
The 61st Report on

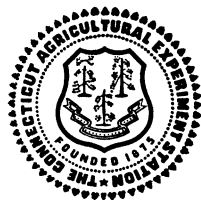
FOOD PRODUCTS

And the 49th Report on

DRUG PRODUCTS, 1956

Bulletin 617

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THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION
NEW HAVEN

CONTENTS AND SUMMARY

Material	Page	From		Total	Adulterated, misbranded, or otherwise questionable
		Food and Drug Commission	Other sources		
Foods					
Alimentary pastes	6	42	...	42	39
Beverages, carbonated, etc.:					
Alcoholic beverages	14	22	7	29	24
Birch beer, cream soda and root beer	14	6	..	6	1
Grape soda	15	42	1	43	35
Other fruit sodas	15	23	..	23	21
Bread and other bakery products:					
Bread	19	15	5	20	13
Other bakery products	22	7	1	8	5
Cereals	23	4	..	4	1
Chocolate and cocoa	25	2	3	5	2
Coffee	25	3	1	4	2
Confectionery	26	18	8	26	15
Contaminated or decomposed foods	28	68	29	97	50
Dairy products:					
Butter	32	5	...	5	4
Cheese	32	4	...	4	..
Dry skim milk	33	6	..	6	..
Ice cream	33	..	6	6	..
Unfortified fluid milks	33	..	4	4	1
Vitamin A-fortified skim milk	35	..	11	11	4
Vitamin D milk	35	..	257	257	20
Deceptively packed foods	35	56	..	56	51
Eggs and egg products	41	8	...	8	4
Extracts and flavors	41	7	..	7	3
Fruit, canned	42	2	..	2	1
Fruit juices	43	21	18	39	8
Meat and meat products:					
Frankforts	46	150	..	150	99
Hamburg	46	61	2	63	6
Pork sausage	46	33	1	34	12
Other meat products	46	3	87	90	1
Oils and fats, vegetable, and cooking fats	59	20	2	22	9
Salad dressing and mayonnaise	62	4	..	4	2
Spices and condiments	63	4	..	4	2
Spray residues	64	..	95	95	61
Syrups	65	4	..	4	4
Vegetables:					
Sweet potatoes	66	20	..	20	14
White potatoes	66	6	..	6	4
Other vegetables	66	2	19	21	1
Vinegar	69	23	..	23	7
Water	71	..	11	11	..

CONTENTS AND SUMMARY (Concluded)

Material	Page	From		Total	Adulterated, misbranded, or otherwise questionable
		Food and Drug Commission	Other sources		
Miscellaneous:					
Dog foods	71	2		2	1
Soy sauce	71	1	2	3	1
Tobacco	72	26	11	37	27
Other miscellaneous substances	74	15	31	46	14
Totals		735	612	1,347	569
Drugs					
Barbiturates	78	5	4	9	9
Narcotics	79		66	66	56
Veterinary medicines	79	1	3	4	
Miscellaneous drugs	80	3	23	26	8
Totals		9	96	105	73
Cosmetics	83	8	4	12	5
Collaborative	85		337	337	
Total for all		752	1,049	1,801	647
Babcock glassware, etc.	85		4,754	4,754	18

The Sixty-First Report on FOOD PRODUCTS and the Forty-ninth Report on DRUG PRODUCTS 1956

H. J. Fisher

This report summarizes examinations of foods, drugs, cosmetics and miscellaneous materials submitted by the Food and Drug Commissioner and the Commissioner of Agriculture during the calendar year 1956, as well as like materials analyzed for the U. S. Geological Survey, the State Department of Health, 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.

Fourteen hundred and sixty-four samples of foods, drugs, cosmetics and miscellaneous materials were examined during the year. This was an increase of 248 samples over the number analyzed in 1955.

This was the first year that another class of foods surpassed dairy products in number of samples analyzed: There were 337 samples of meat products as against only 293 of dairy products. Nevertheless, of single types of foods vitamin D milk still led the list with 257 samples, since there were only 150 samples of the meat product tested in greatest quantity, namely, frankforts. Other classes of foods analyzed extensively during 1956 were: Beverages (mostly carbonated), 101 samples; foods suspected of insect or rodent infestation or contamination with foreign materials, 97 samples; fruit and vegetables tested for spray residue, 95 samples; deceptively packed foods, 56 samples; and vegetables (mostly sweet and white potatoes for artificial color), 47 samples.

An inspection of the summary on the two preceding pages will show that 44 per cent of all food, drug and cosmetic samples tested were found to be adulterated, misbranded or otherwise objectionable. It should be emphasized that this does not mean that any such percentage of the products on the market was of unsatisfactory quality, because most of the samples whose analyses are reported herein were submitted to us as a result of suspicion on the part of inspectors or others that they might be adulterated or misbranded.

There were three personnel changes in 1956. Mrs. Norma Spencer resigned on August 10, and on December 10 her place as feed and fertilizer analyst was filled by Mrs. Joan Curtiss (B.A., Albertus Magnus College), who had been working previously at the Station as entomological technician and assistant

librarian. On October 31 John Sprague retired from his position in the grinding room and was replaced by the transfer of Edward Ellis from the buildings and grounds staff. On May 14 Mr. Carrol Challenger was hired as laboratory dishwasher on a part-time basis to take over temporarily some of the duties of Mr. Knapp, who had been on an extended leave of absence because of illness since December 27, 1955.

The writer wishes to express his gratitude to all the members of the staff for their loyal and efficient work. All of our staff had some part in making the examinations reported on in this bulletin, and if a few are singled out for special 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 and Squires, while the drugs and cosmetics were handled by Mr. Merwin. Dr. Hankin (ably supported by Mr. George Smith, Miss Barbara Johnson and other members of his staff) was responsible for the vitamin D milk and other vitamin assays. Miss Shepard made all of our microscopic examinations and did most of the testing under "Contaminated or Decomposed Foods," and Mr. Keirstead ran all of the spray residue determinations. Many individual element determinations were made on the spectrograph and flame photometer by Mr. Mathis and his assistant Miss Agostini, and Mr. Mathis was responsible for all infrared analyses.

In assigning credit, the work of Miss Caputo in typing and reading proof on this bulletin should not be overlooked. Attention should also be called to the fact that responsibility for obtaining the official samples reported on herein, and for taking legal action in cases where adulteration or misbranding was found, rested with Agriculture Commissioner Gill and Food and Drug Commissioner Frassinelli, Division Chiefs Goslee, Clark and Plank, and their inspectors. Except insofar as the Station possesses joint authority with the Food and Drug Commission 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

One sample of "cavatelli," 32 of macaroni, two of noodles, five of spaghetti and two of vermicelli were examined for the Commissioner. Three samples were passed and 39 were misbranded.

Federal regulations require that any alimentary paste product labelled as containing dried egg yolk or whole egg shall contain not less than 87 per cent total solids and (on the dry basis) not less than 5.5 per cent of the solids of whole egg or egg yolk as the case may be. *W.M.-1155, Roman Cavatelli*, manufactured by Roman Products Corp., South Hackensack, N. J., was labelled "Ingredients durum flour, water and eggs," but the following analysis showed that no egg was present: Water, 27.64, lipoids, 1.72, and lipoid P_2O_5 , 0.032, per cent. Misbranded.

The two noodle samples (*A.F.-221C* and *W.M.-1128A*) were both "Artichoke Noodles" manufactured by Anthony Alphonse DeBole, New York, N. Y. These were a special product made from the Jerusalem artichoke (*Helianthus tuberosus*) instead of wheat flour, and were claimed to have a total calorie value of only 300 to the pound and to contain no added salt. Analyses were as follows:

	<i>A.F.-221C</i>	<i>W.M.-1128A</i>
Water, per cent	10.41	8.74
Ash, per cent	1.82	1.36
Protein, per cent	12.94	13.22
Fiber, per cent	0.40	0.31
Carbohydrate other than fiber, per cent	71.78	73.61
Fat, per cent	2.65	2.76
Sodium, mg./100 gm.	410.	470.

The Jerusalem artichoke differs from cereal grains in containing inulin instead of starch. Inulin is a complex carbohydrate which yields only levulose on complete hydrolysis, whereas starch breaks down into dextrose. It has been claimed that the human body is incapable of digesting inulin, and since the low calorie claims made for the DeBole products were obviously based on this hypothesis the question of the digestibility of inulin was referred to the Connecticut Committee on Foods, Drugs, Cosmetics and Devices. This committee appointed Dr. George Cowgill of the Yale University School of Medicine as a referee in this matter, and he submitted a report based on a review of the literature which confirmed the claim that inulin was indigestible. On this basis the calorie contents per pound of the two samples were respectively 343 and 352—values reasonably close to the declared 300. Nevertheless both samples were misbranded because their average sodium content was equivalent to 1.12 per cent of salt.

Most of the other 39 samples were picked up to check their claims to be enriched, "high in protein, low in calories," "salt-free," etc. Federal regulations specify that enriched macaroni products shall contain in one pound 4 to 5 milligrams of thiamine, 1.7 to 2.2 mg. of riboflavin, 27 to 34 mg. of niacin, not more than 16.5 mg. of iron, and (if declared) 250 to 1,000 U.S.P. units of Vitamin D and 500 to 625 mg. of calcium. All foods purporting "to be or . . . represented for special dietary use by man by reason of (their) use as a means of regulating the intake of sodium or salt (sodium chloride)" are required to "bear a statement of the number of milligrams of sodium in 100 grams of the food and a statement of the number of milligrams of sodium in an average serving of the food." Three samples met these requirements where pertinent and tested for, as well as such other claims as were made, while 36 failed to do so in one or more respects and were consequently misbranded. Analyses are given in Table 1.

Claims to be high in protein and low in calories were judged on the basis of the following average values for macaroni and spaghetti:¹

	<i>Macaroni</i>	<i>Spaghetti</i>
Protein, per cent	13.4	12.1
Calories per 100 grams	358	356

¹Conn. Agr. Expt. Sta. Bul. 373 (1935).

TABLE 1. ALIMENTARY PASTES

No.	Manufacturer or distributor and brand	Water, per cent	Ash, per cent	Protein, per cent	Fiber, per cent	Available carbohydrate, per cent	Fat, per cent	Calories per 100 gm.	Sodium, mg./100 gm.	Riboflavin, mg./lb.	Niacin, mg./lb.	Remarks
K.C.-790	Bay State Macaroni Mfg. Co., Everett, Mass. <i>Bay State Viva Mostaccioli Rigati 32 Enriched</i>	11.44	0.52	11.34	0.07	76.04	0.59	355	2	1.06	24.7	Labelled "High Protein—Low Calorie—Starch Reduced—Salt-Free—Less than 100 calories per serving." Not high protein nor low calorie; deficient in riboflavin; sodium content not stated.
W.M.-1179	Bay State Macaroni Mfg. Co., Everett, Mass. <i>Bay State Viva Spaghetti—3 Enriched</i>	12.36	0.52	11.40	0.07	75.09	0.56	351	25	1.43	26.3	Labelled "Starch Reduced—High Protein—Salt Free—Less than 100 calories per serving." Not high protein; sodium content not stated.
K.F.-1675	Bay State Macaroni Mfg. Co., Everett, Mass. <i>Bay State Viva High Protein Ziti-Rigati-20 Enriched Macaroni</i>	14.21	1.09	11.69	0.21	71.96	0.84	342	..	1.59	31.4	Low rather than high in protein.
K.F.-1692	Buitoni Foods Corp., New York, N.Y. <i>Buitoni Enriched Spaghettini (Tbin Spaghetti No. 2)</i>	9.95	1.62	18.70	0.23	66.45	1.05	351	27	1.93	32.1	Deficient in protein (20% protein declared).
K.C.-829	Buitoni Foods Corp., New York, N.Y. <i>Buitoni 20% Protein Macaroni Souppettes</i>	8.76	1.50	19.67	0.58	65.93	3.56	374	72	...	...	Labelled "Higher in protein lower in starch—Calorie Content approx. 35 per oz. Sodium Content less than 0.1 mg. per 100 g." Calories per ounce found, 106; sodium content far in excess of claim.

K.F.-1640	First National Stores, Inc., Somerville, Mass. <i>Finat Elbow Macaroni, High Protein, Enriched</i>	10.92	0.76	12.31	0.22	74.90	0.89	357	2	1.19	25.4	Labelled "No Salt Added" but sodium content not stated; not high protein; low in riboflavin.
K.F.-1691	First National Stores, Inc., Somerville, Mass. <i>Finat Elbow Macaroni, Enriched Italian Style High Protein</i>	11.00	1.21	11.63	0.12	75.11	0.93	355	5	1.68	31.8	Labelled "Salt Free" but sodium content not stated; not high protein.
W.M.-1083	Alfonso Garofalo, Gagnano, Italy. <i>Alfonso Garofalo Pure Neapolitan Macaroni</i> . . . . .	...	...	...	...	...	...	...	...	...	...	Net weight: Declared, one pound; found, 14.72 oz. Short weight.
W.M.-1084	Alfonso Garofalo, Gagnano, Italy. <i>Pure Neapolitan Macaroni Extra Fine Quality</i> . . . . .	...	...	...	...	...	...	...	...	...	...	Net weight: Declared, one pound; found, 14.65 oz. Short weight.
P.R.-4	V. La Rosa & Sons, Inc., Brooklyn, N.Y. <i>La Rosa Grade A Vermicelli Capellini No. 10</i>	10.22	0.78	11.57	0.15	76.67	0.61	358	3	1.29	30.9	Low in riboflavin.
K.F.-1639	C. F. Mueller Co., Jersey City, N.J. <i>Mueller's Macaroni</i>	10.69	0.48	11.57	0.17	76.08	1.01	360	7	1.30	29.1	Labelled "No artificial coloring or salt added"; sodium content not stated.
K.F.-1624	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Alphabet No. 51</i>	11.49	0.70	11.17	0.12	75.77	0.75	355	..	1.56	27.6	Labelled "High in Protein, Low in Calories"; not high in protein.
K.F.-1626	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Capellini No. 11</i>	10.59	0.51	11.86	0.17	75.49	1.38	362	7	1.52	29.5	Labelled "High in Protein Low in Calories—No Salt Added." Not high in protein or low in calories; sodium content not stated.

TABLE 1. ALIMENTARY PASTES—Continued

No.	Manufacturer or distributor and brand	Water, per cent	Ash, per cent	Protein, per cent	Fiber, per cent	Avail-able carbo-hydrate, per cent	Fat, per cent	Cal-ories per 100 gm.	Sodi-um, mg./100 gm.	Ribo-flavin, mg./lb.	Niacin, mg./lb.	Remarks
K.F.-1620	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Egg Product</i>	11.07	0.58	13.05	0.17	73.77	1.36	359	..	1.00	18.9	Labelled: "Made of finest selected durum patent flour and egg yolk. No Artificial Coloring." Lipoids, 3.98, lipoid P ₂ O ₅ , 0.080, and egg yolk solids (dry basis), 2.55, per cent. Deficient in egg yolk solids.
K.F.-1617	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched El-bows No. 35</i>	11.94	0.64	11.29	0.17	74.75	1.21	355	..	1.61	27.8	Passed. Labelled "High in Protein Low in Calories—No Salt Added." Not high in protein or low in calories; sodium content not stated.
K.F.-1606	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Fet-tucelle No. 14</i>	10.06	0.74	11.57	0.02	76.65	0.96	362	4	1.48	27.2	Labelled "High in Protein Low in Calories—No Salt Added." Not high in protein or low in calories; sodium content not stated.
K.F.-1625	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Large Cut Macaroni—Cut Macaroncelli No. 34</i>	9.94	0.61	13.11	0.10	75.28	0.96	362	..	2.00	34.5	Labelled "High in Protein Low in Calories"; not high in protein nor low in calories.
K.F.-1616	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Large Cut Macaroni Cut Ziti No. 2</i>	12.41	0.50	11.29	0.05	74.80	0.95	353	..	1.36	24.1	Passed. Labelled "High in Protein Low in Calories—No Salt Added." Not high in protein nor low in calories; sodium content not stated.
K.F.-1614	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Large Macaroni No. 5 (Macaroncelli)</i>	10.34	0.61	12.03	0.07	75.78	1.17	362	9	1.62	28.4	Labelled "High in Protein Low in Calories"; not high in protein nor low in calories; sodium content not stated.

K.F.-1621	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Lasagne No. 66</i>	10.24	0.63	12.31	0.15	74.98	1.69	364	8	0.93	21.1	Labelled "High in Protein Low in Calories—No Salt Added." Low in riboflavin and niacin; not high in protein nor low in calories; sodium content not stated.
K.F.-1608	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Linguine Fine No. 18</i>	10.21	0.54	12.08	0.15	76.17	0.85	361	2	1.67	27.9	Labelled "High in Protein Low in Calories—No Salt Added." Not high in protein nor low in calories; sodium content not stated.
K.F.-1622	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Linguine No. 17</i>	10.36	0.50	11.86	0.07	76.20	1.01	361	5	1.68	30.3	Labelled "High in Protein Low in Calories—No salt Added." Not high in protein nor low in calories; sodium content not stated.
K.F.-1623	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Macaroni Specialty, Italian Style</i>	13.36	0.65	11.35	0.17	72.85	1.62	351	..	1.26	27.5	Labelled "High in Protein Low in Calories." Not high in protein nor low in calories.
W.M.-1178	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Fusilli No. 90</i>	10.31	0.68	11.74	0.12	76.41	0.74	359	8	0.51	26.3	Labelled "High in Protein Low in Calories!" Not high in protein nor low in calories.
K.F.-1559	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Margherita No. 93</i>	10.85	0.88	12.37	0.12	74.64	1.14	358	..	..	..	Labelled "High in Protein Low in Calories"; neither high in protein nor low in calories.
K.F.-1611	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Cut Mezzani No. 3</i>	11.29	0.65	11.91	0.10	75.12	0.93	356	..	1.95	28.2	Labelled "High in Protein Low in Calories"; not high in protein.
K.F.-1619	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Mezzani Rigati No. 34 Large Cut Macaroni</i>	10.50	0.50	11.97	0.12	76.07	0.84	361	..	0.11	12.0	Labelled "High in Protein Low in Calories"; neither high in protein nor low in calories.

TABLE 1. ALIMENTARY PASTES—Concluded

No.	Manufacturer or distributor and brand	Water, per cent	Ash, per cent	Protein, per cent	Fiber, per cent	Available carbohydrate, per cent	Fat, per cent	Calories per 100 gm.	Sodium, mg./100 gm.	Riboflavin, mg./lb.	Niacin, mg./lb.	Remarks
K.F.-1609	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Mostaccioli Rigati No. 86</i>	11.55	0.51	12.03	0.05	74.07	1.79	361	..	1.92	32.2	Labelled "High in Protein Low in Calories"; neither high in protein nor low in calories.
K.F.-1629	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Occchi Di Lepo No. 26</i>	11.76	0.64	11.80	0.07	74.19	1.64	359	..	1.64	25.2	Labelled "High in Protein Low in Calories"; neither high in protein nor low in calories.
K.F.-1610	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Orzo No. 47</i>	11.63	0.65	11.57	0.00	75.21	0.94	356	..	1.93	25.5	Labelled "High in Protein Low in Calories"; neither high in protein nor low in calories.
K.F.-1613	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Perciatelli No. 6</i>	10.49	0.71	11.63	0.12	75.83	1.22	361	7	1.63	25.7	Labelled "High in Protein Low in Calories—No Salt Added." Neither high in protein nor low in calories; sodium content not stated.
K.F.-1618	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Rigatoni No. 27</i>	11.87	0.64	11.91	0.10	74.61	0.87	354	..	1.56	26.3	Passed.
K.F.-1607	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Shells No. 22 (Maruzze)</i>	11.81	0.50	11.91	0.07	74.67	1.04	356	..	2.11	32.7	Labelled "High in Protein Low in Calories"; not high in protein.
K.F.-1627	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Enriched Spaghettini No. 8</i>	9.69	0.76	11.97	0.17	76.13	1.28	364	9	1.58	24.7	Labelled "High in Protein Low in Calories—No Salt Added." Neither high in protein nor low in calories; sodium content not stated.

K.F.-1612.	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Thin Spaghettini No. 9 (Spaghettini)</i>	10.09	0.65	12.14	0.12	75.59	1.41	363	3	1.83	26.8	Labelled "High in Protein Low in Calories—No Salt Added." Neither high in protein nor low in calories; sodium content not stated.
K.F.-1615	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Vermicelli No. 10</i>	10.50	0.76	11.23	0.10	75.84	1.57	362	..	0.16	4.8	Labelled "High in Protein Low in Calories"; neither high in protein nor low in calories.
K.F.-1628	Paramount Macaroni Mfg. Co., Inc., Brooklyn, N.Y. <i>Paramount Very Thin Macaroni No. 7 (Buccarini)</i>	10.10	0.55	12.43	0.10	75.68	1.14	363	..	1.06	22.7	Labelled "High in Protein Low in Calories"; neither high in protein nor low in calories.
K.F.-1638	Prince Macaroni Co., Boston, Mass. <i>Prince No. 11 Linguine, Enriched</i>	10.43	0.70	11.52	0.17	76.47	0.71	358	11	1.63	32.7	Labelled "High Protein Low Calorie—Starch reduced—No Salt Added." Not high in protein; sodium content not stated.
P.R.-1	Prince Macaroni Co., Boston, Mass. <i>Prince No. 2 Enriched Thin Spaghettini—Spaghettini</i>	10.07	0.86	11.74	0.15	76.50	0.68	359	3	1.63	28.2	Labelled "High Protein Low Calorie—No Salt Added." Neither high in protein nor low in calories; sodium content not stated.

Beverages, Carbonated, Etc.**Alcoholic Beverages**

Net contents of two samples of ale and 20 of beer were checked for the Commissioner, and alcohol was determined in seven samples of whiskey and highballs for the New Haven and Waterbury police in connection with sales after legal hours. Five samples were passed and 24 were misbranded or otherwise illegal.

The alcoholic contents of the police samples ranged from 0.83 to 38.42 per cent. The official samples of ale and beer were all in 12 fl. oz. cans and each sample consisted of six or twelve cans. Average net contents found were as follows:

K.C.-753. Blatz Finest Beer. Blatz Brewing Co., Milwaukee, Wis. 11.90 fl. oz.

K.F.-1701 and W.M.-1251. Carling Black Label Beer. Carling Brewing Co., Natick, Mass. 11.79 and 11.62 fl. oz.

E.C.-904 and 905, K.C.-832, 846 and 847 and W.M.-1141. Holland Brand Premium Beer. Eastern Brewing Corp., Hammonton, N. J. 11.80, 11.74, 11.81, 11.70, 11.73 and 11.25 fl. oz.

K.F.-1700. Bob Bohemian Lager Beer. Enterprise Brewing Co., Fall River, Mass. 11.77 fl. oz.

K.F.-1702 and 1703. Old Tap Select Stock Ale. Enterprise Brewing Co., Fall River, Mass. 11.99 and 11.89 fl. oz.

E.C.-855, A.L.-351 and P.S.-6, 7, 8, 30 and 31. Pennsylvania Dutch Old German Brand Beer. Lebanon Valley Brewing Co., Lebanon, Pa. 11.69, 11.95, 11.72, 11.80, 11.64, 11.95 and 11.92 fl. oz.

K.C.-754. Pabst Blue Ribbon Finest Beer. Pabst Brewing Co., Milwaukee, Wis. 11.98 fl. oz.

J.B.-176 and 190. Extra Light Sunshine Premium Beer. Sunshine Brewing Co., Lebanon, Pa. 11.66 and 11.70 fl. oz.

While the law does not provide for any tolerance at all in the average net contents of six or more packages of a food, and none of the above samples contained a full 12 fluid ounces, in the case of five of them the deficiencies were less than 0.10 fl. oz. and could be considered trivial; the other 17 samples were definitely misbranded.

Birch Beer, Cream Soda and Root Beer

Two official samples of birch beer, three of root beer and one of cream soda were analyzed as follows:

W.M.-1142. American Club Root Beer. American Bottling Co., New Haven, Conn. Test for saponin negative; passed.

K.C.-712. Birch Beer. Homeport Restaurant, Bridgeport, Conn. Saponin present; adulterated.

K.C.-735. Birch Beer. Boylan Bottling Co., Paterson, N. J. Test for saponin negative; passed.

K.F.-1535. Cott Low Calorie Dietary Beverage Non-Fattening Cream Flavor. First National Stores, Waterbury, Conn. Labelled "Without Sugar—Sugar Free." Analysis showed only 0.04 per cent of total sugars, so sample was passed.

K.F.-1557. Golden Eagle Beverage Root Beer. Golden Eagle Beverage Co., Hartford, Conn. Test for saponin negative; passed.

K.C.-724. Root Ale. Elco Beverage Co., Bristol, Conn. Test for saponin negative; passed.

Grape Soda

Forty-two official and one unofficial samples of grape-flavored beverages were submitted by the Commissioner for examination for the presence of artificial flavor (methyl anthranilate) which would require them to be labelled "Imitation." Analyses are given in Table 2; eight samples were passed and 35 were found to be misbranded.

Other Fruit Sodas

Twenty-three other official samples of fruit-flavored sodas (18 strawberry, two "fruit punch," and one each "fruit bowl," orange and "South Seas") were examined as follows:

W.M.-1185. Bev-Rich Orange Premium Soda. Bev-Rich Products, Inc., Philadelphia, Pa. Labelled: "Contains: Carbonated water, sugar, citric acid, orange flavor and artificial color." Analysis showed: Sucrose, 3.48, invert sugar, 10.24, and ash, 0.040, per cent; K₂O, 4.5 mg./100 cc.; ascorbic acid, none. Passed.

W.M.-1082. Blue Ribbon Strawberry Soda. Blue Ribbon Beverage Co., New Haven, Conn. Labelled: "Made from carbonated filtered water, cane sugar, citric acid, true and artificial flavor and artificial color." Flavor not true strawberry; misbranded because not labelled "Imitation."

E.C.-773 and 863 and P.R.-28, 39 and 40. Clicquot Club Strawberry Cream Soda. Clicquot Club Co., Millis, Mass. Labelled: "Contains carbonated water, sugar, citric acid, flavor, strawberry extractives and other natural flavors, U.S. certified color added, contains less than 1/10 of 1% sodium benzoate." Flavor not true strawberry; misbranded because not labelled "Imitation."

W.M.-1048 and 1049. Cott Quality True Fruit Strawberry Creme Soda. Cott Beverage Corp., New Haven, Conn. Labelled: "Made from extractions of real strawberries and other natural flavors, strawberry juice, fruit acids, less than 1/10 of 1% benzoate of soda, pure cane sugar and carbonated water." Flavor not true strawberry; misbranded because not labelled "Imitation."

E.C.-765. Fox Spring Beverages Strawberry Soda. Fox Spring Beverage Co., Norwich, Conn. Labelled "Artificial Flavor & Color." Flavor not true strawberry; misbranded because not labelled "Imitation."

E.C.-903. Fruit Bowl Soda. Mission Orange Bottling Co., Norwich, Conn. Labelled: "Contains carbonated water, sugar, orange juice and oil, citric acid, artificial flavor and color, 1/10 of 1% benzoate of soda." While the flavor was predominantly orange, a synthetic ester flavor was also present. Misbranded because not labelled "Imitation."

TABLE 2. GRAPE SODAS

No.	Manufacturer or distributor and brand	Ash, mg./100 cc.	K ₂ O, mg./100 cc.	Methyl anthranilate, mg./100 cc.	Ratio K ₂ O to Me anthranilate	Estimated per cent grape juice	Remarks
K.C.-711	American Bottling Co., Inc., Bridgeport, Conn. <i>Virginia Dare</i>	10.0	1.06	0.83	1.3	0.8	Imitation grape not so labelled.
E.C.-816	Aspinock Spring Bottling Co., Putnam, Conn. ..	7.2	0.55	0.63	0.9	0.4	Imitation grape not so labelled.
E.C.-853	Beacon Bottling Co., Hartford, Conn. " <i>Light Rock</i> " <i>Dietary Grape Punch</i>	72.0	0.55	1.26	0.4	0.4	Imitation grape not so labelled.
E.C.-776	Berry Spring Mineral Water Co., Pawtucket, R. I. <i>Berry Spring Beverages</i>	12.0	0.98	1.26	0.8	0.8	Imitation grape not so labelled.
W.M.-1080	Blue Ribbon Beverage Co., New Haven, Conn. <i>Blue Ribbon</i>	8.6	0.30	0.77	0.4	0.2	Imitation grape not so labelled.
W.M.-1081	Blue Ribbon Beverage Co., New Haven, Conn. <i>Blue Ribbon</i>	8.0	0.31	0.73	0.4	0.2	Imitation grape not so labelled.
W.M.-1079	Blue Ribbon Beverage Co., New Haven, Conn. <i>Blue Ribbon Concord</i>	8.4	0.31	0.90	0.3	0.2	Imitation grape not so labelled.
K.C.-727	Brooklawn Club Beverages, Inc., Bridgeport, Conn.	18.4	1.41	1.37	1.0	1.1	Imitation grape not so labelled.
E.C.-802	Clicquot Club Co., Millis, Mass. <i>Clicquot Club Dietary Beverages Sugar Free Vineyard Soda</i> ..	86.0	0.11	0.37	0.3	0.1	Imitation grape not so labelled.
K.C.-798	Clicquot Club Co., Millis, Mass. <i>Clicquot Club Dietary Beverages Sugar Free Vineyard Soda</i> ..	.....	0.35	0.35	1.0	0.3	Sugars less than 0.04%; imitation grape not so labelled.
W.M.-1068	Clicquot Club Co., Millis, Mass. <i>Clicquot Club Dietary Beverages Sugar Free Vineyard Soda</i> ..	90.4	0.20	0.43	0.5	0.2	Sugars less than 0.04%; imitation grape not so labelled.
W.M.-1074	Clicquot Club Co., Millis, Mass. <i>Clicquot Club Dietary Beverages Sugar Free Vineyard Soda</i> ..	84.2	0.23	0.32	0.7	0.2	Imitation grape not so labelled.
E.C.-810	Clicquot Club Co., Millis, Mass. <i>Clicquot Club Vineyard Soda</i>	12.0	1.32	0.34	3.9	1.0	Imitation grape not so labelled.

E.C.-813	Clicquot Club Co., Millis, Mass. <i>Clicquot Club Vineyard Soda</i>	13.0	1.70	0.36	4.7	1.3	Imitation grape not so labelled.
W.M.-1075	Clicquot Club Co., Millis, Mass. <i>Clicquot Club Vineyard Soda</i>	12.4	2.22	0.51	4.4	1.7	Imitation grape not so labelled.
E.C.-779	Cott Beverage Co., New Haven, Conn. <i>Cott Low Calorie Dietary Beverage Non-Fattening True Fruit Grape Flavor</i>	99.8	2.02	0.15	13.5	1.6	Flavor probably grape with other natural flavors; should not be labelled "True Fruit."
E.C.-780	Cott Beverage Co., New Haven, Conn. <i>Cott Low Calorie Dietary Beverage Non-Fattening True Fruit Grape Flavor</i>	108.0	2.00	0.15	13.3	1.6	Flavor probably grape with other natural flavors; should not be labelled "True Fruit."
K.F.-1670	Cott Bottling Co., Inc., Manchester, N. H. <i>Cott Quality Sparkling Concord Delite</i>	36.0	3.37	0.41	8.2	2.7	Possibly true fruit with other natural flavors; passed.
K.F.-1674	Cott Bottling Co., Inc., Manchester, N. H. <i>Cott Quality Sparkling Concord Delite</i>	34.0	3.32	0.34	9.8	2.6	Possibly true fruit with other natural flavors; passed.
E.C.-762	Fox Spring Beverage Co., Uncasville, Conn. <i>Fox Spring Winery</i>	5.6	0.90	0.60	1.5	0.7	Imitation grape not so labelled.
E.C.-783	Fox Spring Beverage Co., Uncasville, Conn. <i>Fox Spring Winery</i>	4.0	0.59	0.65	0.9	0.5	Imitation grape not so labelled.
E.C.-784	Fox Spring Beverage Co., Uncasville, Conn. <i>Fox Spring Winery</i>	6.4	0.61	0.68	0.9	0.5	Imitation grape not so labelled.
E.C.-785	Fox Spring Beverage Co., Uncasville, Conn. <i>Fox Spring Winery</i>	4.8	0.44	0.61	0.7	0.3	Imitation grape not so labelled.
K.C.-715	Grand Union Co., East Paterson, N. J. <i>Penguin</i> ..	11.8	2.64	0.73	3.6	2.1	Imitation grape not so labelled.
K.C.-732	Grand Union Co., East Paterson, N. J. <i>Penguin</i> ..	12.0	2.58	0.75	3.4	2.0	Imitation grape not so labelled.
S.O.-338	Grand Union Co., East Paterson, N. J. <i>Penguin</i> ..	25.8	4.38	0.48	9.1	3.4	Possibly true fruit with other natural flavors; passed.
7563	Grand Union Co., East Paterson, N. J. <i>Penguin</i> ..	22.0	10.20	0.51	20.0	8.0	Passed.
E.C.-790	La France Beverage Co., Inc., Central Village, Conn. <i>Windham</i>	14.6	0.63	1.27	0.5	0.5	Imitation grape not so labelled.
E.C.-774	Liberty Club Soda Water Co., Providence, R. I. <i>Yankee Beverages</i>	14.6	0.58	1.52	0.4	0.5	Imitation grape not so labelled.

TABLE 2. GRAPE SODAS—Concluded

No.	Manufacturer or distributor and brand	Ash, mg./100 cc.	K ₂ O, mg./100 cc.	Methyl anthranilate, mg./100 cc.	Ratio K ₂ O to anthranilate	Estimated Per cent grape juice	Remarks
W.M.-1073	Lynbrook Beverages, Inc., New Haven, Conn. <i>Original Les-Cal Dietary Beverages (Sugar-Free) Bordeaux Grape</i>	120.0	0.90	0.70	1.3	0.7	Imitation grape not so labelled.
K.C.-710	Nehi Bottling Co., Inc., Bridgeport, Conn. <i>Nehi</i>	25.6	0.34	0.30	1.1	0.3	Imitation grape not so labelled.
E.C.-768	Red Fox Ginger Ale Co., Providence, R. I. <i>Vineyard Punch</i>	11.2	1.91	0.99	1.9	1.5	Imitation grape not so labelled.
E.C.-819	Royal Crown Bottling Co., Agawam, Mass. <i>Nehi</i>	11.0	0.24	0.46	0.5	0.2	Imitation grape not so labelled.
F.P.-245	Scitico Market, Scitico, Conn. <i>X-tra</i>	8.0	1.09	0.72	1.5	0.8	Imitation grape not so labelled.
W.M.-1078	Spiegel Bottling Co., West Haven, Conn. <i>Paramount</i>	15.6	0.23	0.54	0.4	0.2	Imitation grape not so labelled.
K.C.-725	Stratford Bottling Works, Inc., Stratford, Conn.	15.6	0.59	0.72	0.8	0.5	Imitation grape not so labelled.
S.O.-334	Tulip, Inc., Philadelphia, Pa. <i>Midtown Club Real Fruit</i>	49.6	2.53	0.03	84.4	2.0	Probably true fruit grape as labelled; passed.
A.L.-304	Undina Beverages, Higganum, Conn. <i>Bireley's Drink, Grape Flavor</i>	17.2	5.95	0.36	16.5	4.7	Passed.
K.C.-778	Varuna Spring Water Co., Inc., Stamford, Conn. <i>Polo Club Concordine Grape</i>	9.6	0.63	0.43	1.5	0.5	Imitation grape not so labelled.
E.C.-786	Webster Bottling Co., Webster, Mass. <i>Lakeview</i>	7.4	0.38	0.87	0.4	0.5	Imitation grape not so labelled.
E.C.-814	White Eagle Bottling Co., Dudley, Mass. <i>Kist</i>	7.8	0.28	0.51	0.5	0.2	Imitation grape not so labelled.
E.C.-815	White Rock Bottling Co. of Boston, Boston, Mass. <i>White Rock Sparkling Grape Beverage</i>	41.0	5.82	0.00	...	4.6	Passed.
K.C.-714	White Rock Corp., New York, N.Y. <i>White Rock Grape True Fruit Sparkling Beverage</i>	22.8	5.35	0.14	38.2	4.2	Probably true fruit grape as labelled; passed.

E.C.-824. *Fruit Punch*. Mathieu Bottling Co., Taftville, Conn. Labelled "Artificial flavor & color—contains 1/10 of 1% benzoate of soda." Misbranded because of undeclared coal tar dye and because the only flavor was that of citric acid.

P.R.-58. *Hosmer Mountain Beverages Strawberry Soda*. Hosmer Mountain Beverage Co., Willimantic, Conn. Labelled "Artificial Flavor and Color." Flavor not true strawberry; misbranded because not labelled "Imitation."

P.R.-22. *Kist Strawberry Soda*. Citrus Products Co., Chicago, Ill. Labelled "Artificial flavor and color." Flavor bore no resemblance to strawberries; misbranded because not labelled "Imitation."

W.M.-1059. *Lynbrook Quality True Fruit Crushed Strawberry Soda*. Lynbrook Beverages, Inc., New Haven, Conn. Labelled: "Contains—carbonated water, pure cane sugar, extractive matter of strawberries and other natural flavors, citric acid, less than 1/10 of 1% benzoate of soda, color added." Flavor not true strawberry; misbranded because not labelled "Imitation."

E.C.-901-902. *Mission Beverages Naturally Good Strawberry Soda*. Mission Orange Bottling Co., Norwich, Conn. Labelled "Artificial Flavor and Color." Flavor not true strawberry; misbranded because not labelled "Imitation."

K.C.-780. *Nehi Imitation Fruit Punch*. Nehi Bottling Co., Inc., Bridgeport, Conn. Labelled "Contains artificial flavor, color and 1/10 of 1% benzoate of soda." Passed.

W.M.-1076. *Paramount Strawberry Soda*. Spiegel Bottling Co., West Haven, Conn. Labelled "Contains deep well water, filtered and carbonated, cane sugar, artificial flavor and color." Flavor not true strawberry; misbranded because not labelled "Imitation."

E.C.-770. *Strawberry Fruit Punch*. Red Fox Ginger Ale Co., Providence, R.I. Labelled: "Contains carbonated, filtered water, pure cane sugar, color, fruit acid and flavor." Flavor bore no resemblance to strawberries; misbranded because not labelled "Imitation."

E.C.-823. *Strawberry Soda*. Mathieu Bottling Co., Taftville, Conn. Labelled "Artificial flavor & color." Coal tar dye present; flavor not true strawberry. Misbranded because not labelled "Imitation."

E.C.-769. *Strawberry Soda by Red Fox*. Red Fox Ginger Ale Co., Providence, R. I. Labelled "Contains 1/20 of 1% benzoate of soda, certified color." Flavor bore no resemblance to strawberries; misbranded because not labelled "Imitation."

Bread and Other Bakery Products

Bread

While Connecticut has no special law requiring bread to be enriched with vitamins, any bread sold as "Enriched" that fails to meet the standards of Federal Regulation 17.2(a) is nevertheless in violation of the Connecticut Food, Drug and Cosmetic Act because it is making a false claim. This regulation requires enriched bread to contain the following quantities of vitamins and minerals per pound: Thiamine (vitamin B₁) 1.1 - 1.8, riboflavin (vitamin B₂) 0.7 - 1.6, niacin 10.0 - 15.0, and iron 8.0 - 12.5, milligrams. In addition,

TABLE 3. BREAD

No.	Manufacturer and brand	Water, per cent	Ash, per cent	Protein, per cent	Fiber, per cent	Available carbo- hydrate, per cent
K.C.-721	Arnold Bakers, Inc., Portchester, N.Y. <i>Arnold Brick Oven White Thinly Sliced Enriched</i>	35.36	2.41	9.67	0.10	48.00
K.F.-1545	Arnold Bakers, Inc., Portchester, N.Y. <i>Arnold Brick Oven White Thinly Sliced Enriched</i>	37.88	2.26	9.50	0.07	45.69
K.F.-1645	Bickford's, Inc., Long Island City, N.Y. <i>Bickford's Hand Made</i> ²	36.94	....	....	....	....
6552	Borck & Stevens, Bridgeport, Conn. <i>Borck & Stevens Low Calorie Hi- Protein</i>	35.54	2.27	10.84	....	....
6608	Borck & Stevens, Bridgeport, Conn. <i>Borck & Stevens Hi-Protein Low Calorie</i>	39.99	1.88	10.60	0.20	45.23
K.C.-718	Robert Cascella & Sons, Bridgeport, Conn. <i>Cascella's Madison Bakery Real Italian Enriched</i>	25.99	1.90	11.57	0.21	58.55
W.M.-1223	Continental Baking Co., New Ha- ven, Conn. <i>Profile Special Form- ula</i> ⁷	34.79	2.67	10.04 ⁴	0.33	49.09 ⁶
K.F.-1546	Continental Baking Co., Boston, Mass. <i>Wonder Enriched Country Style</i>	38.75	2.25	8.58	0.11	47.57
7802	French Baking Co., Stratford, Conn.	....	....	....	....	....
6553	French Baking Co., Stratford, Conn. <i>Sandwich Sliced</i>	32.56	1.81	9.54	....	....
6012	General Baking Co., New York, N.Y. <i>Bond Cornell Formula</i>	40.38	2.22	10.90	0.20	44.21
K.F.-1544	General Baking Co., Boston, Mass. <i>Thin New Bond Enriched</i>	37.80	2.05	9.36	0.13	48.34
W.M.-1070	Gilbert's Bakery, Inc., New Haven, Conn. <i>Gilbert's Holiday Enriched White</i>	36.92	2.00	8.87	0.11	49.76
K.C.-722	Great Atlantic & Pacific Tea Co., New York, N.Y. <i>Jane Parker Protein, Thin Sliced</i> ⁹	39.09	1.74	17.75 ¹⁰	0.55	39.52 ¹¹
K.C.-720	Great Atlantic & Pacific Tea Co., New York, N.Y. <i>Jane Parker Sliced White Enriched</i> ⁹	35.34	2.36	8.82	0.14	49.61
A.F.-238	S. S. Pierce Co., West Hartford, Conn. <i>Salt Free</i> ¹⁴	36.67	0.57	9.29	0.28	48.60
K.F.-1541	Reymond Baking Co., Waterbury, Conn. <i>Reymond's Hollywood Special Formula Thinly Sliced, No Fats Added</i>	34.96	2.45 ¹⁹	11.10 ¹⁸	0.69	48.66 ¹⁸
K.F.-1542	Reymond Baking Co., Waterbury, Conn. <i>Reymond's Hollywood Special Formula Light</i>	35.80	1.97 ²³	9.90 ²⁰	0.20	51.13 ²²
K.F.-1543	Reymond Baking Co., Waterbury, Conn. <i>Reymond's Sunbeam En- riched</i> ²⁴	34.42	2.23	9.43	0.15	51.32
K.C.-719	Ward Baking Co., New York, N.Y. <i>Tip-Top Protein, Thin-Sliced</i> ²⁵	38.25	2.00	14.35	0.71	43.22

¹Low.²Declared ingredients were: "Unbleached flour, water, milk, sugar, salt, butter, shortening, yeast, enrichment wafers, sodium propionate to retard spoilage." Constants of fat were: Butyro refraction, 25°C., 59.5; Reichert-Meissl no., 9.51; Polenske no., 1.07. Estimated per cent butter present, 1.5. Passed.³Low for enriched bread, but not labelled "Enriched."⁴Claimed 9.5%.⁵Claimed 2.8%.⁶Claimed 46.5%.⁷Advertising for this bread declared by Connecticut Committee on Foods, Drugs, Cosmetics and Devices to be misleading if not false.

TABLE 3. BREAD—Continued

Fat, per cent	Ribo- flavin, mg./lb.	Niacin, mg./lb.	Iron, mg./lb.	Calcium, mg./lb.	Net wt., oz.	Wt. per slice, grams	Calories per 100 grams	Calories per slice
4.46	0.40 ¹	10.8	10.4	474	16.44	23.3	271	63
4.60	0.42 ¹	11.5	10.4	469	16.10	22.8	262	60
3.65	....	....	....	....	15.66	....	....	....
....	0.25 ⁸	4.1 ⁸	....	....	17.10	21.1	....	....
2.10	0.37 ⁸	3.8 ⁸	....	....	17.90	22.1	242	53
1.78	0.35 ¹	9.4	9.6	95 ¹	12.56	unsliced	297	....
3.08 ⁵	....	....	....	....	....	....	264	....
2.74	0.29 ¹	9.6	10.5	579	17.10	26.9	249	67
....	0.12 ¹	6.1 ¹	....	....	....	....	....	....
....	0.13 ¹	5.1 ¹	....	....	....	....	....	....
2.09	0.68	9.5	....	....	33.44	29.6	239	71
2.32	0.31 ¹	10.4	11.1	384	15.38	19.0	252	48
2.34	0.38 ¹	10.2	11.7	404	15.66	unsliced	256	....
1.35 ¹²	0.55 ¹	11.3	21.2 ⁸	900	12.45	20.8	241	50 ¹⁸
3.73	0.53 ¹	12.8	12.5	905	17.46	24.8	267	66
4.59	....	....	....	....	....	....	273	....
2.14 ¹⁷	0.42 ³	10.7	11.2	252	16.20	20.9	258	54 ¹⁵
2.00 ²¹	0.30 ³	7.8 ³	5.7 ³	316	15.60	21.1	262	55 ¹⁶
2.45	0.40 ¹	10.4	10.7	427	17.10	26.9	265	71
1.47	0.60	17.3	20.6 ⁸	419	13.16	20.7	244	51 ¹⁸

⁸Too high.⁹Deficient in vitamin D.¹⁰Claimed 13%.¹¹Claimed 41%.¹²Claimed 2%.¹³Claimed 45%.¹⁴Sodium 86 mg./100 gm.; misbranded because¹⁵sodium content not stated.¹⁶Claimed 46%.¹⁷Claimed 48.65%¹⁸Claimed 0.84%.¹⁹Claimed 11.40%.²⁰Claimed 2.30%.²¹Claimed 10.16%.²²Claimed 1.7%.²³Claimed 47.96%.²⁴Claimed 2.55%.²⁵Test for vitamin D satisfactory.²⁶Not labelled "Enriched," but passed all enrichment requirements except for excessive iron.

if added vitamin D and calcium are declared the proportions present must be respectively 150 - 750 U.S.P. units and 300 - 800 milligrams per pound.

During 1956 the Food and Drug Commissioner submitted 15 samples of white bread, mostly to see if they complied with these enrichment requirements; five other samples were analyzed for the New Haven and Stratford school systems and a baker. The greater proportion of these samples was assayed microbiologically for riboflavin and niacin and analyzed chemically for iron and calcium, and a few of the samples which declared vitamin D were assayed for this vitamin by feeding to rats. Results are given in Table 3; seven samples were passed and 13 were found to be deficient in one or more respects. The most common fault was a deficiency in riboflavin, which is one of the least stable of the vitamins.

Other Bakery Products

Two samples each of bread sticks, cookies and rusks and one of crackers were examined for the Commissioner, and one sample of rolls was assayed for the Stratford school system. Three samples were passed and five were misbranded:

K.F.-1641. Burry's Balanced Protein! Double-Dip Nut Butter Whip Gauchos Sandwich Cookies. Burry Biscuit Corp., Elizabeth, N. J. Labelled as follows: "Made with 100% Vegetable Shortening—Ingredients: Flour, Sugar, Vegetable Shortening, Peanuts, Cereal-Oats, Eggs, Darvyl, Leavening, Salt, Artificial Flavor—HIGH IN PROTEIN—The special balance of ingredients has been carefully chosen to make GAUCHOS More than twice as high in protein content as ordinary cookies. BALANCED PROTEIN—Darvyl* has been added to give the wheat protein in GAUCHOS high quality protein value and a nutritional balance similar to that of the protein in whole fresh eggs. 'Darvyl' is a readily assimilable form of L-Lysine, one of the essential nutritive amino acids. RICH IN EGGS—GAUCHOS contain a very high proportion of eggs—also rich in protein. LOW IN STARCH—The blend of ingredients in GAUCHOS has been especially worked out to provide the highest possible protein content. Starch has been kept to a very minimum. ALL VEGETABLE SHORTENING—For greater digestibility and better taste—*Darvyl is the trade mark for DuPont L-Lysine monohydrochloride."

Analysis showed: Water, 2.34, ash, 1.60, protein, 11.40, fiber, 0.77, available carbohydrate, 62.10, and fat, 21.79, per cent; calories per 100 grams, 490. Since the average protein content of cookies is only 7.0 per cent, the average available carbohydrate content 73.2 per cent and the average fat content only 9.7 per cent,¹ these cookies were higher in protein than ordinary cookies as they were claimed to be—although the protein content was not "more than twice as high" but only 1.6 times as high as normal; they were probably also "low in starch." The statement concerning the relation of lysine to "balanced protein" was also true, but the lysine content of this sample was not checked. Sample was passed.

A.F.-221A and W.M.-1128C. DeBole's American (Jerusalem) Artichoke Bread Sticks. Anthony Alphonse DeBole, New York, N. Y. These were claimed to contain only 2 to 3 calories per stick; implied in this claim was the contention that the carbohydrate present contributed nothing to the caloric value since it was wholly inulin which was indigestible. (See page 7.) Two varieties of these bread sticks were manufactured, one "With Small Percentage of Salt"

and the other "No Salt Added"; the samples as received bore no labels to indicate to which variety they belonged, but the following analyses clearly showed that *W.M.-1128C* contained added salt while *A.F.-221A* did not:

	<i>A.F.-221A</i>	<i>W.M.-1128C</i>
Water, per cent	6.57	6.02
Ash, per cent	0.78	3.12
Protein, per cent	13.85	13.97
Fiber, per cent	0.45	0.42
Other carbohydrate, per cent	74.94	71.90
Fat, per cent	4.57	3.41
Calories per 100 grams	97.	86.
Calories per stick	4.4	3.9
Sodium, mg./100 gm.	80.	610.

Even on the assumption that none of the carbohydrate was available, the calorie content per stick was slightly above claim for both samples; *W.M.-1128C* was also misbranded because it failed to declare its sodium content.

A.F.-221B and W.M.-1128B. DeBole's American (Jerusalem) Artichoke Rusks Anise Flavor. Anthony Alphonse DeBole, New York, N. Y. These were claimed to contain between 6 and 7 calories per rusk and to be free of salt. Average analysis was: Water, 5.87, ash, 1.16, protein, 7.24, fiber, 0.26, other carbohydrate (inulin?), 83.14, and fat, 2.34, per cent; calories per 100 gm., 50; calories per rusk, 3.7; sodium, 225 mg./100 gm. Misbranded because sodium content not declared.

7803. Rolls. French Baking Co., Stratford, Conn. Riboflavin, 0.15, and niacin, 6.5, mg./lb.. Deficient in both vitamins.

A.L.-313. Sawyer's Salt Free Crackers. United Biscuit Co. of America, Chicago, Ill. Labelled: "Salt (sodium chloride) free, baking soda (sodium bicarbonate) free. These crackers should satisfy anyone requiring sodium free diet, as there is no sodium added in any form." Analysis showed only 5 mg./100 gm. of sodium; passed.

W.M.-1160. Stella D'Oro Egg Jumbo Kos-Parve. Stella D'Oro Biscuit Co., Inc., New York, N. Y. Declared ingredients were "Flour, Sugar, Eggs, Imitation Vanilla Flavor." The box contained a sticker advertising other products made by the same company "For those on Low Calorie and Sodium Restricted Diets," but no claim was made that the present sample fell into this class. Analysis showed: Lipoids, 8.32, lipid P_2O_5 , 0.12, and egg solids (estimated), 5.81, per cent; net contents declared, 6.50 oz.; net contents found, 7.05 oz. Passed.

Cereals

Two samples of oatmeal and two of other cereal products were examined for the Commissioner; three were passed and one was substandard in egg content:

K.F.-1695. Beech Nut Oatmeal Pre-Cooked for Babies. Beech Nut Packing Co., Canajoharie, N. Y. Declared ingredients were "oatmeal (cooked, dried, flaked, and flavored with malt syrup), nonfat dry milk solids, di-calcium phosphate, dried brewers' yeast, salt, sodium, iron pyrophosphate, niacinamide riboflavin (vitamin B₂) and thiamin hydrochloride (Vitamin B₁)." Analysis as compared with labelled claims, was as follows:

¹See footnote, page 7.

	Claimed	Found
Protein, per cent	16.5	16.75
Available carbohydrate, per cent	63.3	65.90
Fat, per cent	7.0	3.49
Ash, per cent	5.7	5.56
Crude fiber, per cent	1.3	1.14
Moisture, per cent	6.2	7.16
Calories per ounce	108.	103.
Riboflavin, mg./oz.	0.45	0.46

The analysis corresponded very closely to the declared composition, with the one exception that the fat was only half of claim; passed.

K.F.-1693. New Pabulum High Protein Cereal. Pabulum Products Division, Mead, Johnson & Co., Evansville, Ind. Labelled: "Vitamin & Mineral Enriched 35% High Quality Protein Consists of soya flour, oat flour, wheat germ, sucrose, tribasic calcium phosphate, sodium chloride, dried yeast, iodized salt, thiamine hydrochloride, riboflavin and reduced iron." Analysis, as compared with labelled claims, was as follows:

	Claimed	Found
Available carbohydrate, per cent	44.9	44.34
Protein, per cent	35.0	35.63
Moisture, per cent	7.0	7.31
Ash, per cent	7.3	7.60
Fat, per cent	4.0	3.51
Crude Fiber, per cent	1.8	1.61
Calories per ounce	105.	100.
Riboflavin, mg./oz.	0.1	0.14
Niacin, mg./oz.	...	0.79

Passed.

K.F.-1694. Pabulum Oatmeal, Vitamin & Mineral Enriched. Pabulum Products Division, Mead, Johnson & Co., Evansville, Ind. Labelled: "Consists of oatmeal, tribasic calcium phosphate, sodium chloride, dried yeast, iodized salt, thiamine hydrochloride, riboflavin and reduced iron." Analysis, as compared with labelled claims, was as follows:

	Claimed	Found
Available carbohydrate, per cent	63.8	66.86
Protein, per cent	16.0	16.75
Moisture, per cent	8.0	8.16
Fat, per cent	6.0	2.11
Ash, per cent	4.8	4.86
Crude Fiber, per cent	1.4	1.26
Calories per ounce	105.	100.
Riboflavin, mg./oz.	0.1	0.08
Niacin, mg./oz.	...	0.41

Except that the fat was only one-third of claim, this product met its declared composition extremely closely; passed.

K.F.-1630. Paramount Baby Food Enriched Egg Pastina. Paramount Macaroni Mfg. Co., Brooklyn, N. Y. Declared ingredients were "Semolina, Egg

Yolks, Vitamin B₁ (Thiamine) Vitamin B₂ (Riboflavin), Niacin and Iron Phosphate." Analysis showed: Water, 11.38, ash, 0.34, protein, 12.48, fiber, 0.02, available carbohydrate, 73.30, fat, 2.48, lipoids, 4.05, lipoid P₂O₅, 0.096, and egg yolk (dry basis), 3.72, per cent; calories per 100 grams, 365; riboflavin, 2.89, and niacin, 39.4, mg./lb. Deficient in egg yolk solids; passed as to vitamin contents.

Chocolate and Cocoa

One sample of "milk chocolate" in the shape of a lamb, and one of cocoa, were examined for the Commissioner; three more cocoa samples were tested for the State Supervisor of Purchases. Three samples were passed and two were misbranded:

6914 and 8873. Cocoa. State Supervisor of Purchases. Both of these samples were supplied on specifications calling for not less than 22 per cent of cacao fat. Analyses showed: 6914, 7.89, and 8873, 22.41, per cent fat. 6914 fell below the minimum of 10 per cent required for even the lowest grade of cocoa; 8873 met the specification.

7757. Favorite Brand Pure Cocoa. Favorite Food Products, New York, N. Y. This sample was supplied to the State on an order calling for medium-fat Dutch process cocoa of between 10 and 22 per cent fat content. Analysis showed 22.80 per cent fat; passed.

K.C.-777. Sweet Touch Nee Imported Dutch Process Cocoa. Consolidated Tea Co., Inc., New York, N. Y. Labelled "22% to 24½ Butter (sic) Fat." Total fat, 21.96 per cent. Constants of fat: Butyro refraction, 40°C., 45.0; Reichert-Meissl no., 0.26; Polenske no., 0.36. Since obviously the declaration of "butter fat" was only a typographical error (no butter fat being present), and since this sample contained the declared percentage of (cacao) fat, it was passed.

K.C.-766. Woolly Willie. R. M. Palmer Co., Reading, Pa. Labelled: "Ingredients Chocolate, sugar, and U. S. Certified colors—This piece is hollow." Analysis showed: Total fat, 39.96, sucrose, 33.66, and lactose, 13.54, per cent; Reichert-Meissl value of fat, 3.28; Polenske value of fat, 0.36. Calculated composition was: Cocoa butter, 35.82, sucrose, 33.66, milk solids, 29.41, and undetermined, 1.11, per cent. Sample was light yellow instead of brown, and this taken together with the analysis showed that it was not milk chocolate but a mixture of cocoa butter, dry skim milk and sugar. Misbranded.

Coffee

Three official and one unofficial samples of coffee were examined; two were passed and two were adulterated or misbranded:

W.M.-1222 and 1347. Caffé Bustelo, Demi-Tasse. Bustelo Coffee Roasting Co., Inc., Bronx, N. Y. These samples were submitted chiefly because slack filling was suspected since, although the declared net weight was only 12 ounces, the coffee was packed in cans identical in size and shape with those used for packing a full pound of another brand of coffee. Microscopic examination showed the material to be all finely ground coffee; the net weight was 12.28 oz.; and the fill of container was 95 per cent or better. Passed.

6474. Forbes Coffee, Culture Ripened. Jas. H. Forbes Tea & Coffee Co., St. Louis, Mo. This sample was submitted by a Connecticut food manufacturer

who was interested in marketing this type of coffee because he had heard that it would not keep people awake as would ordinary coffee. This can was labelled as follows: "Culturing removes excess acids, enriches flavor, lets you sleep. The Coffee Ripening process produces a real invigorating coffee that gives everybody complete coffee satisfaction, yet that anyone can drink even late at night. No longer need you use insipid, flat coffee substitutes or de-vitalized coffee.—IMPORTANT Culture Ripened Coffee may be brewed longer than other coffees, for overbrewing will not make it bitter or harsh because the acids which cause bitterness are not present. THE COFFEE WITH THE RICH FLAVOR LIKE OLD JAVA."

Analysis of this sample showed 1.21 per cent of caffeine, as against 1.18 per cent found in an ordinary brand of coffee analyzed at the same time. Since caffeine is generally recognized to be the ingredient in coffee responsible for its sleep-preventing properties, the interested local manufacturer was informed that in our opinion the claim that Forbes Coffee "lets you sleep" was unjustified.

A.F.-216. Instant Slimagic Coffee. Custom Products, Inc., Baltimore, Md. Labelled "Pure coffee with SLENATOL (a natural vegetable polysaccharide of mannose and galactose) that diminishes appetite and satisfies your hunger." An accompanying circular about the "Famous Slimagic Reducing Plan" further identified (?) "SLENATOL" as "a new natural hydrophilic colloidal pure food product, especially processed, derived from seeds of an Asiatic legumen of *Cyamopsis* species." These phrases offer an elaborate example of the use of scientific terms to conceal the identity of a substance while appearing to define it. From the vague description, "SLENATOL" is probably a natural gum of some sort, and it may be speculated that the theory behind its use is that the gum swells up in the stomach and causes loss of appetite for further food by creating a sensation of fullness.

Adulterated because not straight coffee and misbranded because the "common or usual name" of the gum ingredient was not given.

Confectionery

Eighteen official and eight unofficial samples of candy were analyzed; 11 were passed and 15 were adulterated or misbranded:

W.M.-1240. Barton's Continental Dietetic Chocolate Bar (Dark). Shartenberg's Department Store, New Haven, Conn. Labelled: "For Reducing Sugar Intake—16½ Calories per Section—Ingredients: Chocolate liquor, Mannitol, Cocoa Butter, Lecithin, Vanillin (an artificial flavoring), Sucaryl (a non-nutritive artificial sweetener to be used only by those who must restrict their intake of ordinary sweets)." Test for sucaryl positive; adulterated because the use of such non-nutritive sweeteners is illegal in confectionery.

S.O.-373. "Broken Mixture" and "Holiday Mixture." M. G. Shaghalian Co., Providence, R. I. Net weight: Declared, 10 oz.; found, 9.09 oz. Short weight; misbranded.

K.C.-751. Candy Chicken. Schoener Candies, Inc., Reading, Pa. Yellow oil-soluble coal-tar dye present not declared; misbranded.

K.C.-749 and 750. Candy Rabbits. Schoener Candies, Inc., Reading, Pa. Undeclared water-soluble coal-tar dyes (respectively blue-green and pink) present; misbranded.

W.M.-1213. Dia-Mel Dietetic Mint Pattie. Dietetic Food Co., Inc., Brooklyn, N. Y. Labelled: "Ingredients: Sorbitol, Skim Milk, Cocoa Butter, Mannitol, Chocolate Liquor, Dextrine and Non-Nutritives Consisting of 18% Calcium Carbonate and 5% Gum Arabic." Adulterated because calcium carbonate is a non-nutritive substance not permitted in confectionery.

8331, 8332, 8333 and 8334. Dietetic Slimettes Chocolate Miniatures. Casanova Chocolate Co., Inc., Milford Conn. Declared ingredients were: "Chocolate liquor, assorted nuts, skim and whole milk, mannitol, cocoa butter, lecithin, vanillin (artificial flavor), natural flavor." Average analysis was: Water, 1.01, ash, 2.54, protein, 12.00, fiber, 0.70, sucrose, 1.54, lactose, 8.46, fat, 45.18, and mannitol (by difference), 28.57, per cent; calories per 100 grams, 609. Passed.

8337. Dietetic Slimettes Coconut Bar. Casanova Chocolate Co., Inc., Milford, Conn. Labelled: "Ingredients—Chocolate liquor, coconut, skim and whole milk, mannitol, cocoa butter, lecithin, vanillin (an artificial flavor), natural flavors." Analysis showed: Water, 1.03, ash, 2.33, protein, 11.65, fiber, 0.41, sucrose, 1.22, lactose, 10.30, fat, 41.59, and mannitol (by difference), 31.47, per cent; calories per 100 grams, 593. Passed.

8335. Dietetic Slimettes Dietetic Bar. Casanova Chocolate Co., Inc., Milford, Conn. Declared ingredients were: "Chocolate liquor, skim and whole milk, mannitol, cocoa butter, lecithin, vanillin (an artificial flavor), natural flavors." Analysis showed: Water, 0.78, ash, 2.55, protein, 11.13, fiber, 0.46, sucrose, 0.60, lactose, 12.51, fat, 39.83, and mannitol (by difference), 32.14, per cent; calories per 100 grams, 584. Passed.

8336. Dietetic Slimettes Nut Bar. Casanova Chocolate Co., Inc., Milford, Conn. Declared ingredients were: "Chocolate liquor, nuts, skim and whole milk, mannitol, cocoa butter, lecithin, vanillin (an artificial flavor), natural flavors." Analysis showed: Water, 0.80, ash, 2.53, protein, 11.94, fiber, 0.50, sucrose, 1.02, lactose, 9.55, fat, 41.32, and mannitol (by difference), 32.34, per cent; calories per 100 grams, 591. Passed.

8338 and W.M.-1022. Dietetic Slimettes Truffle Bar. Casanova Chocolate Co., Inc., Milford, Conn. Declared ingredients were the same as for 8336 above. *W.M.-1022* was tested only for sucaryl and none found. Analysis of 8338 showed: Water, 0.63, ash, 2.50, protein, 11.19, fiber, 0.85, sucrose, 1.62, lactose, 9.34, fat, 46.56, and mannitol (by difference), 27.31, per cent; calories per 100 grams, 617. Passed.

W.M.-1214. Glen Cove Assorted Chocolates. Miller & Hollis Corp., Boston, Mass. This sample consisted of eight candy creams of a cream color; since obviously cocoa butter had been substituted for chocolate in their preparation they were not "chocolates," and were therefore misbranded.

K.C.-759. Green Candy Rabbit. Stevens Candy Kitchens, Inc., Chicago, Ill. Declared ingredients were: "Sugar, Vegetable Fats, Chocolate, Milk, Artificial Flavors and Colors." Passed.

K.C.-765. Orange-Pink Candy Rabbit. Schoener Candies, Inc., Reading, Pa. Red coal-tar dye present not declared; misbranded.

K.C.-814. Ring Ding. Bridgeport Wholesale Confectionery Co., Bridgeport, Conn. This sample consisted of two large plastic capsules, about one inch in

diameter and one-and-one-half inches long; each held six to seven pieces of candy-coated gum and a toy—a plastic baseball pin in one case and a small jackknife in the other. Misbranded because the manufacturer's name and address were not given and undeclared artificial flavor and color were present.

A.F.-193. *Slim Bon Bons, No Salt Added*. Diet-Rite Co., New York, N. Y. Labelled: "chocolate topped candy with natural fruit flavors & nut centers—only 7 calories each—made without sugar—for diets restricted in cholesterol, calories, carbohydrates, and salt—Vegetable gum, mannitol, sorbitol, water, chocolate liquor, glycerine, low fat cocoa powder, non fat milk powder, nuts, citric acid, cream of tartar, bicarbonate of potassium, agar-agar, coffee extract, natural & artificial flavors, emulsifier, U.S. certified food colors, 0.2% sucaryl, a non-nutritive sweetener which should be used only by those who must restrict their intake of ordinary sweets, sodium benzoate—contains per 100 grams 120 milligrams sodium—per piece (average) 6 milligrams sodium." A test for sucaryl was positive, and analysis showed 136 mg./100 gm. of sodium. The sodium content was close enough to guaranty to pass, but sample was adulterated because sucaryl is not permitted in confectionery.

W.M.-1021. *Slimettes Dietetic Bar*. Casanova Chocolate Co., Inc., Milford, Conn. Sucaryl absent; passed.

W.M.-1138. *Small Pinkish Orange Candy Rabbit*. Schoener Candies, Inc., Reading, Pa. Undeclared orange-pink coal-tar dye present; misbranded.

W.M.-1140. *Three Candy Rabbits*. Schoener Candies, Inc., Reading, Pa. These candies were colored with undeclared coal-tar dyes, respectively orange (water-soluble), blue-green (water-soluble), and yellow (oil-soluble). Misbranded.

W.M.-1412. *Unnamed Individually-Wrapped Candies in Colorless Cellophane Bags*. C. Jamin, Rotterdam, Holland. Net weight: Declared, 16 oz.; found, 15.55 oz. Short weight; misbranded.

E.C.-864. *Washburn's Yo-Yo Pops with Safety Sticks*. F. B. Washburn Candy Corp., Brockton, Mass. This sample consisted of a large carton containing 24 bundles of five lollipops each; there was no ingredient declaration beyond the words "Delicious Flavors." Misbranded because the ingredients were not stated and undeclared artificial flavor and color were present.

K.C.-763. *Yellow Candy Chicken*. Schoener Candies, Inc., Reading, Pa. Undeclared yellow oil-soluble dye present; misbranded.

Contaminated or Decomposed Foods

Sixty-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: Fifteen samples of sodas; six of flour; five of bread; three each of canned corn, canned fruit, cheese and cookies; two each of candy, coffee, frankforts, ham, lemon ice and tea bags; and one each of beer, butter, cake, canned peas, chewing gum, chow-mein, egg noodles, fish, lobster tails, nuts, pickled peppers, pie, prune juice, rice, shortening, soup, steak and sugar. Thirty-five samples were passed and 33 were adulterated. The adulterated samples were the following:

H.C.-4. *A & P Our Own Tea Bags*. Great Atlantic & Pacific Tea Co., New York, N. Y. This sample consisted of two tea bags, of which one was filled wholly with tea while the contents of the other were mostly sand.

K.F.-1590. *Betty Jane Sponge Ring*. Sheppard Baking Co., North Bergen, N. J. Infested with adult and pupal saw-toothed grain weevils (*Oryzaephilus surinamensis*) and one housefly (*Musca domestica*); the fly had been baked into the cake.

J.B.-93. *Bread*. Manufacturer unknown. This slice of bread contained a few fragments of stems of an unidentified plant.

E.C.-826. *Campbell's Condensed Beef Noodle Soup*. Campbell Soup Co., Camden, N. J. Two lead shot accompanying this opened can were stated to have been found in the soup.

E.C.-862. *Canada Dry the Original Pale Dry Ginger Ale*. Health Dept., New London, Conn. This unopened bottle contained a 20-inch-long white shoestring.

J.B.-156. *Chun King Meatless Chow Mein with Mushrooms*. Chun King Sales, Inc., Duluth, Minn. A portion of a woman's belt (made of elastic woven fabric but patterned to resemble a snakeskin) was present; spectrographic analysis showed the presence of considerable titanium as well as iron and aluminum.

E.C.-869, F.P.-257 and E.S.-8242. *Coca-Cola*. Coca-Cola Bottling Co. of Willimantic, Inc., Willimantic, Conn. E.C.-869 contained a trace of kerosene and a few particles of black dirt; adhering to the inside walls of F.P.-257 was a white powder that infrared analysis showed to be acetylsalicylic acid (aspirin); and E.S.-8242 contained a clump of mold.

W.M.-1151. *Cod Steaks, U.S. Choice*. First National Stores, Inc., East Hartford, Conn. Worm of unidentified species present.

S.O.-374. *Columbia Pure Egg Noodles*. A. Zerega's Sons, Inc., Fairlawn, N. J. Large quantity of human hair clippings present.

J.B.-153. *Cooked Coffee*. Aetna Life Insurance Co., Hartford, Conn. Portion of an unidentified insect and a clump of string present.

F.P.-274. *Cooked Frankforts*. Clarence Campbell, East Hartford, Conn. Brush bristles present.

F.P.-241. *Creamery Butter*. Junior High School, Rocky Hill, Conn. This (U.S.D.A.-donated) butter was moldy.

W.M.-1239. *Filberts*. National Peanut Corp., Wilkes-Barre, Pa. Nuts were stale and some insect webbing was present.

E.C.-850. *Flour*. Vocatura's Bakery, Westerly, R. I. This sample represented flour siftings; it contained one live and several dead adult broad-horned flour beetles (*Gnathocerus cornutus*), one crushed Indian meal moth larva (*Plodia interpunctella*) and much insect webbing.

E.C.-868. *Fresh Frozen Pictsweet Green Peas*. Pictsweet Foods, Inc., Mt. Vernon, Wash. These peas were badly decomposed; some of them had turned brown.

E.S.-8248. *Golden Eagle Beverages Orange Soda*. Golden Eagle Beverage Co., Hartford, Conn. One metal "bobby pin" present.

F.P.-249. *Hires Root Beer*. Charles E. Hires Co., Philadelphia, Pa. Two pieces of colored thread and a little dirt present.

K.C.-808. *Jason Pure Grated Romano Cheese*. Jason Dairy Products Co., Inc., Brooklyn, N. Y. This cheese was caked and moldy; the mold was a species of *Aspergillus*.

S.O.-375. *Lobster Tails*. Hartford Freezer Corp., East Hartford, Conn. Badly decomposed.

E.C.-825. *Mission Birch Beer*. Mission Orange Bottling Co., Norwich, Conn. This bottle contained a clump of mold surrounding a house fly.

E.C.-875. *Mission Strawberry Soda*. Mission Orange Bottling Co., Norwich, Conn. This bottle contained a small dried-up animal which was either a mouse or a young rat.

J.B.-211. *Mrs. Steven's Regency Tin*. Steven Candy Kitchens, Chicago, Ill. One single candy in this two-pound box contained a trace of insect webbing.

K.F.-1650. *NBC Enriched White Bread*. NBC Bakery, Newburgh, N. Y. Very moldy.

A.F.-213. *Parboiled Rice*. Towpath School, Avon, Conn. Braided string present.

E.S.-8245. *Puritan Blueberry Pie*. Puritan Pie Co., Boston, Mass. Piece of charcoal present.

F.P.-244. *Reymond's Sunbeam Bread*. Reymond Baking Co., Waterbury, Conn. Very moldy.

H.C.-2. *Revere Cane Sugar, Granulated*. Revere Sugar Refinery, Boston, Mass. Contaminated with lubricating grease.

M.C.-17. *Seven-Up*. Seven-Up Bottlers of Fairfield County, Inc., Norwalk, Conn. Residue of clay present.

J.B.-126. *Spring Up Beverages Orange Soda*. Spring Bottling Works, New Britain, Conn. One whole adult spider beetle (*Ptinus fur*), a head of another beetle (*Ptinus villiger*), and a fragment of wood present.

W.M.-1173. *Surefine Red Raspberries Packed in Heavy Syrup*. National Retailer-Owned Grocers, Inc., Chicago, Ill. This can contained an earwig (*Forficula*), probably the European earwig.

E.S.-8243. *Whole Ripe Kadota Figs in Extra Heavy Syrup*. S. S. Pierce Co., Boston, Mass. Tiny flakes of metallic tin present.

Twenty-nine samples were submitted by the State Supervisor of Purchases, local health and police departments, physicians, an attorney and private citizens; of these 12 were passed and 17 were found to be contaminated or decomposed.

Included were: Six samples of milk; three of sodas; two each of beer and coffee; and one each of bologna, canned kale, canned mushrooms, canned peaches, canned string beans, canned tomatoes, chicken, cookies, cornflakes, crabmeat, lemon juice, oatmeal, pastry, sugar, veal loaf and whiskey. The adulterated samples were the following:

6308. *Cooked Chicken and Bones*. Charles Stodel, West Hartford, Conn. Trace of cyanide present.

7578. *Cott Extra Dry Ginger Ale*. Cott Beverage Corp., New Haven, Conn. Moldy.

7254. *Forst's Formost Olive Loaf*. Forst Packing Co., Inc., Kingston, N. Y. Decomposed (surface green and slimy); wood fragment present.

7168. *Holland Brand Premium Beer*. Eastern Beverage Corp., Hammononton, N. J. Sand, dirt and pieces of colored thread present.

9272B. *Home-Canned Kale with Vinegar*. Mrs. George W. Blood, Darien, Conn. Old and probably unsafe.

9272C. *Home-Canned Mushrooms*. Mrs. George W. Blood, Darien, Conn. Old and probably unsafe.

9272A. *Home-Canned String Beans*. Mrs. George W. Blood, Darien, Conn. Old and probably unsafe.

5764. *Homogenized Milk*. Beaumont Farm, Wallingford, Conn. Dead *Latridiid* ("plaster") beetles were floating on the milk in this carton.

7657. *Light Rock Orange Soda*. Sportsman's Tavern, Colchester, Conn. This soda caused profuse vomiting immediately after drinking. It contained a residue of brown flakes which appear to be undissolved orange dye.

6337. *Maxwell House Instant Coffee*. Mrs. A. Levenstein, New Haven, Conn. This jar contained lumps of brown material that proved to be water-soaked blobs of the coffee itself.

9124 and 9125. *Milk*. Health Dept., Bridgeport, Conn. Fly larvae and nondescript debris present.

6455. *Pal Ade-Orange*. Pal Bottling Co., Washington, D. C. Moldy.

7985. *Pastry*. Legion Bakeshop, New Haven, Conn. Shreds of cigarette tobacco present.

7547. *Schaefer Fine Beer*. F & M Schaefer Brewing Co., New York, N.Y. Piece of cardboard present.

8954. *Sealtest-Homogenized Vitamin A & D Skimmed Milk*. New Haven Dairy, New Haven, Conn. Putrid.

6701. *Sunkist Pure California Lemon Juice*. Exchange Lemon Products Co., Corona, Calif. This can contained cut pieces of painted aluminum foil and red waxed paper solidly compressed together into a circular mat nearly the diameter of the can; mixed with this mat was a large quantity of mold.

Dairy Products

Butter

Two samples sold as butter and three being served in restaurants as "butter spreads" were examined for the Commissioner; one sample was passed and four were adulterated:

K.C.-737. Butter. Young's Diner, Bridgeport, Conn. Constants of fat: Butyro refraction, 40°C., 50.6; Reichert-Meissl no., 6.81; Polenske no., 0.48. Not butter but oleomargarine; adulterated.

W.M.-1130. Butter Spread. Capitol Restaurant, New Haven, Conn. Constants of fat: Butyro refraction, 40°C., 49.4; Reichert-Meissl no., 8.52; Polenske no., 0.60. No more than 27 per cent butter; adulterated.

W.M.-1131. Butter Spread. Jerry's Coffee Shop, New Haven, Conn. Constants of fat: Butyro refraction, 40°C., 53.3; Reichert-Meissl no., 0.00; Polenske no., 0.24. No butter whatever present; adulterated.

W.M.-1132. Butter Spread. Jorden's Restaurant, New Haven, Conn. Constants of fat: Butyro refraction, 40°C., 49.3; Reichert-Meissl no., 3.54; Polenske no., 0.24. No more than 10 per cent butter; adulterated.

F.P.-240. Cudahy's Sunlight Creamery Butter. Cudahy Packing Co., Omaha, Nebr. Constants of fat: Butyro refraction, 40°C., 42.8; Reichert-Meissl no., 26.72; Polenske no., 2.74. Passed.

Cheese

Three samples of mozzarella and one of ricotta cheese were examined for the Commissioner; all were passed.

The March 15, 1956 issue of the *Federal Register* carried proposals submitted by the National Cheese Institute for definitions and standards of identity for mozzarella (scarmoze) and ricotta cheeses. These proposed standards provided for whole-and-part-skim-milk varieties of each cheese, as follows: Whole milk mozzarella, 50-58 per cent moisture and not less than 43 per cent milk fat in the solids; part-skim mozzarella, 52-60 per cent moisture and 30-43 per cent milk fat in the solids; whole milk ricotta, not more than 80 per cent moisture and not less than 11 per cent fat; part-skim ricotta, between 6 and 11 per cent fat.

Analyses were as follows:

J.B.-118. Fresh Mozzarella. John Guglietta, Bloomfield, Conn. Net weight: Declared, 8 oz.; found 8.68 oz.

J.B.-119. Mozzarella Speciale Cheese, Prodotto Superiore. C & F Cheese Distributors, East Haven, Conn. Net weight: Declared, 8 oz.; found, 8.75 oz.

E.S.-8074. Pasteurized Grade A Quality Calabro Mozzarella Cheese. Calabro's Dairy, Stratford, Conn. Water, 56.01, ash, 3.48, casein, 23.16, and fat, 15.25, per cent; butyro refraction of fat, 43.4 (40°C.). Since the fat content was only 34.67 per cent on the dry basis, this sample was a part-skim mozzarella cheese under the above specifications.

E.S.-8073. Ricotta Cheese. Brunotto Cheese Co., Inc., Yonkers, N. Y. Water, 72.31, ash, 1.28, casein, 9.38, and fat, 12.91, per cent; butyro refraction of fat, 43.4 (40°C.). Sample met proposed limits for whole milk ricotta.

Dry Skim Milk

Up to the present time in estimating the percentage of dry skim milk in frankforts it has been assumed that dry skim milk contains 51.5 per cent of lactose. Chiefly for the purpose of seeing how this figure compared with the lactose contents of those products actually employed as frankfort fillers, in 1956 six samples of dry skim milk were taken by the Commissioner from stocks of bakeries and sausage manufacturers, and were analyzed by us for lactose by the same yeast method used for frankforts.² Results are given in Table 4; as can be seen, the average lactose content of 51.33 per cent found for these six samples was very close to our assumed value. The average casein content of 33.05 per cent, however, was noticeably less than the 36.5 per cent figure used by us as a basis for subtracting milk protein from total protein in the course of calculating added water in frankforts.

Ice Cream

Two samples of ice cream bars were analyzed for the New Haven Board of Education, and two samples each of ice cream and ice cream mix were tested for manufacturers:

6010. Golden Crest Farm Quality Chekd Chocolate Covered Ice Cream Bar. Golden Crest Farm Ice Cream Co., Inc., New Haven, Conn. This and the following sample were supplied to the New Haven Board of Education on specifications calling for not less than 10 per cent butter fat and 37 per cent total solids in the ice cream. Analysis of the ice cream portion showed: Total solids, 39.56, and fat, 10.26, per cent. Passed.

6011. Golden Crest Farm Quality Chekd Ice Cream Crunch Bar. Golden Crest Farm Ice Cream Co., Inc., New Haven, Conn. Analysis of the ice cream portion showed: Total solids, 46.24, and fat, 10.03, per cent. Passed.

7770 and 7771. Ice Cream. House of Hasselbach, New Haven, Conn. Average analysis was: Total solids, 41.75, and fat, 17.49, per cent.

7217 and 7218. Ice Cream Mix. Tenin Ice Cream, New Haven, Conn. Average fat content, 12.80 per cent.

Unfortified Fluid Milks

The fat contents of two samples of plain milk and two of chocolate milk were determined for a dairyman and the New Haven Board of Education respectively:

6016 and 6534. Borden's Chocolate Approved Milk. Mitchell Dairy Co. Division, Bridgeport, Conn. These samples were supplied to the New Haven Board of Education on a specification calling for not less than 3.25 per cent of butter fat. Analysis of 6016 showed only 2.70 per cent fat, so this sample did not meet the specification; 6534 contained 3.20 per cent of fat and was passed.

6898 and 6899. Milk. Charles Augur, Northford, Conn. Average fat content, 3.20 per cent.

²Conn. Agr. Expt. Sta. Bul. 401, 869 (1937); 415, 695 (1938); 426, 14 (1939).

TABLE 4. DRY SKIM MILK

No.	Manufacturer or distributor and brand	Water, per cent	Casein, per cent	Lactose, per cent	Dextrose, per cent
W.M.-1242	Adler's Creamery, Inc., Fort Plain, N.Y. <i>Adler's Extra Grade (Sprayed Process)</i>	6.09	35.15	58.10	0.00
W.M.-1248	Dirigo Sales Corp., Boston, Mass. <i>Elan Brand Dilac</i>	4.51	.....	45.30	4.90
W.M.-1246	First Spice Mixing Co., Inc., New York, N.Y. <i>Tietolin</i>	4.39	.....	51.50	0.00
K.F.-1704	H. P. Hood & Sons, Boston, Mass. <i>Hood's Roller</i>	7.57	.....	49.40	0.00
W.M.-1249	Land O'Lakes Creameries, Minneapolis, Minn. <i>Land O'Lakes Roller Process</i>	4.96	28.73	52.90	0.00
K.F.-1682	Land O'Lakes Creameries, Minneapolis, Minn. <i>Super Heated Spray Process</i>	5.72	35.28	50.80	trace
	Average	5.54	33.05	51.33	

Vitamin A-Fortified Skim Milk

Connecticut Milk Regulation Board Regulations 144-1-69 and 144-1-71 require that vitamin mineral fortified milk contain 4,000 U.S.P. units of vitamin A per quart and that vitamins A and D skimmed milk contain 2,000 units per quart of this vitamin. This year our microbiological laboratory finally worked out all the "bugs" in the Sobel and Rosenberg colorimetric method for vitamin A in milk,³ but before we set a fee for vitamin A assays under Section 1320C of the General Statutes and informed the Dairy Division of the State Department of Agriculture that we were ready to accept official samples, it was decided that we would analyze a few unofficial samples picked up by our own inspector. Results on the five samples so obtained and on six samples later furnished by the State Department of Agriculture are given in Table 5; seven samples met their respective guaranties for vitamin A and four were deficient.

Vitamin D Milk

Vitamin D milk is standardized to contain 400 U.S.P. units of vitamin D per quart. Since 1935 this laboratory has checked the vitamin D contents of all brands of vitamin D milk on the market by feeding tests on rats. Samples were submitted by the Dairy and Food Commission until July 1, 1947; by the Department of Farms and Markets for the following six years; and by the State Department of Agriculture since July 1, 1953.

In 1956, 256 samples were examined—45 more than in 1955. Results of the assays are shown in Table 6; 20 samples were definitely below the unitage claimed. The percentage of samples fully or substantially meeting guaranties was 92.

In the 22-year period 1935-1956 inclusive, 3,032 samples have been tested; 92 per cent contained the required 400 units of vitamin D per quart or were sufficiently close thereto to be passed.

Besides the official vitamin D samples whose assays are reported in Table 6, one unofficial sample was analyzed for butter fat for the New Haven Board of Education:

6533. *Borden's Vitamin D Homogenized Approved Milk*. Mitchell Dairy Co. Division, Bridgeport, Conn. Fat, 3.40 per cent.

Deceptively Packed Foods

Section 3940(d) of the Connecticut Food, Drug and Cosmetic Act states that a food "shall be deemed to be misbranded . . . if its container shall be 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, and so mislead the customer into thinking that he (or more usually she) is getting more for his money than he is. In 1956, 56 samples were submitted by the Commissioner because of suspected slack fill; five samples were passed and 51 were misbranded. The deceptively packed samples were the following:

W.M.-1175. *Animal Crackers*. Dairy State Foods, Inc., Milwaukee, Wis. Fill of container 53 per cent.

³*Anal. Chem.*, 21, 1540 (1949)

TABLE 5. VITAMIN A-FORTIFIED SKIM MILK

			Vitamin A, units/qt.
R.A.-10,004	Bergren's Dairy Farm, East Hartford, Conn. <i>Vitamins A & D Pasteurized</i>		2,000
7754	Brookside Dairies, Inc., Waterbury, Conn. <i>Brookside Pasteurized Homogenized</i>	Hamden: First National Stores	2,129
R.A.-10,006	Bryant & Chapman, Hartford, Conn. <i>Vitamins A & D Pasteurized</i>	Hartford: Bryant & Chapman	1,684*
R.A.-10,009	Clark Dairy, West Haven, Conn. <i>Vitamins A & D Pasteurized Homogenized</i>	West Haven: Clark Dairy	2,956
R.A.-10,007	Ferndale Dairy, Berlin, Conn. <i>Vitamins A & D Pasteurized</i>	Berlin: Ferndale Dairy	1,794*
R.A.-10,005	H. P. Hood, Hartford, Conn. <i>Vitamins A & D Pasteurized</i>	Hartford: H. P. Hood & Sons	1,419*
7751	Mitchell Dairy Division, Bridgeport, Conn. <i>Borden's Vitamin Mineral Fortified</i>	Hamden: A & P Food Stores	4,730
7752	Mitchell Dairy Division, Bridgeport, Conn. <i>Borden's Vitamin Mineral Fortified</i>	Hamden: Grand Union	4,376
7753	New Haven Dairy, New Haven, Conn. <i>Sealbest Homogenized Vitamins A & D Pasteurized</i>	Hamden: Grand Union	2,247
7755	New Haven Dairy, New Haven, Conn. <i>Sealbest Homogenized Vitamins A & D Pasteurized</i>	New Haven: New Haven Dairy	2,129
R.A.-10,008	New Haven Dairy, New Haven, Conn. <i>Vitamins A & D Pasteurized</i>	New Haven: New Haven Dairy	1,656*

*Deficient

TABLE 6. 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	2	2	..	..
	Ventres Dairy	2	2	..	..
Bloomfield	Peter V. Boysen & Son	1	1	..	..
	H. E. Holcomb (Valley View Farm)	2	2	..	..
	Maple Hill Farms (W. E. Miller & Sons)	2	2	..	..
	Chris Nielsen & Sons	2	2	..	..
	Talcott View Farms (E. C. Wadhams & Son)	2	1	..	1
	A. J. Wade Dairy Farms	2	2	..	..
Bridgeport	Beechmont Dairy	2	2	..	..
	Borden's Mitchell Dairy Div.	1	1	..	..
	Clover Farms, Inc.	1	..	1	..
Bristol	Dewhurst Dairy	2	2	..	..
	E. H. Elton	2	2	..	..
Clinton	Roberge Dairy, Inc.	2	2	..	..
	Burr Dairy, Inc.	2	2	..	..
Cromwell	Ellsworth Dairy	2	1	..	1
	McAllister Dairy	1	1	..	..
Danbury	Marcus Dairy	1	1	..	..
	Rider Dairy Co.	1	1	..	..
Derby	Kinney's Dairy	1	1	..	..
	Sprecher Dairy	1	1	..	1
	East Haddam	1	1	..	..
	East Hampton	2	1	..	1
	East Hartford	2	2	..	..
	East Lyme	1	1	..	..
	East Norwalk	2	2	..	..
	Easton	1	1	..	..
	Marsh Dairy	1	1	..	..
Ellington	Snow's Milk Farm	1	1	..	..
	Cordtsen Dairy	2	2	..	..
	Fairfield	1	1	..	..
	Lobdell's Dairy	1	1	..	..
Farmington	Supreme Dairy, Inc.	1	1	..	..
	Wade's Dairy	1	1	..	..
	Ridgeview Farm	1	..	..	1
	Forestville	2	2	..	..
	Greenwich	2	2	..	..
	Guilford	2	2	..	..
	Hamden	1	1	..	..
	Hartford	2	2	..	..
	Bayer's Milk	2	2	..	..
	Bryant & Chapman—R. G. Miller & Sons	2	2	..	..
Jewett City	Cloverdale Dairy	2	2	..	..
	Farmers' Co-Op., Inc.	2	2	..	..
	Hilltop Dairy	2	2	..	..
	H. P. Hood & Sons	2	2	..	..
	Lincoln Dairy	2	2	..	..
	Norman's Dairy	1	1	..	..
	Kensington	2	2	..	..
	Ferndale Dairy, Inc.	2	2	..	..
	Rockland Dairy Farms	1	1	..	..
	Redwood Dairy	1	1	..	..
Lebanon	Stanley Wildowsky	1	1	..	..
	Lisbon	1	1	..	..
	Litchfield	2	2	..	..
	Manchester	2	2	..	..
	Dari-Maid Milk Co.	2	2	..	..
Manchester	Dart's Dairy	3	2	..	1
	A. R. Wilkie	2	2	..	..

TABLE 6. VITAMIN D MILK—(Continued)

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
Meriden	Countryside Dairy	2	2	..	..
	Charles Greenbacker & Sons, Inc.	2	2	..	..
	E. J. Kaemmer & Son	2	2	..	..
	William F. Knapp	1	1	..	..
	Muenchow Dairy	2	..	..	2
	Schwink's Dairy, Inc.	2	2	..	..
	Sievert's Dairy	1	1	..	..
	Triple Springs Farm	2	1	..	1
	Wayside Dairy	2	..	1	1
	Middletown	Daniels Farm	2	2	..
Hillside Dairy		3	1	1	1
Pleasant View Dairy		1	1	..	..
Milford	Sunshine Dairy	1	..	1	..
	Clover Dairy	1	1	..	..
Milldale	McDermott Dairy	1	1	..	..
	A. J. Platt & Sons	1	1	..	..
New Britain	Riverside Dairy	3	2	..	1
	Guida-Seibert Dairy Co.	2	2*	..	..
New Canaan	Heslin Dairy Co.	2	2	..	..
	J. J. Shapiro & Sons	3	3	..	..
	A. J. Spring & Sons	2	2	..	..
	Miller's Farm Dairy, Inc.	2	2	..	..
New Haven	General Ice Cream Corp.	3	2	..	1
	H. P. Hood & Sons	2	1	..	1
Newington	Eddy Dairy	2	2	..	..
	J. William Holt & Son Farm Dairy	3	3	..	..
	Mortensen Dairy	2	2	..	..
	J. A. Moylan & Son Dairy	2	2	..	..
	Spring Brook Farm Dairy	2	2	..	..
	Michael's Dairy	1	1	..	..
New London	New London & Mohegan Dairies	1	1	..	..
	Radway's Dairy	1	1	..	..
	Conn's Dairy	2	2	..	..
New Milford	Parker Dairy	2	2	..	..
Nichols	Knudsen Bros. Dairy, Inc.	1	1	..	..
North Haven	Clover Farms Dairy	2	2	..	..
Norwalk	Broad Brook Dairy	1	1	..	..
	John A. Coggeshall	1	1	..	..
Norwich	Preston Dairy	1	1	..	..
	Taylor's Dairy	1	1	..	..
	Beebe's Dairy	1	1	..	..
	Great Oak Farm	2	2	..	..
Norwichtown	Peterson's Dairy	2	2	..	..
	Fisher Bros. Dairy	2	2	..	..
Oxford	Charles B. Gilbert	2	2	..	..
Plainville	Krol's Dairy	2	2	..	..
	Sunny Crest Farm	2	2	..	..
Putnam	Salisbury Farms, Inc.	2	2	..	..
	Charles B. Gilbert	2	2	..	..
Rocky Hill	Krol's Dairy	2	2	..	..
	Sunny Crest Farm	2	2	..	..
Salisbury	Salisbury Farms, Inc.	2	2	..	..
	Ajello Bros.	1	1	..	..
	Bomba Bros.	2	1	..	1
Seymour	Chatfield Dairy	1	1	..	..
	Pharos Farm Dairy	2	2	..	..
Simsbury	W. W. Sherman & Sons	2	1	..	1
Southbridge, Mass.	Newton Dairy	2	2	..	..
South Kent	Diamond Hill Dairy (J. D. Ives)	1	1	..	..

TABLE 6. VITAMIN D MILK—(Concluded)

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
South Norwalk	Harrick's Dairy, Inc.	2	2	..	..
	Springdale	2	2	..	..
Suffield	Stony Brook Farm	1	1	..	..
Talcottville	Wells Farms (Franklin G. Welles)	2	1	..	1
	Terryville	E. E. Freimuth	2	2	..
Thomaston	High Farm Dairy	2	2	..	..
	Fred J. Wood Dairy	2	2	..	..
Thompsonville	Enfield Dairy (Cimino Bros.)	2	2	..	..
	Riverview Dairy (Marshall A. Smith)	2	2	..	..
Torrington	Smyth Farm Dairy	2	2	..	..
	Clover Dairy	2	2	..	..
Wallingford	Coöperative Dairy	1	1	..	..
	Greenwood's Dairy	1	1	..	..
	Torrington Creamery	1	1	..	..
	Beaumont Farm	3	2	..	1
Warehouse Point	J. H. Daly Co.	2	2	..	..
	Fairview Dairy	2	2	..	..
Washington	J. P. Novak Dairy	3	1	..	2
	Bassdale Farm Dairy	2	2	..	..
Waterbury	Marsh Dairy Farm	2	1	1	..
	Brookside Dairy—Litchfield Farms, Inc.	1	1	..	..
Webster, Mass.	Cashin's Dairy Products, Inc.	2	2	..	..
	McElligott—R. F. Worden & Sons	2	2	..	..
Westfield	Tranquillity Farm Dairy	2	2	..	..
	Waterbury Co-Op. Dairy, Inc.	2	1	1	..
West Hartford	Wauregan Dairy Farm	2	2	..	..
	Choinière's Dairy	2	2	..	..
West Haven	Deary Bros.	2	2	..	..
	Brookfield Dairy	2	2	..	..
Westport	A. C. Petersen Farms	2	2	..	..
	Clark Dairy, Inc.	2	2	..	..
West Redding	Ferris Dairy	2	2	..	..
	Burritt's Dairy	1	1	..	..
West Rocky Hill	Kenwood Farms	3	3	..	..
	Orem's Dairy	1	1	..	..
Wilton	John O. Johnson & Son	2	1	1	..
Winsted	Rose-Hurst Farm	2	1	..	1
Woodbridge	Driscoll's Dairy	2	2	..	..
Yantic					
Total		256	229	7	20

W.M.-1177. *Baseball Button Candy Coated Bubble Gum.* Topps Chewing Gum, Inc., Brooklyn, N. Y. Fill of container 58 per cent.

K.F.-1560. *Betty Crocker Angel Fluff Quick 7-Minute Frosting Mix.* General Mills, Inc., Minneapolis, Minn. Fill of container 56 per cent.

K.C.-848. *Candy Cigarettes.* Ce De Inc., Bloomfield, N. J. Fill of container 50 per cent.

*One of these samples was a vitamin-mineral-fortified approved milk, which besides being assayed for vitamin D was tested for three other vitamins: Vitamin A, units/qt., claimed, 4,000, found, 4,855; riboflavin (vitamin B₂), mg./qt., claimed, 2, found, 2.09; niacin, mg./qt., claimed, 10, found, 9.46.

E.C.-887 and K.F.-1717, 1718, 1730 and 1731. *Candy Cigarettes*. World Candies, Inc., Brooklyn, N. Y. Average fill of container 45 per cent.

E.C.-809. *Candy Cigars*. Four Star Candy Co., Newark, N. J. Fill of container 50 per cent.

K.F.-1561 and 1661. *Dromedary Pound Cake Mix*. Dromedary Co., New York, N. Y. Average fill of container 60 per cent.

E.C.-817. *Durkee's Stick Cinnamon*. Durkee Famous Foods, Elmhurst, N. J. Fill of container 50 per cent.

E.C.-818. *Durkee's Whole Cloves*. Durkee Famous Foods, Elmhurst, N. J. Fill of container 66 per cent.

W.M.-1215. *Erco Candies*. E. Rosen Co., Providence, R. I. Fill of container 40 per cent.

W.M.-1405. *Golden Coin Bubble Gum*. O-Pee-Chee Co., Ltd., Toronto, Ont., Canada. Fill of container 50 per cent.

W.M.-1357 and 1363. *Hey Kids Candy Cigarettes*. World Candies, Inc., Brooklyn, N. Y. Average fill of container 45 per cent.

K.C.-845. *"I'm Nuts" Through and Through with Milk Chocolate*. King Kup Candies, Inc., Hershey, Pa. Fill of container 70 per cent.

E.C.-871, 874, 876, 881, 882, 885, 886 and 896, K.C.-844, 849 and 851, K.F.-1719, and P.R.-50 and 51. *King Size Candy Cigarettes*. Four Star Candy Co., Inc., Newark, N. J. Average fill of container 48 per cent.

K.F.-1721. *Leader Candy and Miniature Auto License Plate*. Leader Novelty Candy Co., Brooklyn, N. Y. Fill of container 50 per cent.

K.F.-1720. *Lucky Candy Cigarettes*. Sylvan Sweets Co., Easton, Pa. Fill of container 63 per cent.

K.C.-813. *Mickey Mouse Candy and Toy*. Super Novelty Candy Co., Inc., Newark, N. J. Fill of container 50 per cent.

K.F.-1547. *Nestlé's All Purpose Brown Gravy*. Nestlé Co., Inc., White Plains, N. Y. Fill of container less than 50 per cent.

K.F.-1744. *Party Pak Candy Cigarettes*. World Candies, Inc., Brooklyn, N. Y. Fill of container 40 per cent.

K.C.-812. *Ping the Pixie*. Allison's Co., Brooklyn, N. Y. Fill of container 59 per cent.

K.F.-1751. *Pure Milk Chocolate Cigarettes*. Star Chocolate Corp., New York, N. Y. Fill of container 60 per cent.

K.F.-1669 and S.O.-368. *Q T Snow Whip Frosting Mix*. Taylor Reed Corp., Glenbrook, Conn. Average fill of container 62 per cent.

E.C.-888 and W.M.-1358 and 1364. *Red Hot Candy Dynamite Sticks*. World Candies, Inc., Brooklyn, N. Y. Average fill of container 45 per cent.

K.F.-1659 and 1678. *7 Minit Fluffy Frosting Chocolate Flavor Egg White Frosting*. 6 O'Clock Foods, Inc., Norristown, Pa. Average fill of container 61 per cent.

E.C.-854 and 906, K.F.-1562, and P.R.-26. *Tempo, The Quick Mix for Meat Loaf*. Henry Thayer Co., Cambridge, Mass. Average fill of container 56 per cent.

Eggs and Egg Products

Six official samples of frozen whole eggs and one each of dried egg yolks and an egg substitute were examined; four samples were passed and four were adulterated or misbranded:

S.O.-358. *Fortex Frozen Eggs*. Ballas Frozen Foods, Inc., New York, N. Y. Ammonia nitrogen, 1.7 mg./100 gm. Passed.

K.C.-872. *Frozen Whole Eggs*. Ann's Bakery, Bridgeport, Conn. Ammonia nitrogen, 2.2 mg./100 gm. Passed.

E.C.-812. *Frozen Whole Eggs*. A. L. Bolduc, Uncasville, Conn. Ammonia nitrogen in the five lots comprising this sample ranged from 5.6 to 20.1 mg./100 gm., averaging 12.8 mg./100 gm. All lots were very stale and some reeked of hydrogen sulphide. Adulterated.

S.O.-359. *Frozen Whole Eggs*. High Star Packing Co., Rye, N. Y. Ammonia nitrogen, 2.2 mg./100 gm. Passed.

E.C.-803. *Frozen Whole Eggs*. Norwich Packing Co., Norwich, Conn. Stale; adulterated.

J.B.-157. *Frozen Whole Eggs*. Louis Orenstein, Hartford, Conn. Ammonia nitrogen, 1.2 mg./100 gm. Passed.

A.L.-307. *Stanegg Brand Fresh Egg Yolks in Powdered Form*. Standard Milling Co., Kansas City, Mo. Labelled: "Ingredients: Egg yolk, hydrogenated vegetable shortening, non-fat milk solids and sugar." Analysis showed: Lipoids, 32.78, and lipid P₂O₅, 0.16, per cent. This analysis indicated that only about 8 per cent of egg yolk solids were present, together with 27 per cent of other fatty matter ("hydrogenated vegetable shortening"); the balance was presumably dry skim milk and sugar (analysis of another sample in 1955⁴ had indicated 22 per cent dry skim milk and 5 per cent sucrose). Adulterated and misbranded.

A.L.-326. *Vitegg*. A. Fionilla & Co., Southington, Conn. Labelled: "Saves 50% of eggs used in cakes—Ingredients used cereal, egg yolk, vegetable oil, lecithins, carotene (vitamin A), salt, egg albumen." Analysis showed: Lipoids, 4.05, lipid P₂O₅, 0.15, and egg yolk solids (estimated), 6.4, per cent. Misbranded because the label was misleading in giving the impression that the product was half egg.

Extracts and Flavors

Three samples of imitation vanilla flavor, two of grape beverage bases and two of foaming agents were examined for the Commissioner; four were passed, two were adulterated, and one was misbranded:

K.F.-1539. *Frothee, the Original Creamy Head*. House of Frothee, Inc., New York, N. Y. Declared ingredients were "propylene glycol, sorbitan mono-

⁴Conn. Agr. Expt. Sta. Bul. 609, 33 (1957).

laurate, sorbitol, citric acid, natural fruit flavor, 1/10 of 1% benzoate of soda." Saponin present; adulterated.

J.B.-141. Goodwin's Better Flavors Vanilla Vanillin Flavor Fortified. Goodwin's Flavors, Bristol, Conn. Labelled: "Contains—Pure vanilla, vanillin, coumarin, glycerine, cane sugar syrup, caramel color. Less than 1 per cent of alcohol." Test for coumarin negative; passed.

W.M.-1058. Grape Flavor with Other Natural Flavors. Warren-Jenkinson Mfg. Co., St. Louis, Mo. Labelled: "Contains grape juice and extractives, tincture of St. John Bread, orris root and other plants and roots, orange blossom oil and other essential oils, water, alcohol, permitted solvents and U. S. certified color." Analysis showed: Ash, 1,112, K₂O, 352, and methyl anthranilate, 56, mg./100 cc.; ratio K₂O to Me anthranilate, 6; estimated per cent grape juice, 277. Added synthetic methyl anthranilate present not declared; should be labelled "Imitation Grape Flavor."

E.C.-804. Mason's Special Foam Agent. Pepsi-Cola Bottling Co. of New London, New London, Conn. Non-saponin hemolytic agent present; adulterated.

K.C.-736. Safe Owl Imitation Vanilla Flavor. Safe Owl Products, Inc., Brooklyn, N. Y. Labelled: "Composed of water, glycerine, sugar, color, vanillin." Test for coumarin negative; passed.

K.C.-791. Snow Crest Imitation Vanilla Flavor. Snow Crest Beverages, Inc., Salem, Mass. Labelled: "Contains: Sugar, water, pure vanilla extract, vanillin, coumarin, glycerine, caramel, citric acid, and 1/10 of 1% benzoate of soda." Test for coumarin negative; passed.

W.M.-1117. True Fruit No. 1883 Grape Flavor W.O.N.F. Flavorex Co., Baltimore, Md. Labelled: "Contains concentrated grape juice, other natural flavors, wine, essential oils, acetic acid, certified food color and benzoate of soda." Analysis showed: Ash, 925, K₂O, 223 and methyl anthranilate, 10.5, mg./100 cc.; ratio K₂O to Me anthranilate, 21; estimated per cent grape juice, 176. Passed except should not be labelled "True Fruit."

Fruit, Canned

Two samples were examined for the Commissioner; one was passed and one was misbranded:

K.C.-776. Lord Carlton 100% Pure Maraschino Cherries. Carlton Food Co., Brooklyn, N. Y. Labelled: "Ingredients: U.S. certified color and flavor, preserved with 1/10 of 1% benzoate of soda, sugar and water." These cherries were colored green. While there is no question but what originally the only true Maraschino cherries were those put up in Maraschino liqueur (a cordial prepared from a particular variety of European wild cherry), in 1940 the U.S. Food and Drug Administration issued a statement (T.C.-194) recognizing that "Maraschino Cherries (had) come to mean to the consumer cherries which had been dyed red, impregnated with sugar and packed in a sugar syrup flavored with oil of bitter almonds or a similar flavor." Under these circumstances, if the cherries in this sample had been colored red they would have had to be passed in spite of the fact that they were labelled "100% Pure," but it was believed that since T.C.-194 had already gone so far in yielding to commercial demands for permitting the name to be applied to a substitute

product, there was no justification for our going still further and bringing in green-dyed artificially flavored cherries also. For this reason sample was classed as misbranded.

K.C.-738. Sweet Treat Brand Neat Cut Crushed Pineapple Sweetened.—In Extra Heavy Syrup. Parrott & Co., San Francisco, Calif. Analysis showed: Sucrose, 10.80, invert sugar, 10.11, and total sugars, 20.91, per cent; degrees Brix, 23.2. Federal Regulation 27.50 requires that extra heavy syrup in canned pineapple have a Brix gravity of between 22 and 35. Passed.

Fruit Juices

Eight samples each of grape juice and orange juice and five of sweet cider were examined for the Commissioner, and 18 apple juice samples were analyzed for Dr. Philip Garman of our Entomology Department. Thirty-one samples were passed and eight were adulterated or misbranded.

Analyses of the grape juice samples are given in Table 7; all were passed. One of the reasons why these samples were taken was to obtain further information on the concentration of methyl anthranilate in Concord grape juice (which is the variety chiefly employed in making beverage bases for "true fruit" grape sodas); the average value found for this ester in the four samples not claimed to be concentrated was 0.22 milligram per 100 cc.

Results on the orange juice samples are listed in Table 8; three samples were passed and five were adulterated or misbranded. All of these samples were quart paper cartons of juice supposedly shipped fresh from Florida, but three were found to be very substantially diluted with water.

Twenty of the apple juice and cider samples were passed and three were adulterated:

5939 to 5952 and 8633 to 8636. Apple Juice. Entomology Dept., Conn. Agr. Expt. Sta. Average total acidity as malic acid, 0.46 gm./100 cc.

K.C.-773. Cider. Village Luncheonette, Bridgeport, Conn. Specific gravity, 20°C., 0.9992; invert sugar, 0.25, and ash, 0.19, gm./100 cc.; potassium carbonate in ash, 85 per cent; alcohol, 4.69 per cent by volume. Diluted hard cider; adulterated.

K.C.-821. Purity Brand Apple Juice. Purity Food Co., Bridgeport, Conn. Specific gravity, 20°C., 1.049; invert sugar, 10.81, and ash, 0.24, gm./100 cc.; potassium carbonate in ash, 89 per cent. Passed.

K.F.-1551. Suncrest Pure Apple Juice. Gaer Bros., Inc., East Hartford, Conn. Specific gravity, 20°C., 1.0532; invert sugar, 11.89, and ash, 0.25, gm./100 cc.; potassium carbonate in ash, 81 per cent; alcohol, 0.46 per cent by volume. Passed.

K.C.-784 and 797. Sperry Farm Cider Mill Sweet Cider. Sperry Farm Cider Mill, Watertown, Conn. Average analysis was: Specific gravity, 20°C., 1.0061; invert sugar, 2.09, and ash, 0.19, gm./100 cc.; potassium carbonate in ash, 85 per cent; alcohol, 4.70 per cent by volume. Diluted hard cider; adulterated.

TABLE 7. GRAPE JUICE

No.	Manufacturer or distributor and brand	Total solids, gm./100 cc.	Total sugars as invert sugar, gm./100 cc.	Total acidity as tartaric acid, gm./100 cc.	Ash, mg./100 cc.	K ₂ O, mg./100 cc.	P ₂ O ₅ , mg./100 cc.	Methyl anthranilate, mg./100 cc.	Remarks
W.M.-1042	First National Stores, Inc., Somerville, Mass. <i>Finest Pure Concord, Sugar Added</i>	17.27	15.17	0.86	292	169	23.4	0.22	Passed.
W.M.-1046	First National Stores, Inc., Somerville, Mass. <i>Yor Garden Quick Frozen Pure Concentrated</i> .....	.....	.....	.....	425	165	54.0	0.21	Directions called for diluting with 3 parts of water, but analysis indicated concentration was only 1.3 to 1. Sample was nevertheless passed.
W.M.-1045	Great Atlantic & Pacific Tea Co., New York, N.Y. <i>A & P Concord, Natural Unsweetened</i>	19.79	16.52	0.71	308	169	25.3	0.40	Passed.
K.F.-1531	Hepworth Farms, Milton, N.Y. <i>Home Made, Sugar and Water Added</i>	16.63	13.62	0.67	259	147	12.9	0.05	Passed.
W.M.-1044	Minute-Maid Corp., New York, N.Y. <i>Minute Maid Concord Concentrated, Sugar and Fruit Acid Added</i> .....	.....	.....	.....	258	105	37.0	0.20	Analysis indicated little or no concentration, but passed.
W.M.-1047	Welch Grape Juice Co., Inc., Westfield, N.Y. <i>Welch's Pure Concord Frozen Concentrate</i> .....	.....	.....	.....	.....	182	.....	.....	Sample fermented before analysis was completed; passed.
W.M.-1043	Welch Grape Juice Co., Inc., Westfield, N.Y. <i>Welch's Pure Concord, Sugar Added</i>	20.78	17.71	0.91	189	99	18.7	0.22	Possibly diluted, but passed.
W.M.-1041	Wilrick, Inc., Greenwich, Conn. <i>Wilrick's 4-1 Concentrated Mix for Grape Drink</i> .....	.....	.....	.....	121	49	15.0	0.16	Probable juice content 40 per cent; passed.
Average of juices not labelled as concentrated		.....	.....	.....	262	146	20.1	0.22	.....

TABLE 8. ORANGE JUICE

No.	Manufacturer or distributor and brand	Ash, mg./100 cc.	K ₂ O, mg./100 cc.	Ascorbic acid, mg./100 cc.	Net Contents, fl. oz.	Remarks
E.S.-8218	Borden Co., New York, N.Y. <i>Borden's</i>	424	250	42	29.76	Passed as to composition, but short volume 2.24 fl. oz.
E.S.-8219	Borden Co., New York, N.Y. <i>Borden's</i>	424	250	30	30.44	Passed as to composition, but short volume 1.56 fl. oz.
W.M.-1221	Fruit Industries, Inc., Bradenton, Fla. <i>Tropicana</i>	460	252	34	31.62	Passed.
E.S.-8051	Fruit Industries, Inc., Bradenton, Fla. <i>Tropicana</i>	500	248	16	.....	Passed.
W.M.-1396	Golden Gift, Inc., Deland, Fla. <i>Golden Gift</i>	254	145	31	31.10	Only about 58 per cent juice; short volume 0.90 fl. oz.; adulterated and misbranded.
W.M.-1411	Golden Gift, Inc., Deland, Fla. <i>Golden Gift</i>	267	149	35	31.92	Only about 60 per cent juice; adulterated.
E.S.-8050	H. P. Hood & Sons, Fairfield, Fla. <i>Hood</i>	484	264	17	.....	Passed.
W.M.-1454	Juice Corp. of America, Glendale, N.Y. <i>Pure-Maid</i> ..	186	113	29	32.12	Only about 45 per cent juice; adulterated.

Meat and Meat Products

Frankforts

State regulations require that Frankfort and other types of sausage contain no more than a total of 3.5 per cent of fillers such as dry skim milk, wheat flour, soy flour and starch; they also set limits of 10 per cent for added water and 200 parts per million for the curing agent sodium nitrite. In 1956 the Commissioner submitted 150 samples of frankforts for testing for compliance with these specifications; 51 samples were passed and 99 were found to contain excessive quantities of one or more of the optional ingredients, or to be otherwise misbranded. (It should be noted that fillers are not permitted in "all beef" frankforts.) Results are given in Table 9.

Hamburg

State regulations set a fat limit of 30 per cent on "Hamburg, Hamburger," which is defined as "Comminuted fresh beef, with or without addition of suet." Hamburg may legally contain no other meat than beef, and the Connecticut standards (unlike the Federal ones) do not permit the addition of seasoning. Sixty-one samples of hamburg were submitted by the Commissioner, and two by the Hamden Health Department, mostly to check their fat contents; 57 samples were passed and six contained excessive fat. The substandard samples were the following:

E.C.-794, 843 and 852. Ferry Bros. Supermarket, Taftville, Conn. The fat contents were respectively 36.28, 32.81 and 34.76 per cent—an average of 34.62 per cent.

J.B.-115. Stafford Market, Bristol, Conn. Fat, 31.96 per cent.

J.B.-173. Stop-N-Save Market, New Britain, Conn. Fat, 31.44 per cent. (Another sample taken from this same market in 1955⁵ was also found to contain excessive fat.)

J.B.-121. Sussman's Market, New Britain, Conn. Fat, 42.34 per cent.

Pork Sausage

By legal definition "Pork sausage and breakfast sausage, whether fresh, smoked or canned" may contain no more than 50 per cent of fat. In 1956 the Commissioner submitted 33 samples of pork sausage for examination for compliance with this standard; 21 of these samples were passed and 12 were found to contain excessive fat. Analyses of the substandard samples are given in Table 10.

In addition to the official samples, 5373, *Oscar Mayer All Meat Smokie Links Sausage*, manufactured by Oscar Mayer & Co., Chicago, Ill., was submitted by Director Emeritus Slate of this Station to determine whether the casings were natural or artificial. Microscopic examination showed that natural (intestinal) casings had been used.

Other Meat Products

Two samples of pork trimmings and one of a "luncheon loaf" were received from the Commissioner, 84 of beef eye, fat and lean meat and two of calf heart and muscle were analyzed for Drs. J. R. Stouffer and H. D. Eaton

⁵Conn. Agr. Expt. Sta. Bul. 609, 43 (1957).

TABLE 9. FRANKFORTS

No.	Manufacturer or distributor and brand and type	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
P.S.-15	Armour & Co., Hartford, Conn.	55.44	14.44	2.37	2.02	4.34	4.60	4.28	76	Total fillers 8.94 per cent; excessive.
P.S.-16	Armour's Banner Skinless	57.15	11.56	2.24	1.55	trace	4.35	17.15	38	Excessive dry skim milk and added water.
K.F.-1748	Armour's Star	46.54	11.61	1.72	1.61	0.00	3.34	4.86	50	Passed.
K.F.-1575	Armour & Co., Waterbury, Conn.	56.37	13.31	1.04	2.00	1.17	2.02	6.01	124	Total fillers 3.19 per cent; passed.
K.F.-1574	Armour's Banner	51.13	12.38	1.99	1.76	0.00	3.86	7.13	122	Dry skim milk slightly high, but passed.
J.B.-106	Armour & Co., Waterbury, Conn.	53.91	13.44	0.00	...	0.90	0.00	0.15	190	Passed.
J.B.-143	AYO Packing Co., New Britain, Conn.	56.99	13.81	1.11	0.71	0.60	2.16	4.83	216	Total fillers 2.76 per cent. Excessive sodium nitrite.
J.B.-104	AYO Packing Co., New Britain, Conn.	53.53	14.00	0.00	...	1.06	0.00	0.00	240	Soy flour absent; excessive sodium nitrite.
J.B.-144	AYO Packing Co., New Britain, Conn.	50.64	17.25	0.96	0.86	0.90	1.48	0.00	280	Excessive dry skim milk.
J.B.-140	Colonial Provision Co., Boston, Mass.	51.97	15.25	2.73	1.74	0.00	5.30	0.00	200	Excessive dry skim milk.
J.B.-170	Colonial Provision Co., Boston, Mass.	55.97	13.19	1.69	1.44	trace	3.28	7.89	84	Passed.
J.B.-218	Columbia Packing Co., Boston, Mass.	58.26	12.81	3.33	trace	0.00	6.47	16.26	0	Excessive undeclared dry skim milk and added water.
K.C.-827	Columbia Packing Co., Boston, Mass.	57.90	12.88	3.81	trace	0.00	7.40	16.98	26	Excessive undeclared dry skim milk and added water.
K.F.-1706	Columbia Packing Co., Boston, Mass.	55.61	14.50	0.00	2.86	0.00	0.00	0.00	102	Passed.
J.B.-134	Columbia Packing Co., Boston, Mass.	51.40	14.13	5.41	0.49	0.00	10.51	9.92	120	Excessive dry skim milk.

TABLE 9. FRANKFORTS—(Continued)

No.	Manufacturer or distributor and brand and type	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.-142	Columbia Packing Co., Boston, Mass. <i>Gem Skimless</i>	51.94	13.00	3.54	0.39	0.00	6.87	9.78	90	Excessive dry skim milk.
J.B.-165	Columbia Packing Co., Boston, Mass. <i>Gem Skimless</i>	50.63	14.19	4.78	trace	0.00	9.28	7.15	42	Excessive dry skim milk.
E.C.-792	Columbia Packing Co., Boston, Mass. <i>Gem Skimless</i>	47.35	14.44	5.31	0.46	0.00	10.31	4.35	90	Excessive dry skim milk.
J.B.-122	Columbia Packing Co., Boston, Mass. <i>Gem Special</i>	52.90	16.69	5.61	0.70	trace	10.89	1.74	90	Excessive dry skim milk.
J.B.-133	Columbia Packing Co., Boston, Mass. <i>Gem Special</i>	57.67	14.31	4.05	0.56	0.00	7.87	12.67	125	Excessive dry skim milk and added water.
J.B.-135	Columbia Packing Co., Boston, Mass. <i>Gem Special</i>	55.76	14.19	5.13	0.36	0.00	9.96	13.24	118	Excessive dry skim milk and added water.
E.C.-845	Columbia Packing Co., Boston, Mass. <i>Southampton</i>	51.76	13.13	5.93	0.50	0.00	11.52	15.72	35	Excessive dry skim milk and added water.
J.B.-210	Columbia Packing Co., Boston, Mass. <i>Southampton Skimless</i>	54.74	14.19	5.50	0.23	trace	10.68	13.26	48	Excessive dry skim milk and added water.
J.B.-217	Columbia Packing Co., Boston, Mass. <i>Southampton Skimless</i>	51.49	13.25	5.12	0.33	0.00	9.94	12.73	76	Excessive dry skim milk and added water.
E.C.-796	Czikowsky's Quality Meats, Taftville, Conn.	60.08	14.44	3.83	trace	0.00	7.44	12.96	15	Excessive dry skim milk and added water.
E.C.-841	Czikowsky's Quality Meats, Taftville, Conn. <i>Skim On</i>	63.70	13.63	2.50	0.21	0.00	4.85	16.14	10	Excessive dry skim milk and added water.
E.S.-8251	Deerfoot Farms Co., Southborough, Mass. <i>Deerfoot Farms</i>	55.21	13.25	trace	0.68	trace	0.00	2.24	110	Passed.
K.F.-1726	Deerfoot Farms Co., Southborough, Mass. <i>Deerfoot Farms</i>	53.67	14.75	5.40	trace	trace	10.49	9.67	96	Excessive dry skim milk.
K.F.-1745	Deerfoot Farms Co., Southborough, Mass. <i>Deerfoot Farms</i>	54.45	13.13	0.41	0.27	trace	0.80	3.09	100	Passed.
K.F.-1688	Deerfoot Farms Co., Southborough, Mass. <i>Deerfoot Farms All Beef</i>	51.47	15.25	5.77	0.29	0.36	11.21	6.51	25	Total fillers 11.57 per cent; should be <i>no</i> filler because "all beef."

K.F.-1735	Deerfoot Farms Co., Southborough, Mass. <i>Deerfoot Farms All Beef</i>	52.16	14.94	6.53	0.25	trace	12.68	10.52	70	Excessive undeclared dry skim milk and added water.
F.P.-281	Deerfoot Farms Co., Southborough, Mass. <i>Deerfoot Farms All Beef</i>	52.21	14.88	5.53	0.00	0.00	10.74	8.05	85	Excessive undeclared dry skim milk.
E.S.-8250	Deerfoot Farms Co., Southborough, Mass. <i>Deerfoot Farms All Beef</i>	51.10	12.81	trace	0.35	0.00	0.00	0.00	70	Passed.
E.S.-8249	Deerfoot Farms Co., Southborough, Mass. <i>Deerfoot Farms Baby</i>	54.86	13.88	trace	0.50	trace	0.00	0.00	94	Passed.
F.P.-282	Deerfoot Farms Co., Southborough, Mass. <i>Deerfoot Farms Skimless</i>	60.25	14.31	5.12	0.53	trace	9.94	17.25	90	Excessive dry skim milk and added water.
F.P.-252	Eastern Packing Co., East Hartford, Conn.	31.78	19.94	1.82	0.66	0.00	3.53	0.00	100	Passed.
K.F.-1687	First National Stores, Inc., Somerville, Mass. <i>Finest All Beef Skimless</i>	62.23	15.50	0.38	0.46	0.00	0.74	1.27	40	Passed.
W.M.-1241	Philip Fleischer, Inc., New York, N.Y. <i>Fleischer's Super-Fine All Beef</i>	56.92	14.63	0.00	0.00	0.00	0.00	0.00	28	Passed.
K.C.-824	Foster Beef Co., Manchester, N.H. <i>Derryfield</i>	54.99	13.06	2.34	0.76	0.00	4.54	9.27	28	Excessive dry skim milk.
K.F.-1728	Great Atlantic & Pacific Tea Co., New York, N.Y. <i>All Beef Super Right Skimless</i>	55.46	13.63	0.00	1.00	0.00	0.00	0.94	72	Passed.
K.F.-1727	Great Atlantic & Pacific Tea Co., New York, N.Y. <i>All Meat Super Right Skimless</i>	48.58	13.94	5.60	0.00	0.00	10.88	8.38	148	Excessive undeclared dry skim milk.
K.F.-1740	Great Atlantic & Pacific Tea Co., New York, N.Y. <i>All Meat Super Right Skimless</i>	54.09	12.38	0.00	1.68	trace	0.00	4.57	60	Passed.

TABLE 9. FRANKFORTS—(Continued)

No.	Manufacturer or distributor and brand and type	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.F.-1741	Great Atlantic & Pacific Tea Co., New York, N.Y. <i>All Meat Super Right Skimless</i>	52.28	11.94	0.00	1.72	0.00	0.00	4.52	96	Passed.
K.F.-1742	Great Atlantic & Pacific Tea Co., New York, N.Y. <i>All Meat Super Right Skimless</i>	54.18	12.06	0.00	1.05	0.00	0.00	5.94	128	Passed.
K.F.-1743	Great Atlantic & Pacific Tea Co., New York, N.Y. <i>All Meat Super Right Skimless</i>	52.63	14.56	5.50	0.31	trace	10.58	9.67	66	Excessive undeclared dry skim milk.
J.B.-168	Great Atlantic & Pacific Tea Co., New York, N.Y. <i>Super Right Skimless</i>	57.22	14.13	0.00	1.53	0.00	0.00	0.70	43	Passed.
E.S.-8254	Grand Union Co., East Paterson, N.J. <i>Grand Union All Beef Dinner</i>	54.62	13.50	0.42	0.75	0.00	0.82	1.78	80	Passed.
E.S.-8252	Grand Union Co., East Paterson, N.J. <i>All Beef Skimless</i>	60.46	15.25	1.11	0.91	0.00	2.16	2.54	46	Misbranded because fillers not permitted in "all beef" frank-forts.
E.S.-8253	Grand Union Co., East Paterson, N.J. <i>First Prize</i>	56.77	13.75	2.13	0.74	0.00	4.14	7.69	100	Excessive dry skim milk.
E.S.-8255	Grand Union Co., East Paterson, N.J. <i>Skimless</i>	59.34	13.12	0.50	1.09	0.00	0.97	8.26	100	Passed.
E.C.-884	Handschumacher & Co., Inc. Boston, Mass. <i>Handschumacher</i>	55.21	13.81	3.13	1.05	0.00	6.08	8.65	104	Excessive dry skim milk.
A.F.-206	Hartford Provision Co., Hartford, Conn. <i>Capitol</i>	50.16	11.63	2.55	0.36	0.00	4.95	10.72	142	Excessive dry skim milk and added water.
A.F.-219	Hartford Provision Co., Hartford, Conn. <i>Capitol</i>	52.14	11.94	2.80	0.30	0.00	5.44	12.14	110	Excessive dry skim milk and added water.
K.F.-1654	Hartford Provision Co., Hartford, Conn. <i>Capitol</i>	53.99	13.13	3.01	trace	trace	5.85	9.83	50	Excessive dry skim milk.

P.S.-24	Hartford Provision Co., Hartford, Conn. <i>Capitol All Beef</i>	57.90	12.69	0.00	0.00	trace	0.00	7.14	60	Passed.
P.S.-25	Hartford Provision Co., Hartford, Conn. <i>Capitol Skimless</i>	54.47	14.38	1.93	0.35	trace	3.75	2.31	68	Passed.
A.F.-208	Hartford Provision Co., Hartford, Conn. <i>State</i>	50.46	13.50	2.75	0.27	0.00	5.34	4.10	130	Excessive dry skim milk.
A.F.-217	Hartford Provision Co., Hartford, Conn. <i>State</i>	52.17	13.19	2.79	0.26	0.00	5.42	7.17	108	Excessive dry skim milk.
P.S.-23	Hartford Provision Co., Hartford, Conn. <i>State</i>	49.02	13.81	1.99	0.33	trace	3.86	0.00	60	Passed.
J.B.-161	Hartford Provision Co., Hartford, Conn. <i>State Skimless</i>	56.68	14.63	1.89	trace	trace	3.67	3.40	70	Passed.
K.F.-1655	Hartford Provision Co., Hartford, Conn. <i>State Skimless</i>	59.34	13.19	2.75	trace	trace	5.34	14.22	84	Excessive dry skim milk and added water.
P.R.-49	Home Pride Provision Co., Inc., Stafford Springs, Conn.	55.21	14.94	5.26	1.05	trace	10.21	10.05	58	Excessive dry skim milk.
W.M.-1108	Hummel Bros., Inc., New Haven, Conn. <i>Hummel Bros. Quality</i>	55.11	12.75	2.71	1.11	0.00	5.26	11.63	286	Excessive dry skim milk, added water and sodium nitrite.
W.M.-1111	Hummel Bros., Inc., New Haven, Conn.	56.19	13.44	0.00	0.58	0.00	0.00	2.43	252	Soy flour absent; excessive sodium nitrite present.
W.M.-1168	Hummel Bros., Inc., New Haven, Conn. <i>Hummel Bros.</i>	56.66	12.81	0.00	...	0.00	0.00	5.42	220	Excessive sodium nitrite.
W.M.-1245	Hummel Bros., Inc., New Haven, Conn. <i>Hummel Bros.</i>	56.10	14.01	2.47	0.96	0.00	4.80	6.94	104	Excessive dry skim milk.
W.M.-1166	Hummel Bros., Inc., New Haven, Conn. <i>Hummel Bros. Sheep Casing</i>	56.15	13.31	1.15	0.56	0.00	2.23	10.95	210	Excessive added water and sodium nitrite.
W.M.-1243	Hummel Bros., Inc., New Haven, Conn. <i>Hummel Bros. Sheep Casing</i>	52.95	14.38	0.00	0.20	trace	0.00	0.00	108	Passed.
W.M.-1109	Hummel Bros., Inc., New Haven, Conn. <i>Hummel Bros. Quality Skimless</i>	59.81	13.94	2.95	1.16	0.00	5.73	12.25	300	Excessive dry skim milk, added water and sodium nitrite.
W.M.-1157	Hummel Bros., Inc., New Haven, Conn. <i>Hummel Bros. Quality Skimless</i>	57.47	14.31	2.58	0.83	0.00	5.01	7.39	145	Excessive dry skim milk.

TABLE 9. FRANKFORTS—(Continued)

No.	Manufacturer or distributor and brand and type	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
W.M.-1165	Hummel Bros., Inc., New Haven, Conn. <i>Hummel Bros. Skimless</i>	61.55	13.50	1.80	0.56	0.00	3.50	12.55	192	Excessive added water.
W.M.-1244	Hummel Bros., Inc., New Haven, Conn. <i>Hummel Bros. Skimless</i>	60.36	14.67	2.30	0.68	trace	4.47	8.08	90	Excessive dry skim milk.
J.B.-116	Joe's Market, Bristol, Conn. <i>Nutmeg</i>	52.97	14.88	3.95	0.60	0.00	7.67	4.41	70	Excessive dry skim milk.
J.B.-120	Kingsan, Inc., Indianapolis, Ind. <i>Kingsan's Hygrade All Beef</i>	55.27	11.88	0.00	0.27	0.00	0.00	7.75	70	Passed.
E.S.-8258	Kosher-R-Best, Inc., Hartford, Conn. <i>Cocktail Kosher-R-Best</i>	47.76	15.19	0.00	0.00	trace	0.00	0.00	168	Passed.
K.F.-1689	Kosher-R-Best, Inc., Hartford, Conn. <i>Our Kosher-R-Best All Beef</i>	54.57	13.63	0.00	0.00	0.00	0.00	0.05	20	Passed.
K.F.-1705	Oscar Mayer & Co., Chicago, Ill. <i>Oscar Mayer All Meat</i>	50.74	12.06	0.72	1.57	0.00	1.40	4.50	37	Passed.
K.C.-837	Miller's Stratford Provision, Stratford, Conn.	61.71	13.81	2.82	0.42	trace	5.48	14.31	82	Excessive dry skim milk and added water.
A.F.-209	E. E. Mucke & Sons, Hartford, Conn.	61.17	13.69	1.31	0.27	0.00	2.54	10.05	130	Passed.
J.B.-128	E. E. Mucke & Sons, Hartford, Conn. <i>Mucke's Circle</i>	59.45	14.63	trace	0.00	0.00	0.00	12.93	18	Soy flour absent; excessive added water.
P.S.-19	E. E. Mucke & Sons, Hartford, Conn. <i>Mucke's Circle</i>	57.75	14.56	1.14	0.50	trace	2.21	2.67	64	Passed.
K.F.-1680	New England Provision Co., Inc., Boston, Mass. <i>NEPCO All Beef</i>	56.73	15.94	2.89	trace	trace	5.61	1.01	40	Excessive dry skim milk.
K.F.-1681	New England Provision Co., Inc., Boston, Mass. <i>NEPCO All Beef</i>	57.67	15.11	2.50	trace	trace	4.85	4.19	trace	Excessive dry skim milk.
K.F.-1707	New England Provision Co., Inc., Boston, Mass. <i>NEPCO All Beef</i>	64.35	14.38	0.00	0.00	trace	0.00	6.83	50	Passed.

K.F.-1663	New England Provision Co., Inc., Boston, Mass. <i>NEPCO All Beef Baby</i>	59.79	14.00	2.28	trace	trace	4.43	10.11	88	Excessive undeclared dry skim milk.
K.F.-1679	New England Provision Co., Inc., Boston, Mass. <i>NEPCO All Beef King Size</i>	60.84	13.69	2.41	trace	0.00	4.68	12.76	trace	Excessive undeclared dry skim milk.
J.B.-174	New England Provision Co., Inc., Boston, Mass. <i>NEPCO Baby Skimless</i>	57.71	15.00	3.19	0.23	trace	6.19	6.59	58	Excessive dry skim milk.
J.B.-108	New England Provision Co., Inc., Boston, Mass. <i>NEPCO Skimless</i>	57.69	14.06	3.39	trace	0.00	6.58	10.85	90	Excessive dry skim milk and added water.
K.C.-785	Park City Beef & Provision Co., Bridgeport, Conn.	55.22	14.75	0.00	...	0.00	0.00	0.00	160	Passed.
J.B.-95	Premier Packing Co., Boston, Mass. <i>Zeit</i>	50.88	14.56	4.36	trace	0.00	8.47	4.76	200	Excessive dry skim milk.
J.B.-139	Premier Packing Co., Boston, Mass. <i>Zeit</i>	48.63	13.06	4.85	trace	0.00	9.42	9.87	208	Excessive dry skim milk and sodium nitrite.
J.B.-145	Premier Packing Co., Boston, Mass. <i>Zeit Skimless</i>	46.06	12.94	4.70	trace	0.00	9.13	7.34	180	Excessive dry skim milk.
J.B.-146	Premier Packing Co., Boston, Mass. <i>Zeit Skimless</i>	45.57	13.31	4.84	trace	0.00	9.40	5.77	190	Excessive dry skim milk.
J.B.-147	Premier Packing Co., Boston, Mass. <i>Zeit Skimless</i>	50.46	13.00	4.60	trace	0.00	8.93	11.22	188	Excessive dry skim milk and added water.
J.B.-183	Premier Packing Co., Boston, Mass. <i>Zeit Skimless</i>	43.84	11.25	2.13	0.33	0.00	4.14	4.76	118	Excessive dry skim milk.
E.C.-795	Premier Packing Co., Boston, Mass. <i>Zeit Skimless</i>	53.73	16.06	4.72	trace	0.00	9.16	2.61	216	Excessive dry skim milk and sodium nitrite.
E.C.-844	Premier Packing Co., Boston, Mass. <i>Zeit Skimless</i>	48.85	12.44	4.82	trace	0.00	9.36	12.49	176	Excessive dry skim milk and added water.
K.C.-838	Roby's Provision Co., Bridgeport, Conn.	55.58	14.88	3.47	1.20	0.00	6.74	5.70	34	Excessive dry skim milk.
J.B.-98	R. & L. Provision Co., New Britain, Conn.	56.68	12.81	3.23	trace	0.79	6.27	14.40	35	Total fillers 7.06 per cent; excessive fillers and added water.
J.B.-152	R. & L. Provision Co., New Britain, Conn.	61.04	12.38	2.38	0.30	0.00	4.62	8.12	97	Excessive dry skim milk.

TABLE 9. FRANKFORTS—(Continued)

No.	Manufacturer or distributor and brand and type	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
W.M.-1220	Roesler Packing Co., Inc., New Haven, Conn. <i>Roesler's Special</i>	59.55	12.75	2.13	trace	0.36	4.14	14.47	118	Total fillers 4.50 per cent; excessive fillers and added water.
K.F.-1552	Roesler Packing Co., Inc., New Haven, Conn. <i>Roesler's Yellow Tag</i>	58.13	15.63	1.70	trace	0.00	3.30	0.33	175	Passed.
K.F.-1747	Roesler Packing Co., Inc., New Haven, Conn. <i>Roesler's Yellow Tag</i>	53.63	15.38	2.06	0.00	0.00	4.00	0.00	120	Excessive dry skim milk.
W.M.-1219	Roesler Packing Co., Inc., New Haven, Conn. <i>Roesler's Yellow Tag Kings</i>	63.04	13.00	trace	2.65	0.00	0.00	11.04	195	Excessive added water.
W.M.-1216	Roesler Packing Co., Inc., New Haven, Conn. <i>Roesler's Yellow Tag Sheep Casing</i>	62.43	12.75	2.13	0.20	0.00	4.14	17.35	140	Excessive dry skim milk and added water.
W.M.-1408	Roesler Packing Co., Inc., New Haven, Conn. <i>Roesler's Yellow Tag Sheep Casing</i>	59.04	14.56	1.76	0.00	0.00	3.42	5.68	78	Passed.
W.M.-1107	Roesler Packing Co., Inc., New Haven, Conn. <i>Roesler's Yellow Tag Skimless</i>	55.91	14.94	1.87	trace	0.00	3.63	1.35	184	Passed.
W.M.-1217	Roesler Packing Co., Inc., New Haven, Conn. <i>Roesler's Yellow Tag Skimless</i>	59.58	14.69	2.10	trace	0.00	4.08	6.66	138	Excessive dry skim milk.
W.M.-1407	Roesler Packing Co., Inc., New Haven, Conn. <i>Roesler's Yellow Tag Skimless</i>	56.72	13.75	2.03	trace	0.00	3.94	7.64	78	Passed.
J.B.-99	Martin Rosol, New Britain, Conn. <i>Skimless</i>	53.43	14.56	4.43	0.74	0.00	8.60	7.51	230	Excessive dry skim milk and sodium nitrite.
J.B.-149	Martin Rosol, New Britain, Conn. <i>Skimless</i>	52.45	14.13	1.66	0.71	0.00	3.22	0.53	186	Passed.
J.B.-101	Martin Rosol, New Britain, Conn. <i>Skimless</i>	54.33	13.88	3.81	0.95	trace	7.40	9.41	206	Excessive dry skim milk and sodium nitrite.

J.B.-150	Martin Rosol, New Britain, Conn. <i>Skimless</i>	49.73	14.56	1.59	0.78	0.00	3.09	0.00	177	Passed.
E.C.-840	Sachem Provision Co., Norwich, Conn. <i>Roesler's Skimless</i>	55.92	14.19	2.62	0.62	0.00	5.09	6.44	200	Excessive dry skim milk.
E.C.-839	Sachem Provision Co., Norwich, Conn. <i>Roesler's Skin On</i>	57.49	14.19	2.56	0.62	0.00	4.97	7.85	208	Excessive dry skim milk and sodium nitrite.
E.C.-791	Sachem Provision Co., Norwich, Conn. <i>Roesler's Yellow Tag</i>	52.79	14.56	2.18	0.89	0.00	4.23	0.59	220	Excessive dry skim milk and sodium nitrite.
K.F.-1656	Sperry & Barnes Co., New Haven, Conn. <i>Elm City Skimless</i>	56.44	12.94	0.41	1.48	2.43	0.80	5.80	52	Total fillers 3.23 per cent; passed.
W.M.-1189	Sperry & Barnes Co., New Haven, Conn. <i>Elm City Skimless</i>	61.34	14.44	2.11	0.66	0.00	4.10	9.46	50	Excessive dry skim milk.
W.M.-1209	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Elm City Skimless</i>	56.93	13.44	0.54	1.00	2.30	1.05	4.69	92	Total fillers 3.35 per cent; passed.
W.M.-1112	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead</i>	62.45	14.38	4.03	0.00	0.00	7.83	16.13	142	Excessive dry skim milk and added water.
W.M.-1184	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead</i>	56.95	12.38	trace	0.59	0.00	0.00	7.43	64	Passed.
W.M.-1113	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead "All Beef"</i>	63.75	14.69	3.42	0.67	0.00	6.64	14.51	60	Excessive undeclared dry skim milk and added water.
W.M.-1187	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead "All Beef" Skimless</i>	64.35	12.56	0.00	..	0.00	0.00	14.11	30	Excessive added water.
W.M.-1212	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead "All Beef" Skimless</i>	55.07	13.88	trace	0.72	0.00	0.00	0.00	53	Passed.
W.M.-1114	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead Extra Mild Skimless</i>	63.11	15.69	3.38	0.31	0.00	6.56	9.75	50	Excessive dry skim milk.
W.M.-1115	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead (Hog Casings)</i>	58.65	12.38	3.21	0.58	0.00	6.23	18.05	96	Excessive dry skim milk and added water.

TABLE 9. FRANKFORTS—(Concluded)

No.	Manufacturer or distributor and brand type	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
W.M.-1116	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead (Sheep Casings)</i> ..	58.85	14.63	1.06	trace	0.00	2.06	3.29	274	Excessive sodium nitrite.
W.M.-1188	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead (Sheep Casings)</i> ..	55.95	11.75	1.94	0.58	0.00	3.77	14.35	35	Excessive added water.
W.M.-1210	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead (Sheep Casings)</i> ..	51.54	14.69	2.03	0.76	0.00	3.94	0.00	75	Passed.
W.M.-1186	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead Skinless</i>	55.94	12.44	1.86	1.42	0.00	3.61	11.34	40	Excessive added water.
W.M.-1211	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead Skinless</i>	56.35	12.94	1.89	0.66	0.00	3.67	9.83	68	Passed.
W.M.-1158	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead Skinless</i>	60.20	14.00	3.23	0.55	0.00	6.27	13.16	63	Excessive dry skim milk and added water.
W.M.-1183	Sperry & Barnes Co., New Haven, Conn. <i>Sperry & Barnes Old Homestead Skinless</i>	60.59	13.12	2.09	0.54	0.00	4.06	13.91	44	Excessive dry skim milk and added water.
A.L.-309	Stange's Market, Inc., Meriden, Conn.	56.44	13.63	1.14	0.29	0.00	2.21	5.08	70	Passed.
P.S.-17	Stanley Provision Co., Hartford, Conn. <i>Naimag</i>	55.50	14.56	3.33	0.74	0.00	6.47	6.50	38	Excessive dry skim milk.
J.B.-111	Star Packing Co., New Britain, Conn.	48.99	14.81	4.48	0.95	trace	8.70	2.15	68	Excessive dry skim milk.
J.B.-148	Star Packing Co., New Britain, Conn.	48.67	15.06	1.72	0.45	0.00	3.34	0.00	120	Passed.
J.B.-113	Star Packing Co., New Britain, Conn. <i>Skinless</i>	43.83	16.00	4.24	0.46	trace	8.23	0.00	140	Excessive dry skim milk.
K.F.-1553	Swift & Co., Waterbury, Conn. <i>Swift's Premium</i>	56.15	14.50	2.51	0.35	0.00	4.87	4.79	110	Excessive dry skim milk.
K.F.-1662	Swift & Co., Chicago, Ill. <i>Swift's Premium</i>	61.36	13.56	1.62	0.63	0.00	3.15	11.60	73	Excessive added water.
E.C.-801	Traystman Bros., New London, Conn. <i>"Wonder Maid Products" Skinless</i>	56.61	15.06	2.53	0.42	0.00	4.91	3.41	150	Excessive dry skim milk.
E.C.-848	Traystman Bros., New London, Conn. <i>"Wonder Maid Products" Skinless</i>	51.96	13.75	3.37	0.86	0.00	6.54	6.32	90	Excessive dry skim milk.
E.C.-849	Traystman Bros., New London, Conn. <i>"Wonder Maid Products" Skinless</i>	56.51	13.69	2.25	0.35	0.00	4.37	7.99	85	Excessive dry skim milk.
E.C.-800	Traystman Bros., New London, Conn. <i>"Wonder Maid Products" Skin On (Sheep Casings)</i>	58.31	13.81	2.46	trace	0.00	4.78	9.91	42	Excessive dry skim milk. Excessive dry skim milk and added water.
K.F.-1549	Weber's Kitchen, Inc., Hamden, Conn.	55.16	14.63	5.16	trace	trace	10.02	10.96	123	
W.M.-1118	Wozniak's Meat Products, New Haven, Conn.	59.24	14.75	0.63	0.39	trace	1.22	2.00	93	Passed.
W.M.-1254	Wozniak's Meat Products, New Haven, Conn.	58.51	14.13	1.18	0.00	trace	2.29	5.27	52	Passed.
W.M.-1110	A. Zoelck, West Haven, Conn.	55.41	15.31	0.57	trace	0.00	1.11	0.00	0	Soy flour absent; passed.
W.M.-1253	A. Zoelck, West Haven, Conn.	62.04	15.19	0.91	trace	trace	1.77	3.80	20	Passed.

TABLE 10. PORK SAUSAGE CONTAINING EXCESSIVE FAT

No.	Manufacturer or distributor and brand	Fat, per cent
K.F.-1573	Armour & Co., Chicago, Ill. <i>Armour Skinless</i>	58.30
K.F.-1555	Armour & Co., Waterbury, Conn. <i>Armour's Star</i>	60.23
K.F.-1657	Cudahy Bros., Cudahy, Wis. <i>Patrick Cudahy</i>	50.27
K.F.-1580	Cudahy Packing Co., Omaha, Nebr. <i>Cudahy Puritan</i>	55.05
A.F.-237	Great Atlantic & Pacific Tea Co., Elmwood, Conn.	61.47
A.F.-207	Hartford Provision Co., Hartford, Conn.	51.67
P.S.-22	Hartford Provision Co., Hartford, Conn. <i>Capitol</i>	50.62
W.M.-1125	John Morrell & Co., Ottumwa, Iowa, <i>Morrell Pride</i>	50.01
K.F.-1589	Roessler Packing Co., Inc., New Haven, Conn. <i>Roessler's</i>	52.49
W.M.-1159	Roessler Packing Co., Inc., New Haven, Conn. <i>Roessler's</i> <i>Yellow Tag</i>	53.42
K.F.-1550	Weber's Kitchen, Inc., Hamden, Conn.	63.44
A.L.-306	Weber's Kitchen, Inc., Hamden, Conn.	64.18

respectively of the Department of Animal Husbandry of the University of Connecticut at Storrs, and one sample of meat was submitted by the State Department of Agriculture.

The two following samples of pork trimmings represented lots used by Armour & Co. of Waterbury for blending in making sausage; their fat contents were determined to afford that company a guide to the relative proportions of the two lots they should use in their mixes to produce sausage containing no more than 50 per cent of fat:

K.F.-1569. Regular Pork Trimmings. Fat, 59.83 per cent.

K.F.-1570. Special Lean Pork Trimmings. Fat, 33.61 per cent.

The company was advised that a one to one mixture of these two lots would yield sausage containing 46.72 per cent of fat, which was within the legal limit.

K.F.-1729. Nepco Luncheon Loaf, manufactured by New England Provision Co., Boston, Mass., was labelled: "Ingredients beef, veal, pork, wheat flour, water, salt, spices, flavoring, sodium nitrite, sodium nitrate." Analysis showed: Water, 57.47, protein, 12.19, lactose, 4.02, dextrose, 1.92 and starch, 2.70, per cent. These figures indicated the presence of 7.80 per cent of dry skim milk and 19.87 per cent of added water. Misbranded because the presence of dry skim milk was not declared.

9390. *Meat from Kunkel's Dutch Restaurant, Hartford*, was submitted by the Livestock Division of the State Department of Agriculture to see whether it was horsemeat; serological tests by the Laboratory Services Section of the State Department of Health showed it to be beef.

Analyses of the Storrs samples were made in connection with research being carried on by the University of Connecticut, and are not therefore reported here in detail. Besides the calf heart and muscle samples (which were analyzed for moisture, ash, calcium, magnesium and phosphorus), solids, ether extract and nitrogen were determined on 63 meat samples, and indices of refraction, iodine numbers and melting-points were established for 21 beef fats.

Maximum, minimum and average values for the beef samples from Dr. Stouffer were as follows:

		Dry matter, per cent	Ether extract, per cent	Nitrogen, per cent
Eye	Maximum	30.68	9.76	3.60
	Minimum	22.54	3.10	3.12
	Average	27.75	5.80	3.35
Fat	Maximum	90.75	86.31	0.95
	Minimum	84.46	78.96	0.52
	Average	88.49	83.78	0.69
Lean	Maximum	39.19	21.65	3.23
	Minimum	30.52	9.67	2.71
	Average	34.74	14.89	2.96

The beef fat samples submitted separately from the above were rendered under nitrogen at 75°C. and the indices of refraction, Hanus iodine numbers and Wiley melting points⁶ determined on the rendered fats. Maximum, minimum and average values for the 21 samples were as follows:

	Maximum	Minimum	Average
Index of refraction, 40°C.	1.4549	1.4538	1.4543
Iodine no.	59.66	48.55	54.55
Melting-point, °C.	39.8	31.7	35.5

As was to be expected, the fats with the lowest iodine numbers had the highest melting-points.

Oils and Fats, Vegetable, and Cooking Fats

Eight samples of cooking fats, six of blended salad oils, two of olive oil, and one each of coconut, cottonseed and peanut oils and oleomargarine, were submitted by the Commissioner; 11 samples were passed and nine were adulterated or misbranded.

The cooking fats were rendered beef fats from non-Federally-inspected plants, submitted for tests as to their edibility. Indices of refraction and percentages of free acid were determined, and Kreis tests for rancidity⁷ were run, with results as shown in Table 11; five samples were passed and three were classed as inedible because of various stages of rancidity and excess free acidity. According to Bailey⁸ pure beef tallow should have a butyro refraction range of 46 to 49 and edible commercial tallow should contain no more than one per cent of free acids.

The other samples were the following:

W.M.-1149. Amalfi Brand 90% Pure Corn Oil 10% Pure Olive Oil. Cimino Bros., New Haven, Conn. Butyro refraction, 25°C., 69.4; squalene, 25 mg./100 gm.; no cottonseed, peanut or mineral oil or artificial flavor or color. No olive oil present; adulterated.

⁶Official Methods of Analysis of the Association of Official Agricultural Chemists, 8th Ed. (1955), Method 26.11.

⁷George S. Jamieson, *Vegetable Fats and Oils* (1st Ed., p. 369, 1932).

⁸*Industrial Oil and Fat Products* (2nd Ed., 1951), pp. 148-149.

TABLE 11. COOKING FATS (RENDERED BEEF FAT)

No.	Manufacturer and brand	Butyro refraction, 40°C.	Free fatty acids as oleic acid, per cent	Kreis test	Remarks
E.C.-827	Atlantic Packing Co., Pawtucket, R.I. <i>Newol</i>	47.5	0.77	negative	Passed.
P.R.-6	Atlantic Packing Co., Pawtucket, R.I. <i>Newol</i>	47.0	0.77	negative	Passed.
P.R.-13	Atlantic Packing Co., Pawtucket, R.I. <i>Newol</i>	47.5	0.81	negative	Passed.
E.C.-820	Eastern Refining Corp., Cambridge, Mass. <i>Tasty-Fri</i>	48.0	1.04	incipient rancidity	Adulterated.
E.C.-821	Eastern Refining Corp., Cambridge, Mass. <i>Tasty-Fri</i>	47.8	1.00	incipient rancidity	Adulterated.
E.C.-822	Eastern Refining Corp., Cambridge, Mass. <i>Tasty-Fri</i>	48.0	1.28	definitely rancid	Adulterated.
P.R.-12	Eastern Refining Corp., Cambridge, Mass. <i>Tasty-Fri</i>	47.0	0.71	negative	Passed.
P.R.-14	Eastern Refining Corp., Cambridge, Mass. <i>Tasty-Fri</i>	47.5	0.70	negative	Passed.

E.C.-867. *Bon Olive Oil, Pure Virgin Imported.* Bonoil Packing Co., Brooklyn, N. Y. Butyro refraction, 25°C., 61.4; no cottonseed, peanut or mineral oil or artificial flavor or color. Net contents: Declared, one quart; found, 31.9 fl. oz. Passed.

K.F.-1736. *Cotton Seed Oil for Cooking and Salads.* U. S. Dept. of Agriculture. Test for rancidity negative; passed.

W.M.-1152. *Flav-O-Nut Pop-Corn Seasoning.* Capitol City Products Co., Columbus, Ohio. Labelled "Made from pure cocoanut oil." Butyro refraction, 40°C., 35.3; no cottonseed, peanut or mineral oil or artificial flavor detected, but undeclared yellow coal-tar dye was present. Misbranded.

W.M.-1153. *Golden Bloom, the Ideal Oil for Pop Corn Seasoning.* Capitol City Products Co., Columbus, Ohio. Labelled "A delicious peanut oil—artificial color added." Butyro refraction, 25°C., 63.7; test for peanut oil positive (approx. 100% peanut oil); no cottonseed or mineral oil or artificial flavor; coal tar dye present. Passed.

K.F.-1653. *Imperial Margarine.* Lever Bros. Co., New York, N. Y. Declared ingredients were: "Hardened soybean and cottonseed oils, butter, water, salt, dried and fresh skim milk, vitamins A and D, lecithin, mono and diglycerides, benzoate of soda (0.1%) as a preservative. Artificial Flavor and Color Added." Analysis showed: Water, 7.20, and fat, 80.17, per cent; Reichert-Meissl value of fat, 3.14; Polenske value of fat, 0.36. This analysis indicated the presence of 10 per cent of butter, so sample was passed.

W.M.-1182. *La Palma Brand Oil.* Venice Importing Co., Inc., Brooklyn, N. Y. Labelled "78% Peanut and Corn, 22% Imported Olive Oil." Butyro refraction, 25°C., 67.4; squalene, 127 mg./100 gm.; trace of cottonseed oil; no peanut or mineral oil or artificial flavor or color; estimated per cent olive oil, 33. Adulterated and misbranded because no peanut oil present.

W.M.-1148. *Pace O Mio Dio 75% Choice Corn and Peanut Oil 25% Pure Imported Olive Oil.* Societa Italiana Commerciale, Brooklyn, N. Y. Butyro refraction, 25°C., 67.4; squalene, 95 mg./100 gm.; cottonseed oil, trace; peanut oil about 10 per cent; no mineral oil or artificial flavor or color; estimated per cent olive oil, 22. Passed.

W.M.-1164. *Reginella Brand Pure Olive Oil.* Venice Importing Co., Brooklyn, N. Y. Butyro refraction, 25°C., 61.3; no cottonseed, peanut or mineral oil or artificial flavor or color. Passed.

K.F.-1595 and W.M.-1150. *Sanzeri Brand 75% Corn, Peanut Oil 25% Pure Imported Olive Oil.* Sanzeri, Inc., Brooklyn, N. Y. Average analysis showed: Butyro refraction, 25°C., 68.7; squalene, 70 mg./100 gm.; estimated per cent olive oil, 17; cottonseed oil, present in W.M.-1150 and trace in K.F.-1595; no peanut or mineral oil or artificial color; no artificial flavor in W.M.-1150, flavor in K.F.-1595 doubtful; net contents of K.F.-1595, declared one gallon, found 126.3 fl. oz. K.F.-1595 adulterated because no peanut oil present and misbranded because short volume; W.M.-1150 adulterated because of absence of peanut oil and presence of undeclared cottonseed oil.

W.M.-1147. *Sasso Brand 80% Peanut and Corn Oil 20% Pure Imported Olive Oil.* Lucci Sales Co., Brooklyn, N. Y. Butyro refraction, 25°C., 69.4; squalene, 38 mg./100 gm.; cottonseed oil present; no peanut or mineral oil

or artificial flavor or color; estimated per cent olive oil, 9. Adulterated because of substitution of cottonseed for peanut oil.

In addition to the official samples, two samples of blended oils were examined for a wholesale grocer:

7261. *Oil No. 1.* Pepe-Maisano Co., New Haven, Conn. Butyro refraction, 25°C., 68.3; squalene, 146 mg./100 gm.; no cottonseed, peanut or mineral oil and no artificial flavor or color. Corn or soy oil containing about 39 per cent olive oil.

7262. *Oil No. 2.* Pepe-Maisano Co., New Haven, Conn. Butyro refraction, 25°C., 68.3; squalene, 95 mg./100 gm.; no cottonseed, peanut or mineral oil or artificial flavor or color. Corn or soy oil containing about 22 per cent olive oil.

Salad Dressing and Mayonnaise

Two official samples of mayonnaise and two of special dietary dressings were analyzed; two samples were passed and two were misbranded:

K.F.-1594. *Balanaise Pure Mayonnaise.* Balanced Foods, Inc., New York, N. Y. Labelled "Made with soy bean oil and fresh lemon juice, prepared without salt." Analysis showed: Total solids, 80.56, ash, 0.35, total acidity (as acetic acid), 0.52, nitrogen, 0.21, P₂O₅, 0.086, fat, 76.22, and sodium, 0.13, per cent; butyro refraction of fat, 67.6 at 25°C.; no cottonseed, peanut or mineral oil. Sample met standards for mayonnaise, but misbranded because sodium content was not declared.

A.F.-220. *Dietician No Salt Chef's Dressing.* Charles Kilgore Co., Yonkers, N. Y. Labelled: "Consists of—Tomato, water, onion, garlic, paprika and saccharin 0.036%. Saccharin is a non-nutritive artificial sweetener which should be used only by persons who must restrict their intake of ordinary sweets. No mineral oil, no egg. For low sodium diets. Analysis—carbohydrates 2.5%, protein ¼%, fat ½%, calories 2⅓/5 gm., sodium 40 mg./100 gm., sodium 2 mg./teaspoonful." Analysis was as follows, as compared with labelled claims:

	Claimed	Found
Carbohydrates, per cent	2.50	8.85
Protein, per cent	0.25	0.48
Fat, per cent	0.25	0.16
Calories per 5 grams	2.67	1.94
Sodium, mg./100 gm.	40.	180.

Misbranded because carbohydrate and sodium guaranties were exceeded.

K.C.-804. *Fre-Mar Brand 100% Pure Mayonnaise.* Tulip, Inc., Philadelphia, Pa. Calculated composition was: Egg yolk, 8.67; egg white, 0.05; vegetable oil, 76.88; vinegar (4.79% acidity), 10.02; and sugar, salt, spices, etc., 4.38, per cent. Passed.

K.C.-792. *Non-Fattening Frenchette Dressing for Salads.* Frenchette Co., Inc., New York, N. Y. Labelled: "No oil—Less than 1 calorie per tablespoon—Contains: Vinegar, tomato, salt, seasonings, 3.4 % vegetable gums and stabilizer (non-nutritive), U. S. certified food colors and saccharin 0.05%. Saccharin is

a non-nutritive artificial sweetener which should be used only by persons who must restrict their intake of ordinary sweets—98% less calories—Only 1 calorie per tablespoon." Calculated composition was: Egg yolk, 4.46, egg white, 0.00, vegetable oil, 0.00, vinegar (4% acidity), 2.75, sugar, salt, spices, etc., 6.31, and added water, 86.48, per cent; calories per tablespoonful, 2. Passed.

Spices and Condiments

Three samples of black pepper, two of salt substitutes, and one each of flavored salt, oregano and prepared horseradish, were examined for the Commissioner; four samples were passed and four were adulterated or misbranded:

A.L.-355. *Dia-Mel New Dietetic Salt Substitute, Sodium-Free.* Dietetic Food Co., Brooklyn, N. Y. Labelled: "INGREDIENTS Potassium Chloride, Tri-calcium Phosphate, Ammonium Chloride, Mono-potassium Glutamate, Glutamic Acid. SPECIALLY PREPARED FOR LOW SODIUM DIETS 100 gms. contains approximately 28 mgs. Sodium, ½ teaspoon contains approximately 0.7 mgs. Sodium." Analysis showed 47 mg./100 gm. of sodium, which was a 68 per cent excess, but sample was passed.

A.F.-196. *House of Herbs Salt-Free Seasoning.* House of Herbs, Salisbury, Conn. Labelled: "This delicious salt substitute contains monopotassium glutamate, glutamic acid, potassium chloride, glycine, tri calcium phosphate, herbs, calcium stearate.—Sodium Content: less than 1/10 mg. per 100 g. Mg. per tsp.—none." Analysis showed 290 mg./100 gm. of sodium—almost 300 times as much as declared. Misbranded.

A.L.-324. *Knickerbocker Brand Pure Black Pepper.* Knickerbocker Mills Co., New York, N. Y. Microscopic examination indicated that this was all black pepper, with less than the average proportion of hulls. Passed.

A.L.-350. *McCormick Pure Ground Black Pepper.* McCormick & Co., Inc., Baltimore, Md. No sand present; passed.

K.F.-1563. *Safe Owl Imported Oregano.* Safe Owl Products, Inc., Brooklyn, N. Y. The spice used so much in Italian cooking under the name of "Oregano" is marjoram (*Origanum majorana* L.). This sample was adulterated with stones and sand.

K.F.-1564. *Safe Owl Pure Black Pepper.* Safe Owl Products, Inc., Brooklyn, N. Y. Microscopic examination indicated that this was all pepper; passed.

W.M.-1136. *Spice.* Idle Wild Farm, Pomfret Center, Conn. This material was examined at the request of Idle Wild Farm, which used it in preparing wild rice stuffing for Cornish game hens. It was supplied to them as a "concentrated spice," but analysis showed that it was chiefly salt; a little sugar was also present, and some unidentified essential oil was adsorbed on the salt. Because it was not a spice, sample must be considered to have been adulterated.

K.C.-748. *Tulkoff's Hot Prepared Horse Radish, Pure.* Tulkoff's Horse Radish Products Co., Baltimore, Md. Labelled (in extremely small type): "Pure horseradish root, vinegar, salt, flavoring and less than 1/10 of 1% sulphur dioxide. If red—flavored with fresh beets." Analysis showed 0.46 per cent of salt. Since the old Connecticut standard⁹ defined "Prepared Horseradish" as

⁹Rules and Regulations relating to the Food and Drug Law of Connecticut, Revision of July 1, 1937, p. 92.

"Comminuted horseradish, with or without vinegar," and made no provision for added salt or artificial flavoring, sample was misbranded.

Spray Residues

Ninety-five samples of apple bark, apple juice, apples, chrysanthemums, juniper branches, lettuce, maple leaves, muck from a pond, peaches, rose bushes, shrubs, soil, spinach, turf, wine and yew were tested for pesticidal residues for the entomology, plant pathology and soils departments of this Station, the State Board of Fisheries and Game, the State Department of Health, golf course superintendents, tree surgeons, a veterinarian and private citizens. No residue could be found on 34 samples. The 61 samples giving positive reactions were the following:

9107 to 9110. *Apple Juice*. Dr. Philip Garman, Conn. Agr. Expt. Sta. Captan, respectively 0.03, 0.01, 0.00 and trace p.p.m.; methoxychlor, 0.30 p.p.m. in 9109; parathion, 0.02 p.p.m. in 9110.

4856 to 4861, 5555 and 5556. *Apples*. Dr. Philip Garman, Conn. Agr. Expt. Sta. Captan, 0.4 p.p.m. on 4858, 0.5 p.p.m. on 5555, trace or none on others; DDT, 1.1 p.p.m. on 4859; lead, 7.7 p.p.m. on 4860 and 4861; malathion, 0.5 p.p.m. on 4857, none on 4856 and 4858; methoxychlor, 1.9 p.p.m. on 4858 and 3.9 p.p.m. on 5555; parathion, 0.1 p.p.m. on 4859.

8845 to 8851 and 8874. *Apples*. Dr. Philip Garman, Conn. Agr. Expt. Sta. Captan, respectively 1.1, 0.7, 0.6, 0.4, 0.8, 0.7, 0.5 and 0.7 p.p.m.; DDT, 1.1 p.p.m. on 8851; EPN, 0.08 p.p.m. on 8845; lead, 8.9 p.p.m. on 8848; malathion, 9.4 p.p.m. on 8849, none on 8845, 8847 and 8850; methoxychlor, 10.2 p.p.m. on 8845, 9.4 p.p.m. on 8849 and 8.9 p.p.m. on 8850; parathion, less than 0.01 p.p.m. on 8851.

7211 and 7212. "*Better Times*" and "*Garnet*" *Roses*. Spaulding Gardens, Suffield, Conn. Mercury, 0.33 and 0.04 p.p.m. (dry basis).

7238 and 7239. *Juniper Branches*. Mrs. Frances Meyer, Conn. Agr. Expt. Sta. Lead on stem bark, 50 and 25 p.p.m.

8528 to 8530. *Muck from Pond in Berlin*. State Board of Fisheries and Game. Total arsenic, 12.2, 11.6 and 12.4 p.p.m.; dissolved arsenic, 0.45, 0.57 and 0.15 p.p.m.

8646 to 8649. *Peaches*. Dr. Philip Garman, Conn. Agr. Expt. Sta. 8646: EPN 0.2, thiram 0.2, p.p.m. 8647: Captan 1.9, parathion 0.01, p.p.m. 8648: Parathion 0.01, thiram 0.6, p.p.m. 8649: Parathion 0.01, phygon 0.1, p.p.m.

8699. *Peaches from Lyman Orchard, Middlefield*. Dr. Philip Garman, Conn. Agr. Expt. Sta. Thiram 2.1 p.p.m.

8790. *Shrubs*. George D. Whitney, D.V.M., Orange, Conn. Lead, 50-100 p.p.m.

6075. *Soil*. Dr. Patrick Miller, Conn. Agr. Expt. Sta. Mercury and trace of lead arsenate present.

6310. *Soil*. Dr. Roger Friend, Conn. Agr. Expt. Sta. Arsenic trioxide, 300 p.p.m.

6611. *Soil*. Mrs. James D. Sullivan, Hamden, Conn. Arsenic, 0.6, and lead, 25, p.p.m.

7126. *Soil*. Crestwood Tree Experts, Trumbull, Conn. Mineral oil: 0.02 per cent at 6 inch level, 0.01 per cent at 18 inch level.

7206 to 7209. *Soils from Greens of Wethersfield Country Club*. Donald MacKay, Jr., Hartford, Conn. Mercury, 32 to 176 p.p.m.

7214 and 7215. *Soils under "Better Times" and "Garnet" Roses*. Spaulding Gardens, Suffield, Conn. Mercury, 0.09 and 0.10 p.p.m.

7808 to 7810. *Spinach*. Dr. Richard Quinton, Conn. Agr. Expt. Sta. Diterex, 0.9, 8.4 and 16.7 p.p.m.

7812 to 7814, 7867 to 7869, 7958 to 7960 and 7981 to 7984. *Spinach*. Dr. Richard Quinton, Conn. Agr. Expt. Sta. Heptachlor: 15.9, 18.3, 76.1, 2.6, 3.5, 9.2, 1.2, 1.4, 3.6, 0.3, 0.4 and 0.8 p.p.m.

7139 and 7140. *Turf from Thirteenth Green, Yale Golf Course*. Harry Meusel, New Haven, Conn. Arsenic, lead and mercury present as follows:

	Good turf, Sample 7139			Wilted turf, Sample 7140		
	1" depth	2" depth	3" depth	1" depth	2" depth	3" depth
Arsenic, p.p.m.	25	50	40	20	50	15
Lead, p.p.m.	20	50	15	50	50	10
Mercury, p.p.m.	50	100	20	50	50	10

7219. *Yew Plant and Leaves*. Killen and Hall, Inc., Darien, Conn. Lead arsenate present.

Syrups

Two official samples of chocolate syrup, one grape-flavored syrup and one root beer fountain syrup were examined; all were misbranded:

K.F.-1668. *Cott Concentrated Pure Fruit Flavored Grape Syrup*. Cott Bottling Co., Inc., Manchester, N. H. Labelled: "Contents: Sugar, water, grape juice, artificial flavor, fruit acid, 1/10 of 1% Benzoate of Soda." Analysis showed: Ash, 129, K₂O, 19.0, and methyl anthranilate, 2.06, mg./100 cc.; ratio K₂O to Me anthranilate, 9.2; estimated per cent grape juice, 15. Not "pure fruit flavored" because the artificial flavor present overbalanced any flavor contributed by the grape juice; misbranded.

J.B.-191. *Poles Tip-Top Old Fashioned Root Beer Fountain Syrup*. Poles Products & Brewing Co., Hartford, Conn. Misbranded because the labelling was misleading and in part nearly illegible, since the "ROOT BEER" was in large blue capitals on a white background, the "Fountain Syrup" in small inconspicuous lettering, and the address "Hartford, Conn." in very small black letters on a brownish-red background at the very edge of the label.

E.C.-805 and K.C.-762. *Snow Crest Syrup Grade A Quality Double Strength Genuine Chocolate Flavor*. Snow Crest Beverages, Inc., Salem, Mass. Labelled: "Contains: sugar, dextrose, cocoa, water, salt, vegetable stabilizer, vanillin, an

artificial flavor, and less than 1/10 of 1% benzoate of soda for better keeping quality." Total solids 68.52 per cent. Misbranded because the manufacturer's name and address were not declared on the label.

In addition to the official samples, two samples of molasses were analyzed for the State Supervisor of Purchases. Both were purchased as U. S. Fancy grade, whose specifications called for: Brix gravity not less than 79; total sugar content not less than 63.5 per cent; sulfated ash not more than 6.75 per cent; sulfur dioxide not more than 200 parts per million; color not darker than Color Standard 1. Both samples were passed:

5910. *Wesco "A" Molasses.* Westbury Products Corp., Westbury, L. I., N. Y. Brix gravity 78.8; invert sugar, 44.09, sucrose, 23.95, total sugars, 68.04, and sulfated ash, 3.82, per cent; sulfur dioxide, 110 p.p.m.; color, fairly light.

5911. *Wesco "B" Molasses.* Westbury Products Corp., Westbury, L. I., N. Y. Brix gravity 78.6; invert sugar, 41.61, sucrose, 25.51, total sugars, 67.12, and sulfated ash, 4.44, per cent; sulfur dioxide, 190 p.p.m.; color, fairly light.

Vegetables

Twenty samples of sweet potatoes, six of white potatoes, one of carrots and one cucumber were submitted by the Commissioner; one other sample of carrots was purchased and analyzed by us for comparison purposes; and 18 samples of dried string beans were analyzed spectrographically at the request of H. G. M. Jacobson of the Soils Department of this Station. Twenty-eight samples were passed and 19 were adulterated or misbranded.

Sweet Potatoes

A number of the sweet potato samples were labelled and sold as "yams." The true yam is a tuber some varieties of which (*Dioscorea alata*, *cayenensis*, *esculenta*, *latifolia*, *rotundifolia* and *trifida*) are used as food in the West Indies but are probably not sold in the United States; it is entirely distinct from the sweet potato (*Ipomoea batatas*). However, because moist-fleshed highly colored varieties of the sweet potato such as the Porto Rican are quite commonly called "yams" in this country, objection was not taken to the labelling of any of these samples as "yams"; what they were picked up for was to check on whether their skins were artificially colored. Under the law failure to declare the presence of artificial color in or on any foodstuff constitutes misbranding, but in certain cases artificial coloring may not be used even if it is declared: When adding color to a food makes it "appear better or of greater value than it is," such addition constitutes adulteration regardless of whether it is declared or not. Because obviously the only reason there would be for dyeing the skins of sweet potatoes would be to make them "appear better or of greater value," all of the samples found to be artificially colored were classed as adulterated. Of the total of 20 sweet potato samples, six were passed while the skins of 14 were dyed red or orange. The brands are listed in Table 12.

White Potatoes

The first potatoes coming on the market each season usually have redder skins than those which appear in quantity later, and it is probably for this reason that red-skinned potatoes are more attractive to the average shopper than the brownish types. Certain varieties such as the "Red Bliss" are naturally

TABLE 12. SWEET POTATOES

No.	Manufacturer or distributor and brand	Coal tar dye	Remarks
K.C.-741	L. Bernstein & Sons, Bridgeport, Conn. <i>Yams.</i>	present	Color not declared; adulterated and misbranded.
K.C.-744	Carolina Yams Distributors, Williamston, N. C. <i>Dripping Honey Carolina Yams Kilm Dried Porto Rican.</i>	present	Color not declared; adulterated and misbranded.
K.C.-745	Carolina Yams Distributors, Williamston, N. C. <i>Dripping Honey Carolina Yams Kilm Dried Porto Rican.</i>	present	Color not declared; adulterated and misbranded.
K.C.-746	Carolina Yams Distributors, Williamston, N. C. <i>Dripping Honey Carolina Yams Kilm Dried Porto Rican.</i>	present	Color not declared; adulterated and misbranded.
K.C.-747	Carolina Yams Distributors, Williamston, N. C. <i>Dripping Honey Carolina Yams Kilm Dried Porto Rican.</i>	present	Color not declared; adulterated and misbranded.
K.C.-742	Louis Gimmino, Bridgeport, Conn.	present	Color not declared; adulterated and misbranded.
K.F.-1548	J. J. Davidson Jr., Inc., Bethel, N. C. <i>Yams.</i>	present	Color not declared; adulterated and misbranded.
K.F.-1737	Everybody's Market, Waterbury, Conn.	present	Color declared; adulterated.
W.M.-1065	Gordon Fruit & Produce Co., New Haven, Conn. <i>Yams.</i>	present	Color not declared; adulterated and misbranded.
K.C.-758	Levy-Fontenot, Lewisburg, La. <i>Pelican Louisiana Porto Rican Yams, Hand Selected, Hand Packed, Kilm Dried.</i>	absent	Passed.
K.F.-1579	Lewis Co., Inc., Waterbury, Conn.	present	Color not declared; adulterated and misbranded.
W.M.-1063	Peter McClee, New York, N. Y.	absent	Passed.
K.C.-743	Musante, Berman & Steinberg Co., Inc., Bridgeport, Conn. <i>Yams.</i>	absent	Passed.
K.F.-1576	Musante, Berman & Steinberg Co., Inc., Bridgeport, Conn.	present	Color not declared; adulterated and misbranded.
K.F.-1577	Musante, Berman & Steinberg Co., Inc., Bridgeport, Conn.	present	Color not declared; adulterated and misbranded.
K.C.-811	Robin's Best Golden Sweets, New York, N. Y. <i>Solars.</i>	absent	Passed.
K.C.-740	Supreme Celery Co., Bridgeport, Conn. <i>Yams.</i>	absent	Passed.
W.M.-1145	Carl Williams Wholesale Fruit & Produce, New Haven, Conn. <i>Julie Yams.</i>	present	Color not declared; adulterated and misbranded.
W.M.-1146	Carl Williams Wholesale Fruit & Produce, New Haven, Conn. <i>Julie Yams.</i>	present	Color not declared; adulterated and misbranded.
W.M.-1064	Lewis Zwick & Son, New York, N. Y. <i>B & M Carolina Yams.</i>	absent	Color not declared; adulterated and misbranded.

red-skinned, but recently a practice has started of adding to the appeal of non-red varieties by dyeing them red. Artificial coloring of this sort constitutes adulteration for the same reason as in the case of sweet potatoes. Of six samples of white potatoes submitted by the Commissioner, the color in two was wholly natural while the following four contained coal-tar dye and were consequently adulterated:

K.C.-771. Miami Beach Red South New Potatoes, U.S. No. 1. Tropical Agriculture Coöperative Association, Goulds, Fla.

K.C.-772. New Potatoes. Ray's Fruit & Vegetable Market, Bridgeport, Conn. (This was a mixed lot, of which two potatoes out of five were naturally colored while the skins of the others were dyed pink.)

K.C.-852. U.S. No. 1 Red Bliss Potatoes. Color Added. Klein Packing Co., Philadelphia, Pa. These were of the "Red Bliss" variety as claimed, and the presence of artificial color was declared, but sample was nevertheless adulterated for the reasons stated above.

W.M.-1144. U.S. No. 1 South Florida New Potatoes. Carl Williams Wholesale Fruit Produce, New Haven, Conn. The skins of these potatoes were naturally red, but the redness had been accentuated with undeclared coal tar dye.

Other Vegetables

K.C.-770, Cucumber, from Severance Market, Stratford, Conn., had a wax coating but was not dyed; it was passed.

K.C.-789, Green Top Brand Fresh Carrots, packed and shipped by Trautmann Bros. Co. of Laredo Texas Inc., Laredo, Texas, was labelled: "For better taste! Mineralized! For better health!" To check on whether these carrots did in fact contain a higher proportion than usual of mineral elements they were analyzed spectrographically and the results compared with normal values as given in U.S.D.A. Miscellaneous Publication 369,¹⁰ as follows:

	Found, per cent (dry basis)	Average for carrots, per cent (dry basis)
Potassium	2.85	2.10
Calcium	0.20	0.40
Magnesium	0.14	0.17
Phosphorus	0.33	0.33
Iron	0.011	0.018
Aluminum	0.013	.....
Sodium	0.32	1.61
Manganese	0.0014	0.0031
Copper	0.0017	0.0011
Boron	0.0040	0.0025

This comparison shows that the only element present in even slightly higher proportion in these carrots was potassium; on the face of it they would appear to have been actually deficient in sodium, but comparison with the results

¹⁰U. S. Dept of Agriculture Misc. Pub. 369, *The Mineral Composition of Crops with Particular Reference to the Soils in Which They Were Grown* (March 1941).

obtained below on 7424 indicated that the U.S.D.A. value for this element was probably in error. Misbranded because the "Mineralized!" claim was false.

7424, *Bonita Brand Carrots*, shipped by F. H. Vahlsing, Inc., New York, N. Y., was purchased and analyzed for comparison purposes in judging the "Mineralized!" claim of *K.C.-789* above; it bore no special claims. Analysis showed (dry basis): Potassium, 2.40; calcium, 0.15; magnesium, 0.12; phosphorus, 0.22; iron, 0.009; aluminum, 0.010; sodium, 0.45; manganese, 0.0028; copper, 0.0020, and boron, 0.0035, per cent. All of these figures were quite close to those reported in Miscellaneous Publication 369 except for the sodium, and most of them were even closer to the values found for *K.C.-789*. It was because the U.S.D.A. sodium figure was 3.7 times as high as the average value found for these samples, and because sodium contamination is notoriously difficult to avoid, that the U.S.D.A. value for this element was suspected of being erroneous.

The 18 dried string bean samples were analyzed for Mr. Jacobson of our Soils Department in connection with a research project, but the maximum, minimum and average values obtained are reproduced herewith as a contribution to the published record of the mineral composition of string beans:

	Maximum, per cent	Minimum, per cent	Average, per cent
Potassium	3.02	2.20	2.55
Calcium	0.79	0.49	0.62
Magnesium	0.36	0.25	0.31
Phosphorus	0.44	0.34	0.40
Manganese	0.004	0.002	0.003
Iron	0.039	0.020	0.028
Aluminum	0.012	0.004	0.006
Zinc	0.078	0.021	0.040
Sodium	0.15	0.04	0.08
Copper	0.0014	0.0010	0.0012
Boron	0.0059	0.0033	0.0044

Vinegar

Seventeen samples of cider vinegar, four of red wine vinegar and two of red-wine-flavored distilled vinegar were examined for the Commissioner; in all, 16 samples were passed and seven were adulterated or misbranded.

Analyses of the cider vinegars are given in Table 13; 14 of these were passed and three were adulterated and misbranded.

The wine vinegars were the following; one was passed and three were misbranded:

K.C.-769. Grisdale Brand Strictly Fancy Quality Pure Wine Vinegar. Gris-tede Bros., Inc., New York, N. Y. Total solids, 1.48, ash, 0.15, total acidity (as acetic acid), 5.05, and tartaric acid, 0.048, gm./100 cc.; no coal-tar dye. Probably reduced with water to 5% acidity, but passed.

K.C.-830 and 831. Progresso Pure Wine Vinegar Reduced with Water to 5% Acidity. Uddo & Taormina Co., Brooklyn, N. Y. Average analysis was: Total solids, 1.52, ash, 0.11, total acidity (as acetic acid), 5.03, and tartaric acid,

TABLE 13. CIDER VINEGAR

No.	Manufacturer or distributor and brand	Total solids, gm./100 cc.	Total acidity, gm./100 cc.	Caramel	Remarks
K.C.-752	Abbey Garden, Inc., New York, N.Y. <i>Abbey Garden</i>	0.80	5.05	absent	Diluted vinegar not so labelled; adulterated and misbranded.
K.C.-767	Abbey Garden, Inc., New York, N.Y. <i>Abbey Garden</i>	0.69	4.94	absent	Diluted vinegar not so labelled; adulterated and misbranded.
A.L.-328	Flagmaid Food, Inc., Stamford, Conn. <i>Flagmaid</i>	...	4.14	absent	Labelled "Reduced to 4% acidity"; passed.
A.L.-336	Gaer Bros., Inc., Hartford, Conn. <i>Suncrest Ripe Apple</i>	...	4.16	....	Labelled "Reduced with water to 40 grain strength"; passed.
K.C.-768	Gristede Bros., Inc., New York, N.Y. <i>Gristdale Strictly Fancy Quality</i>	1.02	5.45	absent	Diluted vinegar not so labelled; adulterated and misbranded.
A.L.-334	Hartford Sugar Co., Hartford, Conn. <i>Sugar Heart</i>	...	4.06	....	Labelled "Reduced with water to 4% acidity"; passed.
A.L.-340	Francis H. Leggett & Co., New York, N.Y. <i>Premier Pure Full Strength</i>	1.70	5.09	absent	Labelled "Reduced with water to 4% acidity"; passed.
A.L.-315	National Retailer-Owned Grocers, Inc., Chicago, Ill. <i>Tastevell Reduced</i>	...	4.14	....	Labelled "Reduced with water to 4% acidity"; passed.
A.L.-330	P.G.A. Food Stores, Waterbury, Conn. <i>P.G.A. Finest</i>	...	4.33	....	Labelled "Reduced with water to 4% acidity"; passed.
A.L.-333	Frank Pepe, Waterbury, Conn. <i>Hi-Glo</i>	...	4.14	....	Labelled "Reduced with water to 4% acidity"; passed.
A.L.-337	V. Tenedine & Sons, Inc., North Haven, Conn.	...	4.15	....	Labelled "Reduced with water to 4% acidity"; passed.
A.L.-338	V. Tenedine & Sons, Inc., North Haven, Conn.	...	4.14	....	Labelled "Reduced with water to 4% acidity"; passed.
A.L.-327	V. Tenedine & Sons, Inc., North Haven, Conn. <i>Tenedine's</i>	...	4.14	....	Labelled "Reduced with water to 4% acidity"; passed.
A.L.-329	V. Tenedine & Sons, Inc., North Haven, Conn. <i>Tenedine's</i>	...	4.14	absent	Labelled "Reduced to 4% acidity"; passed.
A.L.-331	V. Tenedine & Sons, Inc., North Haven, Conn. <i>Tenedine's</i>	...	4.20	absent	Labelled "Reduced to 4% acidity"; passed.
A.L.-332	V. Tenedine & Sons, Inc., North Haven, Conn. <i>Tenedine's</i>	...	5.25	absent	Labelled "Reduced to 5% acidity"; passed.
A.L.-335	Universal Food Stores, Inc., Norwich, Conn. <i>Thames Valley</i>	...	4.11	absent	Labelled "Reduced to 4% acidity"; passed.
		...	5.24	absent	Labelled "Reduced with water to 5% acidity"; passed.

0.041, gm./100 cc.; no coal-tar dye. Misbranded because a vinegar diluted with water is not a "pure" vinegar.

A.L.-314. *Regina Ruby Red Wine Vinegar, Full 60 Grain*. Ellena Bros., Etiwanda, Calif. Total Solids, 1.51, ash, 0.23, total acidity (as acetic acid), 6.05, and tartaric acid, 0.03, gm./100 cc.; no coal-tar dye. Diluted with water to 6 per cent acidity; misbranded because not specifically labelled as diluted.

The red-wine-flavored vinegars were the following; one was passed and one was misbranded:

A.L.-308. *P.G.A. Brand Red Wine Flavored Distilled Vinegar*. John Bozuto & Sons, Inc., Waterbury, Conn. Labelled: "Contains: Distilled Vinegar, Red Wine. Reduced by Water to 5% Acidity." Analysis showed: Total solids, 0.45, ash, 0.04, total acidity (as acetic acid), 5.26, and tartaric acid, 0.027, gm./100 cc.; alcohol, 0.73 per cent by volume; no coal-tar dye. Passed.

A.L.-312. *Progresso Red Wine Flavored Distilled Vinegar*. Uddo & Taormina Co., Brooklyn, N. Y. Labelled "Contains distilled vinegar, red wine, reduced with water to 5% acidity." Analysis showed: Total solids, 0.57, ash, 0.062, and total acidity (as acetic acid), 5.09, gm./100 cc.; tartaric acid, trace; no coal tar dye. Misbranded because the label was misleading in that the words "Red Wine Flavored" and "Vinegar" were in large capitals and the "Distilled" in much smaller and less conspicuous type.

Water

Ten samples of well water and one of water from a fishpool were examined for a physician, a veterinarian and private citizens. This Station does not make sanitary analyses of drinking water nor bacteriological tests of any other sort; the only State laboratory equipped to perform this type of work is the Laboratory Services Section of the State Department of Health in Hartford. The eleven samples in question were for the most part tested only for pH and hardness; since the results were not of general interest they are not reported here.

Miscellaneous

Dog Foods

Two samples of dog food submitted by the Commissioner were tested for compliance with specifications and for the presence of nitrite; one sample was passed and one was misbranded:

K.C.-787. *Red Chief Dog Food*. Foster Canning, Inc., Napoleon, Ohio. Protein: Declared, 9 per cent minimum; found, 10.06 per cent. Moisture: Declared, 74 per cent maximum; found, 73.77 per cent. Test for nitrite negative. Passed.

K.C.-786. *Super Value Dog Food*. S. F. Mighten Co., Bedford, Ohio. Dry matter: Declared, not less than 26 per cent; found, 23.88 per cent. Protein: Declared, not less than 10 per cent; found, 10.31 per cent. Test for nitrite negative. Deficient in total solids.

Soy Sauce

One official sample of soy sauce was picked up because it bore no labelling, and two unofficial samples were submitted by the Commissioner for comparison purposes.

Because soy sauce is not a standardized food its ingredients must be listed on the label. Originally soy sauce was prepared in China as follows: A mash of soybeans and roasted wheat was fermented, then dried, ground, placed in a strong brine, and submitted to a secondary fermentation for one or two years, after which the supernatant liquid was decanted off. The liquid which came off first was "thin soy sauce"; the remaining liquid was mixed with molasses and other ingredients and became "thick soy sauce." American manufacturers have varied this process to a greater or less degree; the "thin" sauce is the only variety that normally appears on the American market as a finished product, the "thick" sauce being employed chiefly as an ingredient in the manufacture of Worcestershire sauce.

U. S. Government analyses have indicated the following average composition for thin soy sauce now on the market: Total solids, 40.07; ash, 21.66; salt, 20.55; sucrose, 1.7; invert sugar, 7.3, and protein, 2.43, per cent. Analyses of the three samples received from the Commissioner in 1956 were as follows:

7486. *Chun King Soya Sauce*. Chun-King Sales, Inc., Duluth, Minn. Total solids, 43.11; ash, 14.15; salt, 13.49; sucrose, 0.00; invert sugar, 3.04, and protein, 19.46, per cent.

7487. *La Choy Sauce*. La Choy Food Products Division, Beatrice Foods Co., Archbold, Ohio. Total solids, 37.95; ash, 18.44; salt, 16.40; sucrose, 0.00; invert sugar, 0.00, and protein, 13.38, per cent.

W.M.-1156. *Soy Sauce*. Yee Loong Co., New York, N. Y. Total solids, 19.92; ash, 14.44; salt, 12.88; sucrose, 0.00; invert sugar, 1.03, and protein, 3.25, per cent.

This last sample was considered to be adulterated with water because of its abnormally low solids content; it was also misbranded because it bore no ingredient statement nor manufacturer's name and address. It consisted of six unlabelled five-gallon cans found in stock of a New Haven restaurant.

Tobacco

In 1955 a physician who thought that the symptoms of one of his patients resembled those of subacute lead poisoning submitted to us for lead analysis a number of substances used by that patient. Among these was a sample of pipe tobacco¹¹ which was found to contain 20 parts per million of lead and 6 p.p.m. of arsenic. This unexpected finding aroused our curiosity as to whether such quantities of these two elements were a normal occurrence in smoking tobacco, and at our request the Food and Drug Commission procured 26 samples of pipe tobacco representing as many different brands, which we analyzed with results as shown in Table 14. Included in the table are also three samples received from a private citizen.

If these results are representative of the composition of pipe tobacco now on the American market—and we have no reason to believe that they are not—such tobacco contains on an average about 27 parts per million of lead arsenate plus another 23 p.p.m. of lead in some other form. Regulations under the Food, Drug and Cosmetic Act set maximum limits for lead and arsenic in food at 7 p.p.m. of lead and half as much arsenic (expressed as the trioxide). Only one of the 29 samples (the Latakia sample W.S.-586) fully met these

¹¹Conn. Agr. Expt. Sta. Bul. 609, 26 (1957) (Sample 5511).

TABLE 14. LEAD AND ARSENIC IN PIPE TOBACCO

No.	Manufacturer or distributor and brand	Total lead, p.p.m.	Arsenic trioxide, p.p.m.	Lead arsenate (PbHAsO ₄), p.p.m.	Lead in other forms, p.p.m.
W.S.-571	American Tobacco Co., Inc. <i>Blue Bear Rough Cut</i>	25	7.0	25	10
W.S.-578	American Tobacco Co., Inc. <i>Burley and Bright, Half and Half</i>	40	10.8	38	17
W.S.-564	American Tobacco Co., Inc. <i>Veteran Long Cut</i>	45	6.8	24	31
W.S.-577	Brown & Williamson Tobacco Corp., Louisville, Ky. <i>Sir Walter Raleigh</i>	5	4.6	8	0 ¹
W.S.-574	J. D. Dill Co., Richmond, Va. <i>Dill's Best</i>	43	8.0	28	26
W.S.-566	Larus & Brother Co., Inc., Richmond, Va. <i>Holiday Pipe Mixture</i>	24	1.8	6	20
W.S.-565	Liggett & Myers Tobacco Co. <i>Granger Pipe</i>	25	7.8	27	9
W.S.-581	Liggett & Myers Tobacco Co. <i>Velvet Pipe & Cigarette</i>	40	5.0	18	30
W.S.-580	P. Lorillard Co., Kentucky <i>Briggs Pipe Mixture</i>	75	12.5	44	49
W.S.-582	P. Lorillard Co., Kentucky <i>Union Leader Smoking</i>	41	4.3	15	32
W.S.-568	John Middleton, Philadelphia, Pa. <i>Walnut Mild Blend</i>	30	4.8	17	20
W.S.-569	Philip Morris & Co., Ltd., Inc., New York, N.Y. <i>Barking Dog Smoking Mixture</i>	33	13.0	46	6
W.S.-579	Philip Morris & Co., Ltd., Inc., New York, N.Y. <i>Bond Street Pipe</i>	40	6.9	24	26
W.S.-567	Philip Morris & Co., Ltd., Inc., New York, N.Y. <i>Country Doctor Pipe Mixture</i>	54	13.5	47	26
W.S.-575	Philip Morris & Co., Ltd., Inc., New York, N.Y. <i>Revelation Smoking Mixture</i>	55	11.3	40	31
W.S.-589	Owl Shop, New Haven, Conn. <i>Burley 51428</i>	15	5.6	20	3
W.S.-586	Owl Shop, New Haven, Conn. <i>Latakia</i>	3	1.6	5	0 ²
W.S.-583	Owl Shop, New Haven, Conn. <i>Lockwood's (Aromatic) "APIETA" Pipe Mixture</i>	35	6.2	22	22
W.S.-587	Owl Shop, New Haven, Conn. <i>Sam Bright Pickens</i>	85	12.7	45	58
W.S.-584	Owl Shop, New Haven, Conn. #61	36	7.5	26	20
W.S.-588	Owl Shop, New Haven, Conn. #2166	20	7.2	25	5
W.S.-585	Owl Shop, New Haven, Conn. <i>Weed's Cavendish</i>	19	6.0	21	6
W.S.-576	R. J. Reynolds Tobacco Co., Winston-Salem, N. C. <i>Prince Albert Long Burning Pipe and Cigarette</i>	22	4.8	17	12
W.S.-573	United States Tobacco Co., Richmond, Va. <i>Model T</i>	34	8.6	30	16
W.S.-570	United States Tobacco Co., Richmond, Va. <i>Old Briar Pipe Mixture</i>	50	5.5	19	38
W.S.-572	United States Tobacco Co., Richmond, Va. <i>Tweed</i>	34	2.1	7	30
6994	Yale Co-Op., New Haven, Conn. <i>Demicotized</i>	68	14.8	52	37
6992	Yale Co-Op., New Haven, Conn. <i>Heine's Blend</i>	59	14.4	51	29
6993	Yale Co-Op., New Haven, Conn. <i>Onico Demicotized</i>	63	9.0	32	44
	Maximum	85	14.8	52	58
	Minimum	3	1.6	5	0
	Average	39	7.4	27	23

¹Excess arsenic trioxide 2 p.p.m.

²Excess arsenic trioxide 0.2 p.p.m.

limits, although the "Sir Walter Raleigh" brand (W.S.-577) came close to doing so. Tobacco is not of course a food, and is probably not subject to the Food, Drug and Cosmetic Act. Further, except in the case of chewing tobacco only so much of the lead and arsenic present as is volatilized into the smoke should be capable of being ingested and causing a health problem. In this connection it should be noted that qualitative tests on some of the present samples appeared to indicate that none of the lead *was* carried over into the smoke. Nevertheless it would seem to us that any thorough investigation of the potential hazards of smoking should not overlook the possible contribution of arsenic, even if the possibility of lead poisoning may be dismissed (except as it may affect tobacco chewers). This same conclusion has been reached by others.¹²

In addition to the above samples, eight samples of ground tobacco were analyzed for a tobacco growing corporation in connection with a crop investigation. Five of these (5077 to 5081) were analyzed only for nicotine; percentages found ranged from 0.87 to 1.49 and averaged 1.23. Analyses of the other three samples (5082 to 5084) averaged 0.018 per cent manganese and 0.56 per cent sulphur.

Other Miscellaneous Substances

Fifteen other official samples of miscellaneous foods and nonfood substances were examined; nine samples were passed and six were adulterated, misbranded or otherwise objectionable:

K.C.-755. Baker's Color Decorations Brownies. Baker Extract Co., Springfield, Mass. Labelled: "To decorate CAKES CANDIES ICE CREAM—Ingredients Chocolate, Artificial Flavor, U.S. Certified Food Color, Confectioners Glaze. Processed with alkali." Passed.

K.F.-1591. Caravan Egg Shade. Caravan Products Co., Inc., New York, N. Y. Labelled: "Mixture of Certified Coal Tar Color—20% Pure Dye—Ingredients: Yellow 5, Orange 1, and Salt (as diluent)." This sample represented six one-pound cans of dye found in possession of the New York Bakery of Waterbury. None of these cans bore any lot number, and inquiry of the U.S. Food and Drug Administration confirmed that this failure to carry a lot number invalidated any certification that might otherwise have applied; further, because evidence had been found that F. D. & C. Orange No. 1 (Orange 1) was toxic in sufficient concentration, no batch of dye containing Orange 1 had been accepted for certification as a food color subsequent to February 23, 1956.

K.F.-1652. Dietetic Artificially Sweetened Chocolate Tasting Flav-r-Straws. Frontier Foods Corp., Los Angeles, Calif. This sample consisted of two cartons of straws whose inner surfaces bore coatings intended to impart a sweet chocolate flavor to milk sipped through them. The labels read in part as follows: "The Flavor is inside the Straw—Natural and Imitation Chocolate—*Magic Flav-r Straws MAKES PLAIN MILK TASTE LIKE CHOCOLATE MILK* Put a Flav-R-Straw in a glass of milk—dunk up and down several times—then sip.—Contents: natural and artificial chocolate flavoring, artificial coloring, 7% of SACCHARINE (A NON-NUTRITIVE, ARTIFICIAL SWEETENER, which should be used only by persons who must restrict their intake

of ordinary sweets). Each straw contains less than one calorie per drink. (No carbohydrates or protein. Trace of fats.)" Adulterated because it was confectionery and contained a synthetic artificial sweetener.

W.M.-1247. Griffiths Grade A Pep. Griffiths Laboratories, Inc., Chicago, Ill. Labelled: "A mixture of flours, processed from wheat & corn with dextrose." Analysis showed: Water, 12.16; lactose, less than 6.3, and dextrose, less than 4.0, per cent. This sample was being used as a frankfort filler, and had been picked up with a number of samples of dry skim milk in the investigational study of the percentages of lactose and casein in commercial dry skim milk referred to on page 33; for this reason it was passed without further analysis.

J.S.-380. Hep Safe-T-Spray Oven Cleaner. Bostwick Laboratories, Inc., Bridgeport, Conn. This sample had been taken as a result of a report from the Boston Station of the U. S. Food and Drug Administration that a Boston housewife had complained that she had been "almost asphyxiated" as a result of using "HEP" (which she said had a "very pronounced ether odor") to clean her oven. Analysis showed the product to contain a mixture of methylene chloride and a solid organic plastic whose infrared curve resembled that of polyethylene. Methylene chloride is not inflammable, but it is stated that it is "very dangerous to the eyes," that its vapors can cause dizziness and nausea, and that "It has been used as an anesthetic in Europe and is still used for local anesthesia."¹³ Therefore, while "Hep Safe-T-Spray Oven Cleaner" does not come under the Food, Drug and Cosmetic Act and is consequently not subject to the penalties of that law, in our opinion it is too dangerous a product for promiscuous sale regardless of the fact that the label cautions against inhaling the vapors and getting spray into the eyes.

E.S.-7851. Ice Cream Stabilizer. Palace of Sweets, New Haven, Conn. Analysis showed this to be a mixture of starch and sucrose; passed.

J.B.-92. Idle Wild Farm's Rock Cornish Game Soup with Wild Rice and Sherry Wine. Idle Wild Farm, Inc., Pomfret Center, Conn. Labelled: "Ingredients: Rock Cornish Game Hen Broth, Wild Rice, Monosodium Glutamate, Rock Cornish Game Hen fat, Sherry Wine and spices." This sample was examined at the request of the distributors, who wished to know whether the company making it to their order was putting in the claimed ingredients, and who also desired an opinion on its flavor. Analysis showed that no alcohol was present; this proved that the finished soup contained no sherry wine as such but did not eliminate the possibility that the alcohol from a small proportion of wine added during preparation of the soup had been volatilized during the boiling process. In any case the soup contained no meat and so excessive a quantity of fat as to be unappetizing, although the odor was not objectionable.

K.C.-793. Imitation Strawberry Flavor Kool-Shake. Perkins Products Co., Chicago, Ill. Labelled: "Contains dextrose, vegetable stabilizers, salt, artificial flavor (preserving stabilizer added), and U.S. certified color.—Mix for making Thick & Foamy MILK SHAKES Just Add To Milk and Sugar—SHAKE." Test for saponin negative; passed.

R.W.-386. Lamco Air Refresher. Lamco Products, Fall River, Mass. Labelled: "An effective perfume deodorant oil containing an aqueous solution of formaldehyde and fragrant perfume. Disseminates a pleasing fragrance and

¹²H. S. Satterlee, *New Eng. J. Med.*, 254, 1149 (1956); 258, 99 (1958).

¹³N. Irving Sax, *Handbook of Dangerous Materials* (1951).

is recommended for counter-acting foul and stuffy odors. Completely deodorizes and leaves a truly pleasant after odor. Is recommended for use in homes, hotels, hospitals." Analysis showed 1.00 gm./100 cc. of formaldehyde.

Formaldehyde-type deodorants work by temporarily paralyzing the sense of smell. Passed.

K.C.-775. Ligua-Sweet. Forward House, Inc., New York, N. Y. Labelled in part: "Handy Drop-At-A-Time Squeeze Bottle—New! Non Fattening! gives instant sweetness to FOODS DRINKS—1 drop sweetens like a tsp. of sugar—Contents have sweetness of 540 tps. of sugar—contains NO CALORIES!" Misbranded because the percentage of saccharin was not declared as Federal Regulation 125.07 required.

K.F.-1558 and W.M.-1259. Made Rite Starch Free as a Chip Can Be Potato Chips. Made Rite Potato Chips, Fall River, Mass. Labelled: "Ingredients Potatoes, Vegetable Oil, Salt Added." Analysis showed 28.10 per cent of starch. Since the average total carbohydrate content of potato chips is 46.7 per cent,¹⁴ and nearly all of that is starch, there could be some justification for the claim that these chips were as starch-free as any potato chip could be; therefore, although the statement was considered somewhat misleading, the samples were passed.

A.L.-325. Miracle Pan Kote. Hanlin Food Products, New York, N. Y. This was a preparation intended for greasing baking pans which was labelled: "Prepared from oils and emulsifier, no vegetable oil." Analysis showed the presence of 2.00 per cent of mineral oil. Adulterated because it is forbidden to add any quantity of mineral oil to a food.

J.B.-154. Plate and Spoon. Connecticut House, Inc., Riverton, Conn. This company was manufacturing various pewter utensils, supposedly made from an alloy of 90 per cent tin, 8.5 per cent antimony and 1.5 per cent copper; they wished to be reassured that there could be no health hazard from storing and serving food in this material. The samples submitted were an 8-inch plate and a spoon; analyses were as follows:

	<i>Plate, per cent</i>	<i>Spoon, per cent</i>
Tin	95.60	95.25
Antimony	4.40	4.75
Copper and lead	traces	traces

"Pewter" originally meant a tin-lead alloy; ancient Roman pewter contained four parts of tin to one of lead. In modern times the term has been applied to tin hardened with a few per cent of other metals added to make it serviceable; the usual range of composition is stated to be: Tin 90-94, antimony 5-7, and copper 1-3, per cent.¹⁵ The supposed composition of the pewter made by Connecticut House, Inc. fell within this range with the exception that there was a slight (1.5 per cent) excess of antimony, but our analysis showed that the actual composition of the finished articles was about 95.4 per cent tin and 4.6 per cent antimony, with no copper at all. We had no reason to

¹⁴Conn. Agr. Expt. Sta. Bul. 373 (1934).

¹⁵Thorpe's Dictionary of Applied Chemistry, 4th Ed., 1954, XI, 618.

doubt the good faith of the manufacturers as to the proportions of metals they were using, and believed that the explanation for the discrepancy was that when the metals were melted together the copper did not stay mixed with the tin but settled to the bottom of the pot and consequently was not poured out with the tin-antimony alloy when the castings were made. It was recommended that a stirrer be installed in the pot to overcome this difficulty.

From a health standpoint the fact that these utensils contained so high a proportion of tin and no lead was all to the good, since tin is one of the least toxic of metals. It was not believed that the momentary contact of food during eating with a plate, fork or spoon made of this alloy could lead to any measurable absorption of antimony. The manufacturers were therefore advised that we saw no objection to the sale of such utensils—particularly if cups or soup bowls (which could remain in longer contact with hot liquids) were not also made from this alloy.

K.F.-1665. Unknown Material found with California Oranges. Analysis showed this substance to be silica gel, probably added to absorb excess moisture and so help to keep the oranges from molding. Since it was nontoxic the sample was passed.

In addition to the official and unofficial samples listed previously, 31 miscellaneous samples were examined for the State Department of Health, the Waterbury Health Department, the Hamden and New Haven police, the North Haven school cafeteria system, a coroner, a physician, veterinarians and private citizens; 23 of these samples were passed and 8 were objectionable or not what they were supposed to be. The following may prove of interest:

8554. Black Tar-Like Material. Miss Jane Regan, Forestry Dept., Conn. Agr. Expt. Sta. This material softened over a wide range of temperature and failed to melt completely at 100°C.; it was insoluble in hot alcohol. Not ambergris.

8482. Boiler Compound. Leo L. Lieberman, D.V.M., Waterford, Conn. Analysis showed this to be a concentrated solution of sodium carbonate containing tannic acid and a red dye.

8616. Deposit on African Violet Pots. Mrs. E. B. Barghoorn, New Haven, Conn. This deposit proved to be calcium sulphate (gypsum).

9598. Florida Orange Stik. Orange Products Sales, Inc., Winter Haven, Fla. Labelled: "Contains natural Vitamin 'C'—Ingredients: Water, Concentrated Orange Juice, Sugar & Stabilizer—U. S. Certified Color—A FRUIT ICE MADE WITH ORANGE JUICE CONCENTRATE." This sample was submitted by the North Haven school cafeteria system, which wished to know how its vitamin C content compared with that of fresh orange juice. Analysis showed that the melted "Stik" had a volume of 72 cc. and contained 17 mg./100 cc. of ascorbic acid (vitamin C). Since fresh orange juice contains about 48.5 mg./100 cc. of ascorbic acid, one "Stik" contained 34 per cent as much vitamin C as an equal volume of orange juice.

7253. Fluorescent Lighting Tube. State Dept. of Health. The broken fragments of this tube were submitted for testing for the presence of the toxic element beryllium. Spectrographic analysis showed no beryllium. The major element in the phosphor was antimony; traces of lead and mercury were also present.

5702. *Lubricating Oil*. Johanna Waldemar, M.D., New Haven, Conn. This oil was suspected of having skin-irritant properties, but analysis showed that it was a straight petroleum oil with no additives.

7952. *Material Suspected of being Soot*. Eli Schwartz, New Haven, Conn. This material had been settling on articles in Mr. Schwartz's hardware store, and he suspected it might be soot from the chimney of some plant burning soft coal. While it was quite black, examination showed that the material was not soot; two-thirds of it was sand, the balance being miscellaneous trash such as leaves, a feather, etc. It was believed to be road dirt.

7978. *Motor Oil from Crankcase*. James J. Corrigan, New Haven, Conn. This oil was colored bright red with an oil-soluble dye; it was suspected that someone had slipped the dye into Mr. Corrigan's crankcase as a prank to suggest the blood which he as coroner was supposed to encounter frequently.

8598. *Paint from Baby's Crib*. Mrs. Morton W. Sias, Branford, Conn. Analysis showed this paint to contain lead as well as titanium and zinc.

8147. *Paint from Swimming Pool*. Mrs. Vera Dwyer, New Haven, Conn. Analysis showed the pigments to be chiefly zinc oxide, white lead and titanium dioxide.

6299. *Piece of Plastic*. Health Dept., Waterbury, Conn. This sample was a portion of a mouthpiece of a toy fire; it had been submitted because its strong green fluorescence had raised a suspicion that it might poison a child who stuck it in his mouth. Analysis showed that the plastic was completely insoluble in boiling water; for this reason no hazard was involved in its use. The fluorescence was due to zinc sulphide.

7785. *White Material*. Police Dept., New Haven, Conn. This material had been thrown on the lawn of the complainant by a slightly deranged neighbor; it proved to be only cooking fat which had been used for frying.

DRUGS

Barbiturates

Four samples of barbiturate tablets and one of capsules were examined for the Commissioner, and three other samples of tablets and one of a powder were tested for the New Haven and Stratford police and the superintendent of Long Lane School for Girls in Middletown. All of these represented cases of illegal possession:

6518. *Crushed Pill Fragments*. Long Lane School, Middletown, Conn. These were found in possession of an inmate; the material was colored pink and gave positive tests for aspirin and a barbiturate.

W.S.-592. *Diane Shots*. Police Dept., Milford, Conn. This sample consisted of 12 green heart-shaped tablets that were identified as "Dexamyl" tablets containing 0.50 grain of amobarbital.

7549. *Four White Pills*. Elizabeth Carberry, Shelton, Conn. These pills were of two sizes; both gave positive tests for barbiturates.

E.S.-7758. *Greenish-Blue Pills*. Richard S. Bagnall, M.D., Health Officer, Bloomfield, Conn. These were found in possession of school children; analysis showed them to be 0.30 grain phenobarbital pills.

6297. *Powder*. Police Dept., New Haven, Conn. Aspirin and a barbiturate present.

7192. *Small Grayish-Green Tablet*. Police Dept., New Haven, Conn. Test for barbiturates positive.

W.S.-591. *Sodium Amytal 3 Grain*. Police Dept., Milford, Conn. This sample consisted of six greenish-blue capsules; analysis showed 2.92 grains of sodium amobarbital per capsule, verifying the claimed composition.

J.S.-398. *Tablets in Bottle Bearing Defaced "Amytal" Label*. Walter Ratkowski, Bristol, Conn. This bottle contained two sizes of tablets; both were, however, not "Amytal" but phenobarbital tablets.

J.S.-399. *Tablets in Unlabelled Brown Bottle*. Walter Ratkowski, Bristol, Conn. This bottle also contained two sizes of phenobarbital tablets.

Narcotics

Sixty-six miscellaneous unofficial samples were analyzed for the presence of narcotics at the request of the Bridgeport, Fairfield, Hamden, Milford, New Haven, Norwalk and Stamford police. In 10 of these samples no narcotic was detected, while 43 contained heroin (diacetylmorphine hydrochloride), 12 marijuana (*Cannabis sativa*) and one opium.

Veterinary Medicines

One official and three unofficial samples of veterinary preparations were analyzed for the Commissioner, the Connecticut Humane Society and a veterinarian; all were passed:

7970. *Large Very Pale Yellow Tablets*. Connecticut Humane Society, Hartford, Conn. This sample consisted of 17 large tablets which had been dispensed for the treatment of a cat by a nonprofessional assistant of a veterinarian; 10 parts per million of arsenic trioxide had been found in the hair of this cat when it died shortly after treatment. Analysis of the tablets showed, however, that the only active ingredient was 0.32 gram of sulphur; the balance was chiefly starch, only 40 p.p.m. of arsenic being present.

H.P.-194. *Masti-Treat with Papain Added*. Connecticut Veterinary Supply, Willimantic, Conn. This liquid was labelled as being "For prevention and local treatment of Mastitis, caused by Streptococcus agalactiae, Streptococcus dysgalactiae, Aerobacter aerogenes, and Escherichia coli in cows and milk goats." Analysis, as compared with the claimed composition, was as follows:

	Claimed	Found
Dihydrostreptomycin sulfate, mg./6 cc.	250	248
Sulfamerazine, mg./6 cc.	750	785
Sulfathiazole, mg./6 cc.	750	720
Cobalt sulfate (CoSO ₄ ·7H ₂ O), mg./6 cc.	7.5	11.6
Procaine penicillin G, units/6 cc.	500,000	not determined
Papain, mg./6 cc.	50	not determined

7971. *Skin Lotion*. Connecticut Humane Society, Hartford, Conn. This emulsion with a slight bitter-almond odor had been dispensed in the case noted under 7970 above; analysis indicated the following composition: Benzyl benzoate, 26.11; glyceryl monolaurate (or monostearate), 3.38; bentonite, 3.56, and water and perfume, 66.95, per cent.

9486. *Two Large Tablets*. James F. Martin, V.M.D., Watertown, Conn. These tablets had been found scattered in a dog-kennel run, and were suspected of having been placed there to poison the dogs. Analysis showed, however, that the only active constituents were zinc phenolsulfonate and boric acid.

Miscellaneous Drugs

Three official and 23 unofficial samples of miscellaneous drugs were examined for the Commissioner, the State Department of Health, the State Supervisor of Purchases, the Bridgeport, Hamden, New Haven, Seymour, Stratford and Wallingford police, a hospital, a dairy, physicians and private citizens. Eighteen samples were passed and eight were adulterated, misbranded or otherwise objectionable:

8563. *Actex Powder*. Lawrence and Memorial Hospitals, New London, Conn. This material was suspected of having been a contaminant of 8560 and 8561 discussed below. Analysis showed it to be chiefly sodium carbonate, perfumed with pine oil.

5712. *Alfalfa Seed Tea*. National Food Centres, Cambridge, Mass. This preparation consisted of unmodified whole alfalfa seed. Spectrographic analysis showed: Potassium, 0.84, calcium, 0.46, magnesium, 0.15, and phosphorus, 0.57, per cent; manganese, 22, iron, 105, aluminum, 32, copper, 24, and boron, 48, parts per million. An infusion of these seeds (made by slowly boiling 10 grams of the seeds with 180 cc. of water for 20 minutes, cooling, diluting to 200 cc., and straining through cheesecloth) analyzed as follows: Potassium, 350; calcium, 20; magnesium, 20; phosphorus, 40; manganese, 0.1; iron, 1.2; aluminum, 0.6; copper, 0.8, and boron, 0.8, parts per million.

8148. *Cigarettes Suspected of Containing Marijuana*. Police Dept., Bridgeport, Conn. These cigarettes were filled not with marijuana (*Cannabis sativa*) but with tea leaves.

8527. *Cigarettes*. Police Dept., Hamden, Conn. Microscopic examination showed that these cigarettes did not contain marijuana but that *Lobelia inflata* seeds and a nitrate were present. This confirmed the defendant's claim that he had prepared them as an asthma remedy from partially burned "Brater's Powder," which is a product of John K. Brater & Co., Inc., Port Washington, N. Y., whose active ingredients are stramonium, lobelia and potassium nitrate.

8670. *Cigarettes Suspected of Containing Marijuana*. Police Dept., New Haven, Conn. No marijuana was present in any of these five cigarettes; one was a "Brater's Asnarett" made by John K. Brater & Co., Inc., New York, N. Y., while the other four were home-made cigarettes prepared in the same manner as 8527 above. In both cases the active ingredients were stramonium, lobelia and potassium nitrate.

7223. *Colorless Plastic Containers*. Police Dept., New Haven, Conn. These large capsules (1" in diameter and 1½" long) were turned over to

the police by a waitress in a restaurant who claimed she saw some customers pour the contents into orange juice they had ordered. All that the capsules contained when received was a few flakes of cigarette ash.

7929. *Coroneed*. Hawthorne Pharmacal Co., Inc., New York, N. Y. This bottle was labelled in part: "The New, Safe Plan to Help *Your Heart*—Contains: Soy Lecithin, Choline Bitartrate, dl Methionine, Inositol, Rutin, Vitamin C, Vitamin B₆, Vitamin B₁₂, Vitamin A, Vitamin D, Unsaturated Fatty Acids (Linoleic and Linolenic Acids), Flavors and Excipients—Directions for use: The ingredients found in Coroneed are a valuable supplement where a low cholesterol, low fat diet is indicated for the prevention and management of atherosclerosis." Accompanying display placards carried the slogan "Help Prevent Heart Attacks."

Sample was in violation of Section 3950 of the Food, Drug and Cosmetic Act, which states that "The advertisement of a drug or device representing it to have any effect in . . . heart and vascular diseases . . . shall . . . be deemed to be false."

W.S.-593. *Dramamine 50 mg.* G. D. Searle & Co., Skokie, Ill. This sample consisted of seven circular yellow tablets taken by the Milford police from a narcotic addict. Analysis proved that they were tablets of "Dramamine" (β -dimethylaminoethyl benzohydril ether 8-chlorotheophyllinate) as marked. "Dramamine" is a sea-and-motion-sickness preventive.

7222. *Four White Tablets Marked "Squibb."* Police Dept., New Haven, Conn. Infrared comparison showed that these were "Pentids," 200,000-unit penicillin G tablets manufactured by E. R. Squibb & Sons, New York, N. Y.

W.S.-656. *Homatropine 2%*. Milton Little, M.D., Hartford, Conn. Dr. Little had submitted this prescription to the Food and Drug Commission because he suspected from its effects on his patient that atropine or scopolamine (hyoscine) had been substituted for homatropine. Analysis showed the sample to be a 1.77 gm./100 cc. solution of hyoscine hydrobromide, confirming the suspected substitution.

8559-8561. *Meritene A, B and C*. Lawrence and Memorial Associated Hospitals, New London, Conn. These liquids were three preparations of a nutritional formula, of which 8560 and 8561 were suspected of having been accidentally contaminated with either "Actex Powder" (see 8563 above) or "Pinetol" (see 8562 below). Since analysis showed that the contaminated samples not only had a strong pine oil odor but also contained an excess of sodium and a precipitate of calcium phosphate, it was obvious that the "Actex Powder" was the contaminant.

8997. *Oil to Keep Surgical Instruments from Rusting*. Edward Weck & Co., Brooklyn, N. Y. Butyro refraction, 25°C., 76.8; unsulfonatable, 98.0 per cent. White mineral oil of medium viscosity.

8562. *Pinetol*. Lawrence and Memorial Hospitals, New London, Conn. This sample was submitted for comparison purposes in connection with the study of the contaminated "Meritene" (8560 and 8561) above. Analysis showed it to contain pine oil and a wetting agent.

6298. *Pink Powder*. Police Dept., Seymour, Conn. This sample was submitted by the police in an investigation of a story that "teenagers" were put-

ting this powder into girls' drinks in taverns in order to gain control over them. Analysis showed that it was only sulfanilamide.

5987. *RDX*. Lo-Calory Food Corp., New York, N. Y. Labelled: "Ingredients: Skim milk powder; dextrose; ascorbic acid; flavoring. Protein 25%, Carbohydrate 60%, Fat 1%.—Calories—5½ per tablet. Each tablet contains 100% minimum daily requirement of Vitamin C for adults (30 milligrams)." These tablets were submitted by a purchaser with a complaint that they had made her ill and she suspected substitution of some harmful ingredient, but the only undeclared ingredient shown by analysis was a little paraffin, presumably added as a lubricant.

J.S.-273. Reduce-Aid. Helena Rubenstein, Inc., New York, N. Y. These tablets were part of a reducing system that included also a booklet of dieting menus; this booklet stated that "Reduce-Aid Tablets are the only dieting aids that are vitamin supplements and contain exclusive Appe-Curb* to help curb appetite!" Declared active ingredients were: "Vitamin B-1, Vitamin B-2, Calcium Pantothenate, Vitamin B-6, Niacinamide, Vitamin C, Vitamin D, Calcium, Phosphorus, Benzocaine 1/20 Grain. 1.8 Calories per Tablet." Analysis showed: Water, 5.08, ash, 15.43, fat, 2.11, fiber, 0.12, protein, 14.00, and available carbohydrate, 63.26, per cent; calories per tablet, 1.90 (claimed 1.8); benzocaine, 0.048 grain/tablet (claimed 0.05); calcium, 36.5, phosphorus, 14.4, riboflavin, 0.35, niacin, 3.10, and ascorbic acid, 9.10, mg./tablet. Passed with reservations as to the safety of the use of benzocaine (a local anesthetic) as an appetite-depressant in tablets whose directions called for taking "as many as you like throughout the day."

9596. *Rutin and Ascorbic Acid Tablet*. Food Products, New York, N. Y. Ascorbic acid, mg./tablet: Declared, 300; found, 329. Rutin, mg./tablet: Declared, 60; not tested for. Passed.

6821. *Seven Large Capsules*. Police Dept., Stratford, Conn. These tablets contained codeine and aspirin.

6155. *Simple Syrup U.S.P.* State Supervisor of Purchases. This syrup was stated to have been made by a State agency for intravenous injection; an opinion was requested as to why it was cloudy and dark-colored. Spectrographic analysis showed the presence of considerably greater than normal proportions of calcium, magnesium, aluminum and silicon, and somewhat more iron (2 p.p.m.). This analysis indicated that the cloudiness was due to clay; the excessive iron might have contributed to the dark color, but it was suspected that the chief cause was caramelization of the sugar resulting from excessive heating in dissolving the sugar.

7221. *Six Large Pink Pills*. Police Dept., New Haven, Conn. These were submitted in a narcotic case, but analysis showed that they were sugar-coated pills whose only active ingredients were aloes and licorice.

5704. *Solution Aluminum Chloride 25%*. Benzel's Pharmacy, New Haven, Conn. The National Formulary IX (not official since December 15, 1955) required that this preparation contain between 22.5 and 27.5 grams of aluminum chloride hexahydrate in each 100 cc. Analysis of 5704 showed 24.18 gm./100 cc. of $\text{AlCl}_3 \cdot 6\text{H}_2\text{O}$; passed.

8117. *Ulcer Powder*. State Dept. of Health. Identified as bismuth subgallate. The N.F. X requires that this compound contain between 52 and 57

per cent of bismuth as the trioxide; since analysis of this sample showed 53.01 per cent of Bi_2O_3 it was passed.

8637. *Vitamin D Activated Ergosterol in Edible Vegetable Oil with Edible Emulsifier*. Dairy and Special Products Division, E. F. Drew & Co., Inc., New York, N. Y. Assay by feeding to rats showed that the claim of 40,000 units of vitamin D per cc. was met.

7093. *White Tablet*. Police Dept., Wallingford, Conn. This tablet had been taken from a schoolboy suspected of addiction to narcotics. Analysis and its markings showed it to be an 11.7 milligram amphetamine phosphate tablet made by Shawmaid Pharmacal Co., Newark, N. J. Amphetamine (benzedrine) is not a narcotic; its chief uses are as a sleep-preventive and appetite-depressant, but it does produce euphoria and restlessness in some people.

COSMETICS

Eight official and four unofficial samples of cosmetics were examined; seven were passed and five were misbranded or otherwise objectionable:

8558. *As You Were Hair Color Stimulator*. As You Were Associates, Chicago, Ill. This was a rose-perfumed colorless liquid containing a yellow sediment. Analysis showed: Lead acetate, 1.19, sulphur, 1.20, and glycerine, 7.16, gm./100 cc.; alcohol, 7.22 per cent by volume. Misbranded because of false and misleading claims and because although therapeutic claims were made the active ingredients were not declared.

H.P.-193. Avon Sun Lotion with Insect Repellent. Avon Products Inc., New York—Pasadena. Labelled: "Active ingredient 30% 2-ethylhexanediol 1-3—Inert ingredients 70%." This sample was submitted because of a complaint that it had produced dermatitis, but when five members of our staff applied it liberally to themselves and left it on for several hours none of them experienced any irritation. Passed.

J.S.-381. Come Alive Gray. Clairol Inc., Stamford, Conn. This sample was a hair dye that bore the caution statements required by law; partial analysis showed it to be an aqueous suspension of a synthetic dye and some waxy substance; no lead, silver or copper was present. Passed.

J.S.-383 and 384. Facial Quality Neet Odorless Hair Remover Lotion for Women. Whitehall Pharmacal Co., New York, N. Y. Labelled "Contains Calcium Thioglycolate"; analysis showed respectively 5.16 and 5.22 per cent of this compound. *J.S.-383* had been submitted with a complaint that it caused severe burning when applied under the armpits, but tests on five of our laboratory staff showed no irritation. Passed.

W.S.-654. Grecian Formula 16. Look Young, Inc., Willimantic, Conn. Labelled "Turns Gray Hair to Natural Looking Black." Analysis showed: Glycerine, 14.93, sulphur, 0.98, lead acetate $[\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 3\text{H}_2\text{O}]$, 0.35, and ammonia (NH_3), 0.17, per cent; alcohol, 6.70 per cent by volume; perfume and wetting agent present. Misbranded because of false and misleading claims.

J.S.-401. Odorless New Improved Imra Cosmetic Hair Remover Cream. Artra Cosmetics, Inc., Montclair, N. J. Labelled "Contains calcium thioglycolate"; analysis showed 1.11 per cent of this compound. A small child had

smearing the contents of this tube all over herself, with a resultant rash and swelling of her legs. However, because calcium thioglycolate is known to be less irritating than any other chemical depilatory, and the "Imra" label carried a caution statement to try the product on a small area and wait 24 hours before applying to a larger area if sensitivity were suspected or if use on the face were contemplated, the sample was passed—with the suggestion that the product be labelled "Keep away from children."

J.S.-332. Sadecin. Instituto Padre Charbel, São Paulo, Brazil. Information received from the manufacturer was to the effect that this hair "tonic" was an alcoholic extract of two tropical trees: *Zizyphus Joazeiro* (a relative of the jujube) and *Guazuma ulmifolia* (a member of the *Sterculiaceae* known in Mexico as "Guacima"). Analysis showed 92.90 per cent of alcohol by volume. Passed.

7784. Soap 40% Liquid Toilet. Swift & Co., East Cambridge, Mass. This sample was submitted by the State Supervisor of Purchases. Analysis showed: Potash soap, 40.46 per cent; no free caustic, free carbonate or free fatty acid; pH, 10.8. Passed.

5703. Veto, Colgate's Cream Deodorant. Colgate-Palmolive-Peet Co., Jersey City, N. J. Labelled "Contains aluminum sulfamate." This sample was submitted by a user who complained that it gave her hives and destroyed some of her hair. Calculated composition from our analysis was: Aluminum sulfamate [$Al(H_2O_3NS)_3$], 21.04, free sulfamic acid (H_3O_3NS), 13.51, titanium dioxide, 0.46, other mineral matter, 1.28, propylene glycol monolaurate, 17.27, water and perfume, 46.02, and undetermined, 0.42, per cent; pH, 3.00. It was considered probable that an allergic reaction to the perfume had been the cause of the hives.

W.S.-590. Woodbury Lanolin Rich Hand Cream. Andrew Jergens Co., Cincinnati, Ohio. Labelled "extra-rich in lanolin." This sample was submitted as a result of a complaint by a sailor that he used it on his face and hands the first time with no ill effect but when he applied it again to his hands and thighs he broke out in a rash. Examination showed this cream to be nearly neutral in reaction (pH 7.20) and to produce no irritation on five of our staff when left on over a weekend. Sensitivity to lanolin was suspected to be the cause of the symptoms complained of.

8799. Woodbury's Shampoo. Andrew Jergens Co., Cincinnati, Ohio. This sample was submitted by a physician with a complaint that it had produced a severe acute dermatitis of the scalp of one of his patients. Partial analysis showed it to contain a soap of an organic base (possibly triethanolamine) and a wetting agent; total solids were 16.90 gm./100 cc., and the pH was 9.05.

COLLABORATION WITH OTHER DEPARTMENTS

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

	Samples
State Board of Fisheries and Game	2
State Dept. of Health (narcotics)	19
State Police	10
State Supervisor of Purchases	1
Station departments:	
Biochemistry	36
Entomology	115
Plant Pathology	57
Soils	51
Tobacco Laboratory	46
	337

BABCOCK GLASSWARE, ETC.

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

	Pieces	Incomplete or inaccurate
Babcock glassware	4,637	17
Thermometers	117	1

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"Actex Powder"	80	Cigarettes, asthma	80
Alcoholic beverages	14, 31	Cigarettes, candy	39, 40
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Ale, ginger	29, 31	Cigars, candy	40
Alfalfa seed tea	80	Cinnamon, stick	40
Alimentary pastes	6	Cleaner, oven	75
Aloes and licorice pills	82	Cloves, whole	40
Aluminum chloride solution	82	Cocoa	25
Aluminum sulfamate	84	Codeine and aspirin capsules	82
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