberries and one sample of cranberry jelly submitted by a consumer, 57 samples in all were analyzed during 1959. Aminotriazole was found in seven of these, or 12 per cent, but because the proportions found were well below the practicing tolerance of 0.15 p.p.m. set by the Federal Government (due to the size of the blanks occasionally met with in their method) no sample was condemned by the Commissioner of Consumer Protection. More as an indication of the slight foundation on which the whole cranberry scare was built than for any other reason, the actual figures are reproduced in Table 12. Present-day market cranberries are completely free of aminotriazole.

TABLE 12. AMINOTRIAZOLE IN CRANBERRIES

No.	Manufacturer or dealer and brand	Amino-triazole, p.p.m.
F.M.-325	First National Stores, Inc., Somerville, Mass. <i>Mirabel Pure Jellied Cranberry Sauce</i> .....	0.08
F.M.-318	Grand Union Co., East Paterson, N. J. <i>Freshpak Strained Cranberry Sauce</i> .....	0.02
F.M.-330	National Cooperatives, Inc., Albert Lea, Minn. <i>Co-Op Strained and Sweetened Cranberry Sauce</i> .....	0.06
K.N.-4519	National Cooperatives, Inc., Albert Lea, Minn. <i>Co-Op Strained and Sweetened Cranberry Sauce</i> .....	0.02
K.F.-2381	National Cranberry Association, Hanson, Mass. <i>Ocean Spray Fresh Cranberries</i> .....	0.04
K.F.-2367	National Cranberry Association, Hanson, Mass. <i>Ocean Spray Sucaryl Sweetened Dietetic Cranberry</i> .....	0.02
K.F.-2368	National Retail Grocers, Inc., Chicago, Ill. <i>Shurfine Jellied Cranberry Sauce</i> .....	0.03

## Apples

Ten samples of apples were submitted by the Commissioner for spray residue testing; in none of these was any pesticide found in amount approaching the respective tolerance:

*E.S.-114. Baldwin Apples.* Orkil Farms, West Simsbury, Conn. Methoxychlor, 1 p.p.m. (Tolerance is 14 p.p.m.).

*E.S.-121. Cortland Apples.* Lyman Orchard, Middlefield, Conn. Parathion absent.

*E.S.-124. Cortland Apples.* C. O. Young & Sons, Wallingford, Conn. TDE, 1.1 p.p.m. (Tolerance is 7 p.p.m.)

*E.S.-118. Kendall Apples.* Bishop's Orchard, Cheshire, Conn. Lead, 0.14 grain/lb. (tolerance is 0.50 grain/lb.); DDT, 0.5 p.p.m. (tolerance is 7 p.p.m.).

*E.S.-117. McIntosh Apples.* Bishop's Orchard, Cheshire, Conn. Lead, 0.14 grain/lb.; DDT, 0.4 p.p.m.

*A.J.-225. McIntosh Apples.* N. Kneuer & Sons Orchard, Guilford, Conn. Methoxychlor, trace.

*E.S.-113. McIntosh Apples.* Orkil Farms, West Simsbury, Conn. Methoxychlor absent.

*A.L.-547. McIntosh Apples.* Joseph Pytko, Deep River, Conn. TDE, 1 p.p.m.

*A.J.-222. McIntosh Apples.* Quagliaroli Orchards, Glastonbury, Conn. DDT, 0.9 p.p.m.

*E.S.-123. McIntosh Apples.* C. O. Young & Sons, Wallingford, Conn. TDE, 2.2 p.p.m.

## DDT in Milk

In last year's report<sup>9</sup> it was stated that 730 samples of milk were analyzed for DDT for the Commissioner of Agriculture subsequent to notification by the U.S. Food and Drug Administration that stalks of sweet corn heavily contaminated with this pesticide had been sold for silage to one Connecticut dairywoman.

The survey begun in 1958 was continued during 1959, 529 additional samples being collected and analyzed for DDT—a total of 1,259 samples (most of which represented individual producers) for the two years. Of the 529 samples examined in 1959, 492, or 93 per cent, were completely free of DDT, and of the 37 positive samples 15 contained only traces of less than 0.1 part per million, only six contained 1 p.p.m. or more, and the highest amount found (in one sample) was 3 parts per million—that is, three ten-thousandths of one per cent of DDT. It should be emphasized further that these were all milks of individual farmers that were greatly diluted with DDT-free milk before they ever reached the consumer, and that once they were discovered such supplies were removed from sale until they became free of any trace of pesticide.

## Forage

As was noted last year<sup>9</sup>, when a farmer's milk was found to contain DDT its presence could usually be traced to the feeding of sweet corn silage or dried apple pomace. Before surveys of the milk supply for pesticides were started in this State and elsewhere, certain feed manufacturers had been collecting residues from cider-making, drying them and selling them as cattle feed. Such dried apple pomace had considerable feed value, but unfortunately it contained in concentrated form most of the residues from insecticidal treatment of the apples from which it was made. As a followup to the DDT-in-milk survey 11 samples of dried apple pomace were submitted to us by the Commissioner of Consumer Protection, and two samples of this product and four of corn silage were received from the Commissioner of Agriculture. All of these samples were found to contain DDT, in some cases in fairly high proportion:

*P.R.-287 to 296. Dried Apple Pomace.* Clyde Milling Co., Clyde, N. Y. Average analysis showed: DDT, 47, lead, 32, and arsenic trioxide, 1.6, parts per million.

*7519 and W.G.-6693 and A.L.-507. Dried Apple Pomace.* C. A. Cowles, Inc., Plantsville, Conn. Average analysis showed 71 parts per million of DDT.

*7439 and 7440. Silage.* William T. Wenzel, North Haven, Conn. Average analysis showed 13 parts per million of DDT.

*D.S.-4250. Silage.* Alice C. Williams, Ridgefield, Conn. DDT, 14.5 p.p.m.

*F.A.-2805. Silage.* James Wood, Guilford, Conn. DDT, 4 p.p.m.

## Miscellaneous

Twenty-two miscellaneous samples, including celery, a green pepper, seed corn, soil, tree leaves, tulip bulbs and water and mud, were submitted by the State Board of Fisheries and Game, the Bridgeport health department, members of our Entomology and Plant Pathology departments, tree surgeons and private citizens, to be tested for the presence of pesticide residues. Nothing was found on three samples; results on the others were as follows:

*8164 and 8407-8409. Apple Leaves.* Albert W. Meserve Co., Danbury, Conn. Average analysis showed: DDT, 259, and arsenic, 1.5, parts per million.

*8529. Bottom Mud, Fox Hill Lake.* State Board of Fisheries and Game. This sample and 8530-8532, 8148-8151, and 8180 below were from lakes that had been treated in 1956 with arsenic to control algae. Analysis showed 103 p.p.m. of arsenic trioxide.

*8531. Bottom Mud from Watoba Lake.* State Board of Fisheries and Game. Arsenic trioxide 73 p.p.m.

<sup>9</sup> *Conn. Agr. Expt. Sta. Bul.* 635, 54-58 (1960).

9795. *Celery*. Joseph R. Dwyer, New Haven, Conn. Copper sulphate residue present.

8467. *Maple Leaves*. Davy Tree Co., Old Greenwich, Conn. DDT, 7.5 p.p.m.; no oil found.

8410. *Pear Leaves*. Albert W. Meserve Co., Danbury, Conn. Arsenic 2.9 p.p.m.

9036. *Residue from Box of Tulip Bulbs*. Health Dept., Bridgeport, Conn. These bulbs caused a rash on a purchaser. Analysis showed 10-20 p.p.m. of mercury, probably present as an organic mercurial seed disinfecant.

8149. *Soil from Fox Hill Lake, Ridgefield*. State Board of Fisheries and Game. Arsenic trioxide, 8.5 p.p.m.

8416 and 8417. *Soil from Rogers Orchards*. Dr. Philip Garman, Entomology Dept. Analyses were as follows:

	8416	8417
Arsenic, p.p.m. ....	98	11
Lead, p.p.m. ....	150	15
DDT, p.p.m. ....	2.3	0.0

8151. *Soil from Watoba Lake, Ridgefield*. State Board of Fisheries and Game. Arsenic trioxide, 12.0 p.p.m.

8148 and 8530. *Water from Fox Hill Lake, Ridgefield*. State Board of Fisheries and Game. Average analysis showed 1.1 p.p.m. of arsenic trioxide.

8180. *Water from Silver Lake, Berlin-Meriden*. State Board of Fisheries and Game. Analysis showed: Total arsenic trioxide, 14.7, and dissolved arsenic trioxide, 1.2, p.p.m.

8150 and 8532. *Water from Watoba Lake, Ridgefield*. State Board of Fisheries and Game. Average analysis showed 2.4 p.p.m. of arsenic trioxide.

### Syrups

Two samples of honey and one each of imitation maple syrup, maple syrup, a root beer base syrup and a strawberry-flavored syrup were examined for the Commissioner, and one sample of honey was analyzed for a private citizen. All were passed:

F.P.-463. *A & W Root Beer Concentrated Syrup*. A. & W. Root Beer Co., Santa Monica, Calif. Saponin absent.

K.C.-1151. *Fyne-Taste Brand U.S. No. 1 Honey*. Tulip, Inc., Philadelphia, Pa. This sample was picked up because of a consumer complaint that it did not contain 8 ounces as declared. This complaint was apparently based on a confusion between avoirdupois and fluid ounces, since the net weight was 7.93 ounces but the net volume was only 5.41 fluid ounces.

7587. *Krasdale Better Flavor Deluxe 100% Pure Clover Honey*. Krasdale Foods, Inc., New York, N. Y. Constant direct polarization, 20°C., -13.07° V.; direct polarization 87°C., +8.49° V.; invert polarization,

20°C., -20.76° V.; invert polarization, 87°C., +4.80° V.; water, 17.68, invert sugar, 74.50, sucrose, 6.20, and ash, 0.08, per cent; resorcin test for commercial invert sugar negative.

E.C.-1033. *Lincoln Flavored Syrup for Strawberry Milk Shake*. Lincoln Foods, Inc., Lawrence, Mass. Declared ingredients were "Sugar Syrup, Strawberry Juice, Citric Acid, U.S. Certified Food Color, Not in Excess of 1/10 of 1% Benzoate of Soda". Calculated composition from the analysis was: Strawberry juice, 12.4, added sugar, 51.3, and added water, 36.3, per cent. The odor and flavor were those of true strawberry.

P.S.-266. *Non-Sugar Special Dietetic Nu-Diet Waffle Sauce*. Sugar-Fre' Div., Colfax Mineral Springs Co., Inc., Colfax, Iowa. Claimed ingredients were "the famous Colfax Mineral Springs water, methylcellulose (a non-nutritive syruping agent), citrus pectin, extractive of St. John's bread, artificial maple flavoring blend, certified food coloring, sorbic acid preservative, calcium cyclamate (sucaryl Abbott)". There were also some quantitative analytical claims, which compared as follows with our findings: Water, 96.66, ash, 0.45, protein, 0.52 (claimed 0.05), invert sugar, 0.52, sucrose, 0.19, other carbohydrate, 1.64 (total carbohydrate claimed 1.90), and fat, 0.015 (claimed 0.00), per cent; calories/100 gm., 11.6; calories/teaspoonful, 1.7 (claimed 1.4).

A sample of this product analyzed in 1958<sup>10</sup> was labelled as a "Syrup", and since an essentially sugar-free product is not a syrup it was considered to be misbranded. The name was subsequently changed to "Waffle Sauce". P.S.-266 was therefore passed.

W.M.-3786. *100% Pure Maple Syrup*. H. P. Hood & Sons, Hartford, Conn. Water, 34.60, and ash, 0.51, per cent; Winton lead number 1.41.

A.J.-238. *Pure Strained Bee Hive Orange Blossom Honey*. Citrus Corporation of America, Cambridge, Mass. Direct polarization, 20°C., -15.36° V.; direct polarization, 87°C., +9.71° V.; invert polarization, 20°C., -19.69° V.; invert polarization, 87°C., +6.39° V., water, 16.41, invert sugar, 79.62, sucrose, 0.83, and ash, 0.11, per cent; resorcin test for commercial invert sugar negative.

### Vegetables and Vegetable Products

#### Sweet Potatoes

It has been a fairly widespread practice to color the skins of sweet potatoes artificially to give them the appearance of the varieties with deep orange, moist flesh that are commonly misnamed "yams" (the true yam is an entirely different vegetable not normally found in U. S. markets). Since such coloration makes the product "appear better or of greater value than it is", dyed sweet potatoes are adulterated even if the color is declared.

In 1959, 48 samples of sweet potatoes submitted by the Commissioner were tested for artificial color. Ten samples were uncolored and were passed, while 38 were adulterated. The adulterated samples were the following:

<sup>10</sup> Conn. Agr. Expt. Sta. Bul. 635, 59 (1960).

K.F.-2231 and S.O.-473 and 476. *Bernie Bee Brand Golden Sweet Finest Quality No. 1 Sweet Potatoes, Jersey Orange.* Charles Molinelli, Vineland, N. J.

F.M.-346. *Broken-Straw Farms Machine Washed and Graded Yams.* Johns-Parker, Salisbury, Md.

S.O.-480 and 482. *Canady Brand Carolina Yams Kiln Dried Puerto Rican Sweet Potatoes, Washed and Waxed with Color Fresh Wax.* Canady's Produce Co., Four Oaks, N. C.

P.S.-289. *Debby Doll Sweet Potatoes, Washed & Waxed.* Oswald Stern, Vineland, N. J.

P.S.-287. *Drippin Honey Brand Yams, Kiln Dried Porto Rican Sweet Potatoes.* James C. Webber, Williamston, N. C.

S.O.-484. *Fulin Fancy Brand Sweet Potatoes.* John J. Toloth, Vineland, N. J.

K.C.-1209. *Jack Rabbit U. S. No. 1 Kiln Dried High in Iodine Fancy Southern Sweet Potatoes, Wax Protected by Bilco Vegetable Wax Coating, Certified Food Color Added.* Walter J. Sibille, Inc., Sunset, La.

F.M.-336. *James Johnnie Brand North Carolina Yams.* Bardin Bros., Wilson, N. C.

P.S.-290. *J-W-B Fruits & Vegetables Yams.* James W. Brittingham, Salisbury, Md.

K.C.-1198. *Large Puerto Rican Yams.* Lisi's Super Market, Bridgeport, Conn.

K.C.-1191. *Molinelli Jersey Potatoes, Orange Sweet, Washed and Waxed.* Charles Molinelli, Inc., Vineland, N. J.

F.M.-192. *North Carolina Puerto Rican Sweets.* Willie Godette, Beaufort, N. C.

F.M.-212-215 and 222 and S.O.-487. *Panther Brand Yams.* South Jersey Produce Co-Operative Association, Inc., Vineland, N. J.

P.S.-280. *Peggy Lee Brand Sweet Potatoes, Washed and Waxed.* P. T. Lankford, Bloxance, Va.

F.M.-241, S.O.-477 and P.S.-279 and 282. *Stephens Brand Carolina Yams, Kiln Dried Porto Rican Sweet Potatoes, Washed & Waxed with Color Fresh Wax.* Mrs. W. M. Stephens & Sons, Whiteville, N. C.

S.O.-478. *Sweet Potatoes.* Eastern Produce Co., Stamford, Conn.

K.F.-2229. *Sweet Potatoes.* Fyne Way Markets, Waterbury, Conn.

A.L.-512. *Sweet Potatoes.* Muzio's Farm Market, North Haven, Conn.

K.F.-2230. *Sweet Potatoes.* A. Pepe, Waterbury, Conn.

K.F.-2234. *Sweet Potatoes.* Nathan C. Presti & Sons, Hammonton, N. J.

S.O.-584. *Sweet Potatoes (Fresh).* Mannville Produce, New York, N. Y.

S.O.-586. *Tandem Brand Yams.* Meadow Farms Storage Co., Inc., Benson, N. C.

K.F.-2385 and P.S.-309. *Top Hat Brand Sweet Potatoes.* C.R.S., Inc., Hammonton, N. J.

P.S.-270. *Yams.* James Carone & Sons, Hartford, Conn.

K.C.-1190. *Yams.* Mercurio's, Inc., Fairfield, Conn.

A.L.-511. *Yams.* Muzio's Farm Market, North Haven, Conn.

In addition to the fresh sweet potatoes that were tested for color, the following sample of canned sweet potatoes was analyzed as follows:

S.O.-587. *Royal Prince Southern Yams—Sweet Potatoes in Heavy Syrup.* Princeville Canning Co., St. Francisville, La. Analysis of the liquid portion showed: Sucrose, 16.64, and invert sugar, 5.67, per cent. Passed.

Other samples of this brand were analyzed in 1946 and 1957.<sup>11</sup>

#### White Potatoes

Because skin redness is associated with new potatoes, and also because normally red-skinned varieties such as the Bliss have a tendency to lose their redness in the market, the skins of white as well as sweet potatoes are dyed. Of 19 samples received from the Commissioner in 1959, two were uncolored and 17 had red-dyed skins and were consequently adulterated. The adulterated samples were the following:

F.M.-211 and S.O.-485. *Blue Book Brand XXXX Quality New South Florida Bliss Type Potatoes.* South Florida Packing Co., Goulds, Fla. Labelled "These potatoes are washed, waxed and artificially colored with U. S. certified color.

S.O.-475 and P.S.-230. *Miami Beach Brand Florida Red Potatoes, U. S. Certified Color Added.* South Florida Tropical Agriculture Co-Operative Association, Goulds, Fla.

K.F.-2241. *Minosee New South Florida Potatoes.* Food Basket, Cheshire, Conn.

S.O.-585. *Nebraska-Wyoming Potatoes, Color Added.* H. Campbell Co., Inc., Scott's Bluff, Neb.

A.L.-513. *Red Bliss Potatoes.* Muzio's Farm Market, North Haven, Conn.

K.F.-2232 and 2233. *Red Florida Potatoes.* H. L. Cox & Sons, Princeton, Fla.

K.F.-2240. *Royal Brand New Florida Red Potatoes.* First National Store, Waterbury, Conn.

<sup>11</sup> Conn. Agr. Expt. Sta. Bul. 510, 32 (1947); 629, 63 (1959).

*K.C.-1189 and S.O.-474. Sunshine Brand New Florida Potatoes, Color Wax Added.* George W. Smith & Sons, Homestead, Fla.

*S.O.-479. U. S. No. 1 Color Wax Added New Potatoes.* Howard McLean Co., Scott's Bluff, Neb.

*S.O.-483. U. S. No. 1 Color Wax Added New Potatoes.* Nebraska Certified Potato Growers, Alliance, Neb.

*S.O.-481. U. S. No. 1 New Florida Red Potatoes, Color Wax Added.* Daitch-Shopwell Food Center, Greenwich, Conn.

*K.C.-1172. U. S. No. 1 Potatoes.* King Cole Stores, Bridgeport, Conn.

*F.P.-411. U. S. No. 1 Potatoes.* Somers Food Center, Somers, Conn.

### Miscellaneous

One sample each of canned spinach and tomato ketchup was examined for the Commissioner, and three samples of seed peas were analyzed spectrographically for manganese for a seed-growing company. These latter samples are scarcely of public interest; the official samples were the following:

*E.S.-110. Blue Boy Diet Pack Spinach, No Sugar or Salt Added.* Maxton Foods, Inc., Oakfield, N. Y. Labelled: "Sodium Mgs. per Serving 0.4—Serving 100 gms." Analysis showed 2.8 mg./100 gm. of sodium, which was seven times the claim. Misbranded.

*K.F.-2036. College Inn Fancy Tomato Catsup.* College Inn Lockport Co., Inc., Lockport, N. Y. Analysis showed: Total solids, 33.15, insoluble solids, 2.14, ash, 4.21, fiber, 0.63, protein, 2.00, and salt, 3.24, per cent; benzoate absent. Passed.

### Vinegar

Thirteen samples of wine vinegar, eight of cider vinegar and one each of distilled vinegar and red-wine-flavored distilled vinegar, were examined for the Commissioner, and seven samples of cider vinegar were analyzed for manufacturers. Twelve samples were passed and 18 were misbranded. Analyses of the cider vinegars are given in Table 13; of the wine vinegars in Table 14. The two distilled vinegars were the following:

*A.L.-491. P.G.A. Brand Distilled Vinegar, Red Wine Flavored.* John Bozzuto & Sons, Inc., Waterbury, Conn. Labelled: "Contains distilled vinegar, red wine, reduced to a uniform table strength of 5% acidity." Analysis showed: Total solids, 0.37, ash, 0.036, total acidity (as acetic acid), 4.98, and tartaric acid, 0.023, gm./100cc.; coal-tar dye absent. Passed.

*A.F.-357. S. S. Pierce Co. Overland White Distilled Vinegar.* S. S. Pierce Co., Boston, Mass. Labelled "Acidity more than 5%." Total solids, 0.10, ash, 0.023, and acetic acid, 5.13, gm./100 cc.; permanganate oxidation number, 2.45. Passed.

TABLE 13. CIDER VINEGAR

No.	Manufacturer or distributor and brand	Total Solids, gm./100 cc.	Ash, gm./100 cc.	Acetic Acid, gm./100 cc.	Caramel	Remarks
A.L.-536	Duffy-Mott Co., Inc., New York, N.Y.	1.42	0.215	5.15	absent	Labelled "5% Acidity"; passed
A.J.-189	<i>Mott's</i> National Retailer-Owned Grocers, Inc., Chicago, Ill. <i>Shurfine Full Strength 50</i> <i>Grain</i>	0.98	0.136	5.02	absent	Diluted vinegar not so labelled; misbranded
A.J.-193	National Retailer-Owned Grocers, Inc., Chicago, Ill. <i>Shurfine Full Strength 50</i> <i>Grain</i>	1.02	0.145	5.02	.....	Not "Full Strength"; misbranded Labelled "acidity more than 4%"; misbranded because not labelled as a diluted vinegar.
A.F.-358	S. S. Pierce Co., Boston, Mass. <i>Overland</i> <i>Aged in Wood</i>	1.40	0.254	4.76	absent	Protein 0.00, fiber 0.00, carbohydrates, 0.76, and fat, 0.01, gm./100 cc.; calories/100 cc., 3.1. Passed Labelled "Diluted with water to 4% acid strength for table use"; passed
7988	V. Tenedine & Sons, Inc., North Haven, Conn. <i>Tenedine's Aged in Wood</i>	0.91	0.140	.....	.....	.....
K.F.-2179	Unanue & Sons, Inc., New York, N. Y.	0.49	0.105	4.10	absent	Colored with caramel; misbranded
A.J.-260	<i>Goya</i> Wakefern Food Corp., Cranford, N. J. <i>Shop-Rite Pure Superior Quality Full</i> <i>Strength</i>	1.99	0.414	4.82	present	Colored with caramel; misbranded
F.M.-340	Wakefern Food Corp., Cranford, N. J. <i>Shop-Rite Pure Superior Quality Full</i> <i>Strength</i>	1.98	0.411	4.79	present	Colored with caramel; misbranded
A.J.-190	Wayne County Produce Co., Greenport, L. I., N. Y. <i>Wayne County</i>	1.48	0.225	4.58	absent	Passed
8944A	Robert Young, North Haven, Conn.	.....	.....	1.78	.....	Below minimum acidity of 4 per cent
8944B	Robert Young, North Haven, Conn.	.....	.....	2.10	.....	Below minimum acidity of 4 per cent
8944C	Robert Young, North Haven, Conn.	.....	.....	2.96	.....	Below minimum acidity of 4 per cent
8944D	Robert Young, North Haven, Conn.	.....	.....	1.14	.....	Below minimum acidity of 4 per cent
8944E	Robert Young, North Haven, Conn.	.....	.....	2.94	.....	Below minimum acidity of 4 per cent
8944F	Robert Young, North Haven, Conn.	.....	.....	4.99	.....	Passed

TABLE 14. WINE VINEGAR

No.	Manufacturer or distributor and brand	Total Solids, gm./100 cc.	Total Acidity or Acetic Acid, gm./100 cc.		Tartaric Acid, gm./100 cc.	Remarks
			Ash, gm./100 cc.	Acid, gm./100 cc.		
K.F.-2258	John Bozzuto & Sons, Waterbury, Conn. P.G.A.	1.03	0.057	5.04	0.031	Labelled "Reduced with water to 5% acetic strength"; but misbranded because in illegally fine type
A.L.-505	John Bozzuto & Sons, Waterbury, Conn. P.G.A.	0.87	0.054	4.98	0.031	Misbranded; see K.F.-2258 above
S.O.-582	Central Wholesale Grocery Co., New Rochelle, N. Y. Rochelle	0.86	0.072	5.35	0.026	Labelled "Diluted with water to 5% acidity", but in illegibly small type; misbranded
K.F.-2362	Consolidated Food Corp., Chicago, Ill. Monarch	1.77	0.340	4.95	0.190	Labelled "5% Acidity"; passed
K.C.-1199	Giambanco Wine Vinegar Co., Oakdale, Calif. Pee Gee	1.75	0.370	5.02	0.190	Net volume not declared; misbranded
F.M.-178	Muro Importing Co., Inc., Brooklyn, N. Y. Muro	0.86	0.059	5.06	0.070	Labelled "Reduced with water to 5% acetic strength"; passed
K.C.-1146	National Fruit Products Co., Inc., Glassboro, N. J. White House	0.97	0.080	5.07	0.023	Coal-tar dye absent. Labelled "Table Strength 5% Acidity". Passed.
A.F.-356	S. S. Pierce Co., Boston, Mass. Epicure	1.26	0.199	5.10	0.087	Labelled "5% Acidity". Dilution with water not stated; misbranded
F.M.-204	Randall Wine Vinegar Co., New York, N. Y. Eideen	0.89	0.061	5.22	0.032	Labelled "Reduced with water to 5% acidity", but in nearly illegible type; misbranded
K.C.-1258	Rowse Co., Inc., Greenville, N. H. Madera	1.54	0.164	5.12	0.099	Labelled "5% Acidity". Dilution with water not stated; misbranded
A.L.-495	Rowse Co., Inc., Greenville, N. H. Madera	1.10	0.170	5.04	0.076	Labelled "5% Acidity"; passed
A.F.-360	Spice Island Co., South San Francisco, Calif. Spice Islands White Aged in Wood	1.67	0.286	5.07	0.180	Labelled "5% Acidity"; passed
A.F.-370	John Wagner & Sons, Hatboro, Pa. Wagner's White	1.06	0.055	5.24	0.019	Diluted vinegar not so labelled; misbranded

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. We do occasionally determine the pH and hardness of well waters as an accommodation, and test samples where chemical contamination is suspected.

In 1959, 33 samples were examined for the Bridgeport health department, a tree surgeon and private citizens. None of these was of particular public interest, although it may be noted that three of them were exceedingly hard (230, 250 and 312 parts per million of calcium carbonate), one contained 4 p.p.m. of iron, and another was submitted because of suspected contamination with 2,4,5-T (which proved to be absent).

Miscellaneous

Dog Foods

Four samples of dog foods were submitted by the Commissioner; all were passed:

K.C.-1137. *Big Bet Ration 50% Meat Dog Food*. Deep Run Packing Co., Inc., Dublin, Pa. Microscopic examination indicated about half of the product to be meat.

K.F.-2404 and 2405. *Doggie Dinner*. Doggie Dinner Div., S. F. Mighton, Bedford, Ohio. Average analysis showed: Lead, 0; zinc, 10; copper, 5, and tin, 50, parts per million.

K.C.-1188. *K.F.S. Cero-Meato Brand Kibbled Dog Food*. Kennel Food Supply Div., Hygrade Food Products Corp., Fairfield, Conn. Analysis, as compared with claims, was as follows:

	Declared, per cent	Found, per cent
Water .....	8.00	8.67
Protein .....	21.00	25.75
Ash .....	—	7.16
Fat .....	4.00	4.33
Fiber .....	3.00	1.88
Nitrogen-free extract .....	—	52.21

Fuel Oil Additives

There are a number of proprietary mixtures on the market that are designed to be added to heavy fuel oil to improve combustion and reduce deposit formation. The State Supervisor of Purchases was interested in learning whether chemical and physical characteristics could be found that would distinguish between products of greater and lesser efficiency, and so form a basis for setting up state purchasing specifications that would be independent of brand names. For this purpose he submitted to us seven samples representing the products of three manufacturers, which were analyzed as indicated in Table 15. These clearly fell into three groups:

(1) *Nearly ash-and-chlorine-free materials of high flash-point and pH containing an emulsifier and probably an organic base:* Samples 7929 and 7932.

(2) Materials of high flash-point and pH, nearly ash-and-chlorine-free, but containing sulphur and an emulsifier: Samples 7930 and 7933.

(3) Materials of low flash-point, nearly ash-free but containing a large percentage of chlorine but no sulphur or emulsifier: Samples 7931, 7934 and 9167.

#### Other Miscellaneous Products

Twenty-two other miscellaneous food and non-food materials were examined for the Commissioner; nine samples were passed and 13 were misbranded or otherwise objectionable:

*S.O.-548. Aunt Millie's Real Italian Spaghetti Sauce.* Aunt Millie's Sauces, Inc., Hawthorne, N. Y. Declared ingredients were "Tomatoes, tomato purée, tomato paste, choice beef, garlic, onion, cheese, salt, pepper, peanut oil, olive oil, basil leaf". Microscopic examination confirmed the presence of tomato paste, beef or pork and basil leaf, and the flavors of onion and garlic were noticeable. Analysis showed 2.91 per cent of oil, whose reactions (test for peanut oil positive; squalene 184 mg./100gm.) corresponded to a one-to-one mixture of peanut and olive oils. Passed.

*S.O.-549. Aunt Millie's Real Italian Spaghetti Sauce with Fresh Clams.* Aunt Millie's Sauces, Inc., Hawthorne, N. Y. Declared ingredients were "Tomatoes, garlic, onion, olive oil, peanut oil, spices, parsley". Microscopic examination confirmed the presence of tomatoes, pieces of clams, parsley and spices, and the flavors of garlic and onion were evident. Analysis showed the presence of 1.61 per cent of a mixture of 68 per cent olive oil and 32 per cent peanut oil. Passed.

*K.C.-1267. Croyden House Kosher Instant Chicken Soup Mix.* Blue Ribbon Foods, Inc., Suffern, N. Y. Declared ingredients were "Sugar, Salt, Monosodium Glutamate made from Beet Sugar, Granulated Onion, Vegetable Fat, Parsley Flakes, Dehydrated Vegetables, and Spices"; labeled "LESS THAN 12 CALORIES per average 6 oz. serving". Analysis showed: Water, 1.04, ash, 35.26, protein, 7.13, fiber, 0.64, invert sugar, 50.40, sucrose, 2.05, other carbohydrate, 0.98, fat, 2.50, and salt, 52.50, per cent; calories/100 gm., 265; sodium, 12,790 mg./100 gm. Misbranded because: (1), The statement "Monosodium Glutamate made from Beet Sugar" is an impossibility; (2), the calorie content was over 36 times as high as declared; and (3), the percentages of protein, fat and carbohydrate were not declared.

*F.M.-237. Custard Pie Filling.* Mrs. Wade's Pies, East Haven, Conn. Lipoids, 2.72, lipid P<sub>2</sub>O<sub>5</sub>, 0.056, and egg solids, 0.50, per cent. Not a custard filling; misbranded.

*K.F.-2150. Fill-Mix.* Filler Products, Atlanta, Georgia. Declared ingredients were "Prepared Cereals, Vegetable Oil, Pretzels, Nuts, Salt and Spices". Oil-soluble yellow coal-tar dye present not declared; misbranded.

*K.F.-2178. Fritos Brand Bar-B-Q Flavored Corn Chips.* Fritos Co., Inc., Dallas, Texas. Declared ingredients were "Selected Corn, Vegetable Oil, Barbecue Flavoring, Salt and Antioxidant Added To Preserve Quality". Test for coal-tar dye negative, but misbranded because the anti-oxidant was not named.

TABLE 15. FUEL OIL ADDITIVES

No.	Flash Point, °F.	Fire Point, °F.	Distillation range, °C.	Index of refraction, 23°C.	pH of 5% aqueous suspension	Ash, per cent	Chlorine, per cent	Sulphur, per cent	Emulsifier
7929	237	271	225-246	1.5906	9.8	0.04	0.07	0.54	present
7930	257	320	258-285	1.5685	5.8	0.00	0.09	1.76	present
7931	144	198	183-249	1.5906	4.7	0.00	12.97	0.00	absent
7932	235	266	242-270	1.5905	9.9	0.02	absent	.....	present
7933	253	306	249-273	1.5684	5.8	0.02	absent	.....	present
7934	147	196	180-246	1.5904	4.9	0.01	present	.....	absent
9167	147	202	181-251	.....	4.8	0.00	16.05	0.00	absent

*K.F.-2399. Fro-Dex Corn Syrup Solids.* American Maize Products Co., Chicago, Ill. This sample was taken to acquire more data on the composition of the corn syrup solids used as frankfort fillers. Analysis showed: Moisture, 1.95; maltose, 31.70; dextrose, 19.10; protein, 0.00, and starch, 0.00, per cent. Passed.

*E.C.-1133 and 1144. Gold Mine Icicle Ice.* D.C.A. Food Industries, New York, N. Y. These samples consisted of six and seven ices respectively in the form of long bars labelled "Net Contents 3 Fl. Oz." Average net volume found was 2.35 fl. oz. Short volume; misbranded.

*W.S.-743. Gorham Liquid Silver Polish.* Gorham Co., Providence, R. I. This sample was submitted to see if it came under the hazardous substances law, but its flash-point of 97°F. did not bring it within the "flammable" class of that law. Passed.

*F.M.-315. Johnson's Kano Oil.* H. A. Johnson Co., Boston, Mass. Examination showed this material to be a petroleum distillate (probably painters' naphtha). Because it was obviously not intended as a food product it was passed.

*K.C.-1282. Jupiter Bar-B-Q Flavored Potato Chips.* Fried Co., Inc., Dallas, Texas. Coal-tar dye absent; passed.

*K.F.-2252. King Size Dipsy Doodles, the Rippled Corn Chip.* Old London Foods, Inc., New York, N. Y. Passed.

*K.C.-1266. Kosher Instant Beef Soup, Low Calorie, High Protein.* Blue Ribbon Foods, Inc., Suffern, N. Y. Declared ingredients were "Beef Fat, Monosodium Glutamate, Dextrose, Wheat Starch, Dehydrated Vegetables, Salt, Onions, Spices". Analysis showed: Water, 1.40, ash, 39.34, protein, 8.88, fiber, 0.38, invert sugar, 41.28, sucrose, 5.40, other carbohydrate, 0.97, fat, 2.35, and salt, 35.00, per cent; calories/100 gm., 247; sodium, 13,770 mg./100 gm. Misbranded for failure to declare the percentage of protein, fat and carbohydrate and the calorie content.

*S.O.-519. Lemon Butter.* A. E. Smith, New Canaan, Conn. Declared ingredients were "Lemon, Margarine, Sugar, Eggs". Analysis showed 12.19 per cent of fat whose constants were: Butyro refraction (40°C.), 52.8; Reichert-Meissl value, 0.82; Polenske value, 0.00. No butter present; misbranded.

*A.J.-277. New Improved Alphonse Meat Tenderizer, Activated Salt Free Aerosol.* Alphonse, Hartford, Conn. This sample was in a squeeze-bottle; declared ingredients were "water, papain, citric acid, propylene glycol". Analysis showed 1.9 mg./100 gm. of sodium, which was equivalent to only 0.005 per cent of salt. Sample was therefore essentially salt-free as claimed, but it was nevertheless misbranded because the sodium content was not declared.

*J.S.-513 and 514. O Cedar Chalk Board Cleaner.* O Cedar Division, American Marietta Co., Chicago, Ill. The flash point of this material was 79°F., and it gave a flame projection test of 20.6 inches. These constants brought it under the "Flammable" classification of the hazardous substances law, and it was in violation of that law because not so labelled.

*P.S.-255. Pan Dry Fry.* Pam Industries, Inc., Chicago, Ill. Labelled in part: "FAT-FREE COOKING AID—adds no calories to food—Keeps Foods From Sticking Fast To Cooking Surfaces—Use instead of shortening, oils, or cooking fats for greaseless frying, baking, broiling . . . Made of lecithin, a pure vegetable product, with propellant." Examination indicated that the propellant was probably a mixture of methylene chloride and "Freon" gas; analysis of the nonvolatile portion showed: Lipoids, 48.77, lipid P<sub>2</sub>O<sub>5</sub>, 2.15, total nitrogen, 0.70, and lecithin, 38, per cent. Misbranded because not fat-free and because it did not bear quantitative claims with regard to protein, carbohydrate, fat and calories.

*J.S.-575. Penn Champ Lighter Fuel.* Penn Champ Oil Corp., Butler, Pa. Analysis showed this to be a slightly scented gasoline boiling between 104 and 212° F. The flash-point of 47° F. placed it in the "Flammable" category under the hazardous substances law. It was, however, labelled "CAUTION — INFLAMMABLE MIXTURE — Do Not Use Near Fire Or Flame", and therefore met the requirements of that law.

*F.M.-148. Spare Time Quick Frozen Turkey Pie.* Carrol County Farms, Perryville, Arkansas. Examination showed that while more turkey than vegetables was present, the space inside the crust was mostly air. Misbranded.

*A.J.-122. Tempo Quick Mix for Meat Loaf, Meat Balls, Casseroles and Breading.* Henry Thayer Co., Cambridge, Mass. Labelled: "Contains Dried Bread Crumbs, Tomato, Onion, Parsley, Salt, Herbs & Spices." Microscopic examination confirmed the presence of bread crumbs, tomato, onion, parsley and salt. Net contents: Declared, 3 oz.; found, 3.25 oz. Passed.

In addition to the official samples, 69 other samples of miscellaneous materials were analyzed for the Commissioners of Agriculture and Consumer Protection, the State Supervisor of Purchases, the New Haven and Waterbury health departments, the Cheshire police department, the Waterbury fire marshal, a veterinarian, an express company, a seed company, a soil laboratory and private citizens. Many of these were of no general interest, but the following may be:

9724. *Blanket.* State Supervisor of Purchases. Wool, 93.9; cotton, 1.2, and sizing, 4.9, per cent.

8587. *Dominican Granulated Sugar.* University of Connecticut, Storrs, Conn. This sample was submitted by the State Supervisor of Purchases to be checked for compliance with Federal purchasing specifications requiring that "Not more than 4 per cent shall remain on a U. S. Standard No. 20 sieve and not more than 8 per cent shall pass through a U. S. Standard No. 100 sieve". Tests showed that 6 per cent remained on a No. 20 sieve and 1 per cent passed a No. 100 sieve; the sugar "was clean, white and refined". There was some excess of larger crystals.

7484. *Exterior Paxon Liquid Luxury House and Trim White.* Paxon Paint Products, Inc., Brooklyn, N. Y. This sample was tested at the request of a farmer to see if it could cause lead poisoning if cows chewed it. Spectrographic analysis showed significant proportions of lead, zinc, titanium and magnesium and a trace of tin.

8479. *Freeman A D E Vitamin A and D Dairy Concentrate 1:20*. Freeman Industries, Inc., Tuckahoe, N. Y. Declared ingredients of this preparation (intended for fortifying milk with vitamins A and D) were "Aqueous Vit. A Palmitate & Irr. Ergosterol Concentrate in Propylene Glycol U. S. P. and Dist. Water, U. S. P.". Vitamin A, units/cc.: Declared, 40,000; found, 43,750. Passed.

7479. *Freeman d'sol Vitamin D Dairy Concentrate 1:1,000*. Freeman Industries, Inc., Tuckahoe, N. Y. Declared ingredients were "Vitamin D<sub>2</sub> (Irradiated Ergosterol); Polysorbate 80, U. S. P.; Propylene Glycol, U. S. P.; Distilled Water". Assay by feeding to rats confirmed the claim of 400,000 U.S.P. units of vitamin D per cc.

8536, 8537 and 8593. *Material Supposed to be Dragon's Blood*. William L. Warren, Assistant Director, Connecticut Historical Society, Hartford, Conn. The pigment dragon's blood is a resinous secretion found on fruits of the plant *Daemonorops propinquus* and other *Daemonorops* species native to Sumatra and Borneo; it is prepared by shaking the fruits to break their resinous coating, sifting off the resin, warming it and pressing it into masses. It is used primarily for coloring lacquers and varnishes.<sup>12</sup>

Mr. Warren submitted two samples of material furnished to him as dragon's blood, together with some paint scraped from paneling in an old house in Litchfield. None of these proved to be dragon's blood; one pigment (8536) was a mixture of an alcohol-soluble aniline dye and basic lead chromate, while the other (8537) and the paint scrapings (8593) were iron oxide.

7004. *Pacemaker Brand Cherry Pie Filling*. A. E. Ogan, Inc., Boston, Mass. Labelled: "Contains: Cherries, Sugar, Water, Starch, Salt, Citric Acid, U. S. Certified Color, and 1-10 of 1% Benzoate of Soda." This sample was submitted by the State Supervisor of Purchases to see if it complied with a purchasing specification calling for not less than 48 per cent of frozen pitted cherries, not less than 16 per cent sugar and not more than 12 per cent glucose. Analysis showed: Total solids, 35.30, ash, 0.30, salt, 0.18, citric acid, 0.23, invert sugar, 27.60, and sucrose, 0.38, per cent; K<sub>2</sub>O, 34, and P<sub>2</sub>O<sub>5</sub>, 16, mg./100 gm. Estimated percentage of cherries was only 29, so sample did not meet the specification.

9793. *Paint Chips from a Child's Bed*. Elmar Kramer, New Haven, Conn. These chips were of three colors: White, yellow and red. The yellow and red paints both contained substantial proportions of lead.

7271. *Paint Flakes from Aspinnall Barn*. H. L. Sherman, D.V.M., Willimantic, Conn. This was another case where lead-poisoning of cows was feared; spectrographic analysis confirmed that this was a lead-zinc paint containing minor proportions of barium, antimony and tin.

8094 and 8095. *Paints A and B*. Health Dept., Waterbury, Conn. Both paints contained considerable lead: The pigments in Paint A (brown) appeared to be white lead, zinc oxide, titanium dioxide and kaolin, with a little barytes or lithopone; while those in Paint B (black and white layers) were white lead, lithopone, titanium dioxide, kaolin and some bismuth compound.

<sup>12</sup> *Thorpe's Dictionary of Applied Chemistry*, IV, 55.

9384. *Sausville's Kosher Gelatine*. Department of Consumer Protection. Analysis showed 83.00 per cent of gelatine; it was impossible to determine whether this was *Kosher* or not. Misbranded because it bore no manufacturer's address.

7371. *Shirt*. Health Dept., New Haven, Conn. When this shirt was placed on a line to dry, spots of soot settled on it and holes developed at these spots. An extract of the fabric near the holes gave positive tests for sulphuric acid.

9473. *Unknown Insects*. Health Dept., Waterbury, Conn. Identified as brown dog ticks (*Rhipicephalus sanguineus*, Latr.).

## DRUGS

Twelve official and two unofficial drug samples were examined during 1959; 11 samples were passed and three were adulterated or misbranded:

J.S.-494 and 495 and W.S.-740. *de Witt's Pills, a Diuretic Stimulant for the Kidneys*. E. C. De Witt & Co., Inc., Chicago, Ill. Declared active ingredients were "Potash Nitrate - Uva-Ursi - Buchu - Methylene Blue". Analysis showed: Potassium nitrate, 2.15, and methylene blue, 0.10, grains/pill; alkaloids and heavy metals absent.

These pills date back for many years, and are referred to in several "patent medicine" compilations<sup>13</sup>. The Federal Government once condemned a stock of them on the ground that "statements regarding the curative and therapeutic effects of the said article were false and fraudulent, since the article contained no ingredient or combination of ingredients capable of producing the effects claimed"<sup>14</sup>. Since that time the labelled claims have been toned down, however, and the present samples were passed.

J.S.-490 and 491. *Dilantin Sodium with Phenobarbital Kapsels*. Parke, Davis & Co., Detroit, Mich. Average analysis was as follows:

	Declared	Found
Diphenylhydantoin sodium, grains/capsule .....	1.50	1.46
Phenobarbital, grains/capsule .....	0.25	0.24
Melting point of diphenylhydantoin .....	—	295°C.

Passed.

W.S.-746. *East Brook 100 Tablets 5 Grain U.S.P. Aspirin Acetylsalicylic Acid*. East Brook Sales Corp., Greenwich, Conn. Acetylsalicylic acid, 4.98 grains/tablet. Passed.

J.S.-500 and R.W.-387. *Genuine Phillips' Milk of Magnesia*. Chas. H. Phillips Co. Div., Sterling Drug, Inc., New York, N. Y. R.W.-387 was submitted by a pharmacy because it seemed abnormally "thin"; J.S.-500

<sup>13</sup> J. W. Street, *Composition of Certain Patent And Proprietary Medicines* (1917); *Nos-trums and Quackery and Pseudo-Medicine*, III (1936).

<sup>14</sup> *Notices of Judgment No. 12066* (1924).

was a comparison sample with the usual thick, creamy appearance. Analyses were as follows:

	J.S.-500	R.W.-387
pH .....	9.70	9.60
Total solids, per cent .....	9.12	9.69
Emulsion .....	O.K.	broken

The emulsion had broken in *R.W.-387* and nearly all of the magnesium hydroxide had settled to the bottom, possibly because of freezing and thawing; this sample was therefore adulterated. *J.S.-500* was passed.

9168. *Powder to be Used as a Stimulant for Horses*. Elton Wetmore, Hamden, Conn. This was citrated caffeine. Analysis showed: Caffeine, 52.00, and citric acid, 48.00, per cent. Passed.

*J.S.-510. Prescription No. 181022*. Mrs. Kittridge, Meriden, Conn. This prescription called for 1.5 grain phenobarbital tablets; analysis showed 1.29 grains/tablet. Passed.

*W.S.-745. Reducing Tablets*. Police Dept., Stratford, Conn. These were "Dexamyl" tablets of Smith, Kline & French Laboratories, Philadelphia, Pa. Analysis showed: Amobarbital, 0.49, and d-amphetamine sulphate, 0.0045, grain/tablet. Misbranded because not sold on prescription.

*K.C.-1214. Slim-Mint Chewing Gum*. Thompson Medical Co., Inc., New York, N. Y. Declared active ingredients were: "Benzocaine, Methylcellulose, Oil of Anise, Dextrose, Oil of Peppermint, Oil of Wintergreen, Oil of Cinnamon, Oil of Clove. Also contains natural Kelp (Fucus). Each tablet contains 0.02 mgm. of iodine. Pleasantly flavored." Sample was also labelled "REDUCE! LOOK YOUR BEST! FEEL YOUR BEST!—Slim-Mint Chewing Gum the modern aid to appetite control", while an accompanying card stated: "REDUCE—EAT WHAT YOU WANT, YET . . . LOSE 2-3 POUNDS A WEEK OR YOUR MONEY BACK!—Works like magic—Curbs your appetite—Clinically tested—Proven effective—No strenuous exercising—No starvation diets—No harmful drugs". A circular contained further statements and dieting directions which are too long to reproduce here.

The principle of the "Slim-Mint" regimen appeared to be: (1), The use of the local anesthetic benzocaine to dull the sense of taste; (2), further decreasing the appetite by filling the stomach with water just before a meal; (3), avoidance of high-calorie foods; and (4), lowering the water content of the body by reducing the salt intake.

Because the statement "EAT WHAT YOU WANT, Yet . . . LOSE 2-3 POUNDS A WEEK" was definitely false, sample was misbranded.

*J.S.-511. TAD-CAPS Kare Timed Disintegration Capsules*. Kare Pharmacal Co., Hartford, Conn. Analysis, as compared with claims, was as follows:

	Declared	Found
Thyroid, grains/capsule .....	3	not determined
Amphetamine sulphate, mg./capsule ....	15	15.9
Atropine sulphate, grains/capsule .....	0.0056	not determined
Aloin, grains/capsule .....	0.25	not determined
Phenobarbital, grains/capsule .....	0.25	0.24

Passed.

9032. *Vanguard Cigarettes*. Bantob Products Corp., New York, N. Y. These cigarettes were accompanied by a circular entitled "the truth about cigarette smoking" that stated in part: "The smoke of all tobacco cigarettes contains tobacco tars, nicotine and arsenic. These substances have long been regarded by medicine as tending to be injurious to the human body when absorbed in any but extremely small quantity . . . VANGUARDS—are tobacco-free, nicotine-free, arsenic free. VANGUARDS—are made of natural fibers, scientifically processed . . . We have at least taken out of our smoke everything *known* to be harmful in ordinary cigarettes".

Microscopic examination showed the contents of these filter-tip cigarettes to be chiefly some unidentified plant material mixed with a trace of paper; tests for arsenic and alkaloids were negative. The cigarettes had a rather faint odor of vanillin, but when they were smoked the predominating odor was that of sandalwood.

This sample was passed.

## COSMETICS

Seven official samples of cosmetics were examined for the Commissioner, and 27 unofficial samples, mostly of soaps and other detergents, were tested for the State Supervisor of Purchases and the Commissioner of Consumer Protection. Sixteen samples were passed and 18 were adulterated or otherwise objectionable.

The seven official and three unofficial samples from the Commissioner of Consumer Protection were the following:

*J.S.-509 and W.S.-750. Arid Whirl-In Lotion Deodorant with soothing water-soluble Lanolin*. Carter Products, Inc., New York, N. Y. These samples were submitted with a complaint that the product caused a "painful skin rash", but because no reaction occurred when it was left on the forearms of four of our personnel for several hours both samples were passed.

8019 and 8020. *Avon Creme Hair Rinse*. Avon Products, Inc., New York, N. Y. These samples were submitted as a result of a complaint of a user that 8019 made her hair "both brittle and dry, and also made it wiry", whereas 8020 "seemed to bring it back to its normal condition". Analyses were as follows:

	8019	8020
pH .....	3.25	3.35
Total solids, gm./100 cc. ....	3.48	3.66
Emulsion .....	broken	O.K.

The emulsion had become broken in 8019, and to this extent it was adulterated. 8020 was passed.

*W.S.-751. Chairman After Shave Lotion*. Stanley Home Products, Inc., Westfield, Mass. This sample was submitted because of a complaint of skin irritation. It was a highly perfumed transparent yellow liquid whose analysis showed: Alcohol, 56.60 per cent by volume; nonvolatile organic matter, 0.063, and mineral matter, 0.012, gm./100 cc.; traces of magnesium, sodium, manganese, iron, lead, copper, zinc, tin and nickel

present. The complained-of skin irritation may have been due either to the alcohol (if applied to a dry face) or to allergy to the perfume. Passed.

*W.S.-744. Colgate's Florient Mint Air Deodorant.* Colgate-Palmolive Co., New York, N. Y. This sample was in a pressurized can labelled in part: "Kills Offensive Odors—Kitchen, Living Room, Bath Room—Makes Air Smell Mint Fresh—One Quick Spray Chases Odors Away." It was submitted to see if it came within the class of materials required to be labelled "Flammable" under the hazardous substances law. Analysis showed it to be deodorized kerosene strongly perfumed with spearmint; its boiling range was 170° to 180°C., and its flash-point was 178°F., which was far above the 80°F. maximum for "flammable" liquids. Sample was therefore passed.

*9666. Lux Soap.* Lever Bros. Co., New York, N. Y. This orange-pink bar of soap was submitted as a result of a complaint of a user that after three or four days' use "her hands became very itchy and developed a rash" which led to eventual hospitalization and treatment with antibiotics. Analysis showed that no free caustic was present and that if there were any cocoanut oil it must have been a minor ingredient. Sample was passed.

*W.S.-747. Medium Size Ivory.* Proctor & Gamble, Cincinnati, Ohio. A broken needle, with its point sticking out and blackened in a flame, was protruding from this bar of soap. Adulterated.

*J.S.-479. Odorless Imra Cosmetic Hair Remover Cream.* Artra Cosmetics, Inc., Montclair, N. J. Submitted because of a complaint of "a serious neck and face rash" following its use. The active principle of "Imra" is calcium thioglycolate<sup>15</sup>, which is generally recognized as being the least likely to cause irritation of any of the substances that have been used as depilatories. Since *J.S.-479* caused no irritation when used by three members of our staff it was passed.

*J.S.-486. Weladol Shampoo.* Pitman-Moore Co., Indianapolis, Ind. Labelled "Polyalkylene-Glycol-Iodine in a Shampoo Base—Available Iodine 1%—Antibacterial—Antifungal—Antiseptic." This sample was taken as a result of a report by a veterinarian that two collies had died suddenly after use of this preparation but that he had used it on short-haired dogs without ill effects. Because we had no facilities for a proper investigation of a complaint of this sort, sample was not tested by us but the matter was referred to the U. S. Food and Drug Administration and the manufacturer.

The other 24 unofficial samples consisted of 15 liquid soaps, two cake toilet soaps, four miscellaneous soaps and three non-soap washing powders submitted by the State Supervisor of Purchases to be checked for compliance with purchasing specifications. Analyses of the soaps are given in Table 16. It would take too much space to reproduce here the specifications these products were supposed to comply with, but where a sample was substandard the point of deficiency has been noted in the table.

*7614. Dippro Suds (Synthetic Detergent).* Ultra Chemical Works, Inc., Joliet, Ill. Moisture and volatile matter, 8.08, alcohol-insoluble,

38.93, ash, 58.00, water-insoluble, 3.20, silica, 3.72, polyphosphates (as P<sub>2</sub>O<sub>5</sub>), 15.90, orthophosphate (as P<sub>2</sub>O<sub>5</sub>), 1.60, synthetic detergent, 28.09, acetone-insoluble, 17.26, alcohol-soluble fatty matter, 1.48, and salt, 9.36, per cent; optical brightener present; carbonate trace or none; pH of 1% solution, 9.36. Low in polyphosphate (specification calls for a minimum of 17 per cent); high in water-insoluble matter.

*7565. High Suds Topco Detergent.* Topco Associates, Inc., Chicago, Ill. Synthetic organic detergent, 28.90, polyphosphates (as P<sub>2</sub>O<sub>5</sub>), 16.20, orthophosphates (as P<sub>2</sub>O<sub>5</sub>), 0.80, silica, 4.90, soap, 0.00, unsaponified, 0.96 and water-insoluble, 6.94, per cent; pH of 1% solution, 9.85; optical brightener present. Passed.

*8113. Spencer MP-9MS.* Greenwood Chemical Co., Inc., Boston, Mass. Trisodium phosphate, 39.08; sodium carbonate, 59.70; excess moisture, 1.18, and undetermined, 0.04, per cent. Passed.

## DEVICES

Devices designed to affect the structure or function of the body are subject to the same sections of the Food, Drug and Cosmetic Act as drugs. Two samples of a device were examined for the Commissioner in 1959:

*J.S.-507 and 508. Babeez All Rubber Teething Pacifier.* E-Z Products, New York, N. Y. *J.S.-507* was submitted because of a complaint of a purchaser that his baby would "start crying immediately whenever this pacifier was inserted into his mouth", and that the product "had a very strong and bitter flavor which would not disappear, even after sterilizing in boiling water"; *J.S.-508* was a comparison sample of the same brand.

Aqueous extraction of both samples yielded solutions that had strong rubbery odors but were almost tasteless to three members of our staff and left unweighable residues on evaporation. It is known that compounds related to phenylthiourea are used as vulcanization accelerators, and that the population is divided into two genetic groups, to one of which phenylthiourea is extremely bitter while to the other it is tasteless. It was speculated that perhaps these pacifiers might have contained traces of phenylthiourea that the complainant and his baby had inherited the ability to taste at extremely low concentration where we could taste nothing. Both samples were however passed.

<sup>15</sup> Conn. Agr. Expt. Sta. Bul. 617, 83 (1958).

TABLE 16. SOAP

No.	Manufacturer or distributor and brand	Water and volatile, per cent	Alcohol-insoluble, per cent	Water-insoluble, per cent	Free sodium hydroxide, per cent	Free oleic acid, per cent	Anhydrous soap, per cent	pH	Remarks
9049	Aborn Chemical Industries, Providence, R.I. Ark 15% Liquid Hand Soap	.....	0.04	.....	.....	0.23	15.53	11.1	Passed
9050	Aborn Chemical Industries, Providence, R.I. Ark 36% Liquid Hand Soap	.....	0.03	.....	.....	0.16	35.57	11.6	Passed
8615	Edsan Chemicals, 15% Soap	.....	0.17	.....	.....	0.31	13.84	10.3	Low in soap; pH too high
8617	Edsan Chemicals, Liquid Hand Soap	.....	0.07	.....	.....	0.24	23.17	10.0	pH too high
8616	Soap Minimum Solids 15% Manufacturer unknown. Liquid Hand Soap—Minimum Solids 36%	.....	0.08	.....	.....	0.27	31.02	10.1	Low in soap; pH too high
7718	Mione Mfg. Co., Collingdale, Pa. M-1 Mione "My Own" Powdered Hand Soap (With Lanolin)	.....	.....	65.80	.....	.....	19.55	9.5	Low in soap; pH too high Borax, 14.31%; lanolin, 2.91%; phosphate, carbonate and high proportion of fine white sand present (specification calls for no more than 0.3% water-insoluble and no abrasives).
9052	Northeast Cleaning Materials Co., New Haven, Conn. Castile-Cocanut Oil Liquid Hand Soap	.....	0.00	.....	.....	0.27	13.32	11.5	Low in soap
9051	Northeast Cleaning Materials Co., New Haven, Conn. Conc. Castile-Cocanut Oil Liquid Hand Soap	.....	0.00	.....	.....	0.22	28.62	12.0	Low in soap
7540A	Northeast Cleaning Materials Co., New Haven, Conn. Liquid Toilet Soap Type I	.....	0.05	0.02	.....	0.06	11.38	10.4	Low in soap; pH too high

TABLE 16. SOAP (Continued)

No.	Manufacturer or distributor and brand	Water and volatile, per cent	Alcohol-insoluble, per cent	Water-insoluble, per cent	Free sodium hydroxide, per cent	Free oleic acid, per cent	Anhydrous soap, per cent	pH	Remarks
7540B	Northeast Cleaning Materials Co., New Haven, Conn. Liquid Toilet Soap Type I	.....	0.09	0.06	.....	0.09	11.09	10.3	Low in soap; pH too high
7541A	Northeast Cleaning Materials Co., New Haven, Conn. Liquid Toilet Soap Type II	.....	0.08	0.04	.....	0.08	36.87	10.6	pH too high
7541B	Northeast Cleaning Materials Co., New Haven, Conn. Liquid Toilet Soap Type II	.....	0.09	0.03	.....	0.11	39.00	10.5	pH too high
7544	Purity Soap & Chemical Co., Minneapolis, Minn. Neutro Lig. Toilet Soap	.....	0.07	0.05	.....	0.06	21.24	10.0	Low in soap; pH too high
7545	Purity Soap & Chemical Co., Minneapolis, Minn. Phome Lig. Toilet Soap	.....	0.01	0.05	.....	0.10	39.42	10.4	pH too high
7777	Stahl Soap Corp., Brooklyn, N.Y. Bevedere Cake Soap (Complexion Toilet Soap)	5.69	.....	0.07	0.18	.....	84.58	.....	Passed Free sodium carbonate, 2.32%; passed
7221	Stahl Soap Corp., Brooklyn, N.Y. Chip Soap	2.36	3.00	0.56	.....	0.43	93.29	.....	.....
8618	Stahl Soap Corp., Brooklyn, N.Y. Complexion Soap	7.88	.....	0.15	0.08	.....	82.20	.....	Passed Free sodium carbonate, 2.65%; passed
7222	Stahl Soap Corp., Brooklyn, N.Y. Laundry Powdered Amber Soap	2.13	3.30	0.66	.....	0.42	92.79	.....	Free triethanolamine, 5.30%. Triethanolamine cocoanut oil soap; not article called for
7543	Stanley Home Products, Inc., Easthampton, Mass. Stanley Liquid Toilet Soap Concentrated for Liquid Hand Dispenser	.....	0.02	0.01	.....	.....	23.35	8.2	.....

TABLE 16. SOAP (Concluded)

No.	Manufacturer or distributor and brand	Water and alcohol-volatile, per cent	Alcohol-insoluble, per cent	Water-insoluble, per cent	Free sodium hydroxide, per cent	Free oleic acid, per cent	Anhydrous soap, per cent	pH	Remarks
7542	Stanley Home Products, Inc., Easthampton, Mass. <i>Stanley Liquid Toilet Soap for Liquid Hand Dispenser</i>	.....	0.01	0.01	.....	.....	15.50	8.1	Free triethanolamine, 2.96%. Triethanolamine cocanut oil soap; not article called for
7546	Tri-State Laundry Supply Co., Middletown, Conn. <i>Neptune Soap, Laundry Built, High Titer, Powdered</i>	3.09	16.12	7.19	.....	0.81	72.79	.....	Sodium carbonate, 3.50%; trisodium phosphate, 1.27%. Excessive water-insoluble material (should not be over 1%).

COLLABORATION WITH OTHER DEPARTMENTS

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

	Samples
State Police .....	11
U. S. Geological Survey (water) .....	30
Station Departments:	
Biochemistry .....	107
Entomology .....	19
Plant Pathology .....	63
Soils .....	64
Tobacco Laboratory .....	22
	<hr/>
	316

BABCOCK GLASSWARE, ETC.

As required by Sections 22-151 and 22-198 of the General Statutes, milk and cream test bottles and milk pipettes, and check thermometers used in milk pasteurizing plants, were examined as follows:

	Piece	Incomplete or inaccurate
Babcock glassware .....	1,728	1
Thermometers .....	88	1

## INDEX

Ale	10, 20	Dairy products	25
Alimentary pastes	6	DDT in milk	62
Aminotriazole in cranberries	60, 61	Deceptively packaged foods	31
Apple-grape juice	42	Decomposed or contaminated foods	20
Apple juice	35	Deodorant, air	80
Apple leaves, DDT on	63	Depilatory	80
Apple pomace, DDT in	63	Desserts, gelatine	20, 22, 57
Apple sauce	20, 21, 22	Detergents, synthetic	80, 81
Apples, pesticides on	62	"Dexamyl" tablets	78
"Arrid"	79	Dog foods	20, 22, 71
Arsenic in lakes	63, 64	Dragon's blood	76
Aspirin	77	Dressings, French	57, 58, 59
		Dressings, salad	57
		Drugs	77
Babcock glassware	85	Eggplant, canned	24
Baby food	20	Egg products	32
Bacon	53	Ellis, Edward, obituary	2
Baked products	7	Extracts and flavors	32
Beans, lima	20, 23	Fillings, pie	72, 76
Beef, corned	21	Fish	20, 21, 24, 32
Beef, roast	24	Flavors and extracts	32
Beer	10	Flour	20, 21, 22, 23, 24, 33, 34
Beer, root	12	Foods	6
Beverages, carbonated, etc.	10	Frankforts	21, 46, 47
Blanket	75	Fruit, canned	35
Bologna	46	Fruit drinks	12
Bread	7, 20, 21, 22, 23, 24	Fruit juices	20, 21, 22, 23, 35
Bread mix	31	Fuel, lighter	75
"Bril Eg"	32	Fuel oil additives	71, 73
Butter, lemon	74	Gelatine	77
Butter oil	25	Glassware, Babcock	85
		Grapefruit juice	42
Caffeine, citrated	78	Grape juice	24, 36, 37
Cake	20, 21	Gravy mix	31
Candy	18, 31, 32	Gum, chewing	78
Celery, copper sulphate on	64	Hamburg	22, 51, 52
Cereals	16, 17	Ham, "honey"	54
Cheese	20, 23, 24, 25	Honey	64, 65
Cherries	24, 35	Horseradish	59, 60
Chocolate	19, 21	Hypochlorite, sodium	24
Chocolates	18, 22, 24	Ice	74
Cider	35	Ice cream	26
"Cigarettes", candy	31, 32	Ice cream mixes	26
Cigarettes, "Vanguard"	79	Jams and jellies	43, 44
Cleaner, Chalk	74	Jellies and jams	43, 44
Cleaning compounds	24, 74	Ketchup, tomato	68
Cocoa	16, 17	Lemon butter	74
Coffee	18, 20, 22	Lemon juice	42
Collaboration with other departments	85	Lentils	20, 23
Confectionery	18, 20, 22, 24, 25, 31, 32	Lime juice	42
Contaminated or decomposed foods	20	Liverwurst	53
Cookies	7, 20, 24	Lotion, shaving	79
Copper sulphate on celery	64	Macaroni	6
Corn, canned	21	Magnesia, milk of	77
Corn chips	72, 74	Maple leaves, DDT on	64
Corn cob	24	Marmalade, orange	44, 45
Corn meal	20, 23		
Corn syrup solids	74		
Cosmetics	79		
Cottonseed oil	56		
Crabmeat	20		
Crackers	24		
Cranberries, aminotriazole in	60, 61		
Cream, whipped	25		
Crow repellent	24		

## INDEX—(Concluded)

Meat products	20, 21, 24, 46	Prune juice	23
Mercury on tulip bulbs	64	Pudding	31
Milk, DDT in	62		
Milk, dry skim	20	Repellent, crow	24
Milk, evaporated	20, 26	Rice	31
Milk, fluid	24, 25, 26	Rice, fried	31
Milk, vitamin D	26, 27	Ricotta	25
Milk, vitamin-mineral fortified	27, 30	Rolls	20, 22
Milk, vitamins A & D skimmed	27, 30	Rye	20, 23
Miscellaneous foods	71		
"Moldin, Minin Organic"	16	Salad dressings	57
Muffins, corn	20, 21	Salt, sea	60
		Sauce, spaghetti	72
Noodles, egg	6, 20, 21	Sausage	54, 55
Nuts	55	Shampoo	79, 80
		Shaving lotion	79
Oil, cottonseed	56	Shirt, sulphuric acid on	77
Oil, fuel, additives	71, 73	Silage, DDT in	62
Oil, olive	56	Soap	80, 82
Oil, peanut	55, 56	Sodas	11, 20, 21, 22, 23, 24, 25
Oil, petroleum	74	Sodium hypochlorite	24
Oils, blended	55	Soup mixes	31, 72, 74
Oils, vegetable	55	Soups	20
Oleomargarine	56	Spices and condiments	59
Olive oil	56	Spinach, canned	68
Orange juice	23, 41	Spray residues	60
		Stew, turkey	24
Paint	75, 76	Sugar	20, 21, 75
"Pan Dry Fry"	75	Sulphuric acid on shirt	77
Paper	20, 21	Syrup, maple	20, 22, 24, 65
Peaches, canned	36	Syrups	20, 22, 24, 64
Peanut oil	55, 56		
Peanuts	55	Taffy, salt water	31
Pear leaves, arsenic on	64	"Tang"	13
Peas, split	20, 23	"Tempo"	75
Pepper	59, 60	Tenderizer, meat	74
Peppers, stuffed	22	Thermometers	85
Petroleum oil	74	Ticks, dog	77
Pickles	20	Toast	7, 8, 9
Pie fillings	72, 76	Tulip bulbs, mercury on	64
Pie, turkey	75		
Pineapple, canned	24	Vanilla extract	32
Pistachios	55	Vegetable products	20, 24, 25, 65
Polish, silver	74	Vermicelli	6
Pomace, apple, DDT in	63	Vinegar, cider	68, 69
Popcorn	56	Vinegar, distilled	68
"Popsicles"	24	Vinegar, wine	20, 68, 70
		Vitamin concentrates for milk	76
Potato chips	20, 74	Water	71
Potato mix	31	Water, arsenic in	63, 64
Potatoes, sweet	65	Wheat	16
Potatoes, white	67		
Prescription	78		