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The 59th Report on

# FOOD PRODUCTS

And the 47th Report on

# DRUG PRODUCTS, 1954

Bulletin 602

September, 1956

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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		
<i>Foods</i>					
Alimentary pastes .....	6	13	1	14	10
Beverages, carbonated, etc.:					
Beer .....	8	1	19	20	10
Beverages suspected of containing saponin .....	9	51	.....	51	22
Carbonated non-alcoholic beverages .....	9	7	.....	7	2
Fruit drinks .....	12	5	.....	5	4
Whiskey, alcohol, anisette and brandy .....	13	.....	9	9	7
Wine .....	13	.....	3	3	2
Cocoa .....	13	.....	2	2	2
Coffee .....	13	6	.....	6	3
Confectionery .....	14	15	.....	15	12
Contaminated or decomposed foods ....	15	60	49	109	73
Dairy products:					
Butter .....	19	12	1	13	8
Cheese .....	20	5	3	8	1
Cream .....	21	.....	46	46	.....
Dry skim milk .....	21	1	.....	1	.....
Frozen custard .....	21	.....	5	5	.....
Unfortified fluid milks .....	21	.....	6	6	.....
Vitamin D milk .....	21	.....	211	211	22
Deceptively packed foods .....	22	4	.....	4	2
Extracts and flavors .....	22	41	2	43	20
Fish and shellfish .....	28	3	2	5	3
Flour .....	29	4	1	5	4
Fruit juices .....	29	7	27	34	1
Honey .....	31	2	2	4	2
Jellies and preserves .....	31	6	.....	6	2
Mayonnaise and salad dressing .....	31	4	2	6	1
Meat and meat products:					
Frankforts .....	35	4	.....	4	3
Hamburg .....	35	81	10	91	22
Meat loaves .....	37	2	.....	2	1
Pork sausage .....	37	3	.....	3	1
Oils, vegetable:					
Blended oils .....	37	10	3	13	9
Corn oil and cocoa butter .....	38	1	1	2	1
Olive oil .....	39	11	3	14	4
Preservatives .....	39	1	1	2	1
Spices and condiments .....	40	12	1	13	3
Spray residues .....	41	2	3	5	2
Syrups .....	41	6	1	7	1
Vegetable products .....	43	5	263	268	2
Vinegar .....	43	10	7	17	13
Water .....	44	.....	6	6	2

# ERRATUM

## FOOD PRODUCTS DRUG PRODUCTS, 1954

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On page 11, Table 3, Sample K.C.-592, Hires Quality Root Beer, was listed as adulterated because of the presence of saponin although tests for saponin were negative. The words "Saponin present; adulterated" in the last column should be deleted and replaced by "Passed".

THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION

New Haven

CONTENTS AND SUMMARY — (Continued)

Material	Page	From		Total	Adulterated, misbranded or otherwise questionable
		Food and Drug Commission	Other Sources		
<b>Miscellaneous:</b>					
Dog and cat foods .....	46	6	.....	6	4
Foaming agents .....	47	20	4	24	20
Other miscellaneous products .....	47	12	62	74	24
Totals .....		433	756	1,189	326
<b>Drugs</b>					
Miscellaneous drugs .....	53	43	50	93	52
Cosmetics .....	62	9	4	13	1
Collaborative .....	65	.....	679	679	.....
Total for all .....		485	1,489	1,974	379
Babcock glassware, etc. ....	65	.....	3,667	3,667	48

The Fifty-Ninth Report on

FOOD PRODUCTS

and the Forty-Seventh Report on

DRUG PRODUCTS

1954

H. J. Fisher

This report summarizes examination of foods, drugs, cosmetics, and miscellaneous materials submitted by the Food and Drug Commissioner and the Commissioner of Agriculture during the calendar year 1954, as well as like materials analyzed for 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.

Twelve hundred and ninety-five samples of foods, drugs, cosmetics and miscellaneous materials were examined during the year. This was an increase in total samples of 110 over 1953, but the number of official samples received from the Food and Drug Commission was only two more (485 in 1954 as against 483 in 1953).

Dairy products led the list of foods analyzed with 290 samples (of which 211 were vitamin D milks), followed by 268 samples of vegetable products (of which 260 were potatoes). Third in number were 109 samples of foods suspected of insect or rodent infestation or contamination with foreign materials, while 100 samples of meat products (91 of which were hamburgs) were analyzed for compliance with official standards for fat, preservatives, etc.

There were a number of personnel changes in 1954. On March 22 Miss Lillian Goffi was granted an extended leave of absence because of illness, and thereafter three girls were hired successively as secretaries to fill her position on a temporary basis: Mrs. Barbara Peckham served from April 1 to June 22, Miss Dorothy Root from June 24 to September 3, and Miss Eleanor Hopcraft from September 14 to the end of the year. On April 6, much to our regret, Dr. Rebecca Hubbell retired because she had reached the compulsory age limit, and on June 16 Dr. Lester Hankin (who had just received his doctor's degree from the University of North Carolina) was secured to take over from her the management of the vitamin laboratory. For some time facilities for conducting assays for other vitamins than D had been badly needed, and it was partly because of Dr. Hankin's bacteriological training that he was selected to fill Dr. Hubbell's position, since it was desired to add to our existing animal-feeding facilities a laboratory for the use of microbiological techniques. A room on the first floor of the Johnson Laboratory was set aside, and during the

months following Dr. Hankin's arrival furniture and equipment were gradually acquired and installed to transform it into a completely equipped microbiological laboratory.

The writer wishes to express his gratitude to all the members of the staff for their loyal and efficient work. All of our scientific staff were responsible for some of the analyses listed in this bulletin, and if a few are singled out for special mention, it is only because a greater proportion of their work has been in the fields of food and drug analysis rather than in the domains of analysis of other products of agricultural interest (such as feeds, fertilizers and pesticides) which 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. Hubbell, and after her Dr. Hankin (ably supported by Mr. George Smith and other members of their staff), were responsible for the vitamin D milk assays. Miss Shepard made all of our microscopic examinations, which involved most of the testing listed under "Contaminated or Decomposed Foods". Many individual element determinations were made on the spectrograph by Mr. Mathis and his assistant Miss Agostini, and Mr. Mathis was also responsible for all infrared analyses. The laborious elemental determinations on the many dried potato samples were run chemically by Mr. Squires after it was found that interferences prevented use of the spectrograph.

In assigning credit, the work of Miss Caputo and Miss Hopcraft in typing and reading proof on this bulletin should not be overlooked. Attention should also be called to the fact that in the case of the many official samples reported on here, responsibility for obtaining the samples, and for taking disciplinary action when the reports indicated adulteration or misbranding, was in the hands of Commissioners Christensen and Richard, 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

Eight samples of egg noodles and five of miscellaneous macaroni products were received from the Commissioner, and one sample of egg noodles was analyzed for the manufacturer. Four samples were passed and ten were adulterated or misbranded.

Federal regulations in effect require that any alimentary paste product labelled as "noodles" or claimed to contain eggs shall contain at least 87 per cent total solids and not less than 5.5 per cent of egg or egg yolk solids on the dry basis. Analyses of the nine egg noodle samples are given in Table 1; three were passed and six were adulterated or misbranded. The other five macaroni products were the following:

TABLE 1. EGG NOODLES

No.	Manufacturer or distributor and brand	Total solids, per cent	Lipoids, per cent	Lipoid $P_2O_5$ (dry basis), per cent	Egg solids (dry basis), per cent	Artificial color	Remarks
K.F.-1314	Aljim Wholesale Grocery Co., Waterbury, Conn. <i>Aljim</i>	89.80	5.18	0.111	4.98	absent	"5.5% egg solids" declared; passed
W.M.-760	Genoa Noodle & Ravioli Mfg. Co., New Haven, Conn. <i>Genoa No. 3 Enriched</i>	89.74	3.16	0.080	2.64	tartrazine present	Artificial color present not declared; deficient in egg solids; adulterated and misbranded.
W.M.-756	Goodman Sons, Inc., Long Island City, N. Y. <i>Goodman's</i>	91.08	5.18	0.143	7.70	absent	Passed
W.M.-750	Nardini Macaroni Co., New Haven, Conn. <i>Nardini</i>	87.62	3.13	0.069	1.58	tartrazine present	Artificial color present not declared; deficient in egg solids; adulterated and misbranded.
W.M.-754	Nardini Macaroni Co., New Haven, Conn. <i>Nardini</i>	88.80	2.35	0.092	3.02	tartrazine present	Same as W.M.-750.
W.M.-755	Nardini Macaroni Co., New Haven, Conn. <i>Nardini</i>	87.86	2.42	0.067	1.33	tartrazine present	Same as W.M.-750.
134	Nardini Macaroni Co., New Haven, Conn. <i>Nardini</i>	89.32	4.38	0.134	7.02	absent	Passed
W.M.-768	L. Pfrang, West Haven, Conn. <i>Dutch Maid</i>	89.26	4.68	0.112	5.15	absent	Misbranded because "egg yolk" was declared, and lipid $P_2O_5$ corresponded to only 3.95% egg yolk solids.
K.F.-1315	Unique Supply Co., Waterbury, Conn. <i>Chow Mein</i>	---	---	---	---	---	Not analyzed; misbranded because unlabelled.

W.M.-759. *Antoni Cavatelli*. C. & F. Cheese Distributors, East Haven, Conn. Declared ingredients were "durum wheat and water". Analysis showed: Total solids, 83.06; lipoids, 2.44; lipid P<sub>2</sub>O<sub>5</sub> (dry basis), 0.078, and egg solids (dry basis), 3.62, per cent; tartrazine present. Sample was misbranded for failure to declare egg and artificial color and because it contained excessive moisture.

K.F.-1392. *Buitoni 20% Protein Linguine No. 8 (Small Macaroni Ribbons)*. Buitoni Foods Corp., New York, N. Y. Analysis showed 19.61 per cent of protein; the net weight was 7.97 ounces as against 8 oz. declared. Sample was slack filled, however, because the macaroni occupied only 57 per cent of the capacity of the carton.

K.F.-1397. *Cutrufello's Finest Quality Home Like Fresh Packed Cavatelli*. Dairy Maid Ravioli Corp., Brooklyn, N. Y. Labelled: "Ingredients: Semolina, flour, water." Analysis showed: Total solids, 75.52; lipoids, 1.42; lipid P<sub>2</sub>O<sub>5</sub> (dry basis), 0.066, and egg solids (dry basis), 1.33, per cent; artificial color not detected. Misbranded because of excessive moisture (less than 87 per cent solids).

W.M.-767. *Dutch Maid Home Style Dumplings*. L. Pfrang, West Haven, Conn. Labelled "Made from durum semolina". Analysis showed: Total solids, 85.68; lipoids, 1.92; lipid P<sub>2</sub>O<sub>5</sub> (dry basis), 0.070, and egg solids (dry basis), 1.66, per cent; artificial color not detected. Passed.

W.M.-761. *Fresh Cavatelli*. Genoa Noodle & Ravioli Mfg. Co., New Haven, Conn. Labelled: "Ingredients - Durum Wheat and Water. Our CAVATELLI are Enriched with Fresh Egg Added." Analysis showed: Total solids, 82.74; lipoids, 1.68; lipid P<sub>2</sub>O<sub>5</sub> (dry basis), 0.0580, and egg solids (dry basis), 0.68, per cent; tartrazine present. Misbranded for failure to declare artificial color and because of excessive moisture and insufficient egg solids.

#### Beverages, Carbonated, Etc.

##### Beer

One sample of lager beer was submitted by the Food and Drug Commissioner:

W.M.-837. *Narragansett Lager Beer*. Narragansett Brewing Co., Cranston, R. I. Net contents: Declared, 12 fl. oz; found (average of six cans), 11.56 fl. oz. Short volume.

Ten beer samples were analyzed for total reducing substances at the request of the Liquor Control Commission; results are given in Table 2. While the percentages of reducing substances expressed as maltose do not vary greatly, ranging only from 1.12 to 1.60, the beers do appear to fall into three classes: (1), Four beers containing between 1.12 and 1.18 per cent of maltose (*Miller High Life*, *Piel*, *Rheingold* and *Ruppert*); (2), five beers containing between 1.3 and 1.4 per cent (*Ballantine*, *Narragansett*, *Pabst*, *Schaefer* and *Schlitz*); and (3), one beer (*Budweiser*) standing alone in the 1.60 per cent class.

Nine samples of beer were analyzed for alcohol for the East Haven, Hamden, New Haven and Wallingford police in connection with sales under illegal circumstances.

TABLE 2. REDUCING SUBSTANCES IN BEER

No.	Manufacturer and brand	Maltose, gm./100 cc.
9884	Anheuser-Busch, Inc., Newark, N. J. <i>Budweiser Lager</i>	1.60
9886	P. Ballantine & Sons, Newark, N. J. <i>Ballantine Extra Fine</i>	1.31
9882	Leibmann Breweries, Inc., New York, N.Y. <i>Rheingold Extra Dry Lager</i>	1.16
9889	Miller Brewing Co., Milwaukee, Wisc. <i>High Life Old Original</i>	1.15
9887	Narragansett Brewing Co., Cranston, R. I. <i>Narragansett Lager</i>	1.37
9885	Pabst Brewing Co., Newark, N. J. <i>Pabst Blue Ribbon</i>	1.30
9883	Piel Bros., New York, N. Y. <i>Extra Premium Piel's Light</i>	1.18
9888	Jacob Ruppert, New York, N. Y. <i>Extra Light Choice Lager Ruppert Knickerbocker</i>	1.12
9881	F. & M. Schaefer Brewing Co., Brooklyn, N.Y. <i>Schaefer Lager</i>	1.37
9880	Jos. Schlitz Brewing Co., Brooklyn, N. Y. <i>Schlitz</i>	1.42

#### Beverages Suspected of Containing Saponin

In 1952 the Food and Drug Commissioner submitted 61 samples of carbonated beverages and beverage bases to be tested for the presence of saponin, and the report for that year<sup>1</sup> contains an extended discussion of the reasons why the use of saponins as foam-producing agents in beverages is objectionable. Two more beverage samples were tested in 1953<sup>2</sup>, and 51 were received in 1954. Results of the tests on the 1954 samples are shown in Table 3; 29 samples were passed and 22 were considered adulterated because they contained saponin (15 samples) or some other hemolytic agent (seven samples).

#### Carbonated Non-Alcoholic Beverages

Seven miscellaneous "sodas" were examined for the Commissioner; five samples were passed and two were misbranded:

F.P.-125. *C. & C. Super Club Soda, Premium Quality*. Cantrell & Cochrane Corp., New York, N.Y. Analysis showed: Sugar, none; copper, less than 0.5 part per million; lead, less than 0.4 p.p.m.; tin and zinc, none. Passed.

K.F.-1394. *C. & C. Super Coola Imitation Grape Soda*. Cantrell & Cochrane Corp., Englewood, N. J. Net contents: Declared, 6 fl. oz.; found (average of six cans), 6.20 fl. oz. Passed.

K.C.-602. *C. & C. Super Coola Orange Soda*. Cantrell & Cochrane Corp., Englewood, N. J. Total sugars, 12.16 gm./100cc.; passed.

F.P.-124. *Super Ginger Ale Enriched with Vitamin C*. Cantrell & Cochrane Corp., New York, N. Y. Labelled: "A pure wholesome delicious beverage containing in each 12 ozs. the minimum daily Vitamin C equivalent for children up to 12 years." Analysis showed: Total sugars, 10.94 gm./100cc.; ascorbic acid (vitamin C), 22.8 mg./6 fl. oz.; copper and tin, less than 0.5 p.p.m.; lead, less than 0.2 p.p.m.; no zinc. Since according to Federal Regulation 125.03(b)(3) the minimum daily requirement of vitamin C for a child is 20 milligrams, sample was passed.

<sup>1</sup>Conn. Agr. Expt. Sta. Bul. 585, 11-18 (1954).

<sup>2</sup>Conn. Agr. Expt. Sta. Bul. 596, 10 (1955).

TABLE 3. BEVERAGES SUSPECTED OF CONTAINING SAPONIN

No.	Manufacturer or distributor and brand	Hemolysis no cholesterol	test Cholesterol added	Remarks
K.C.-589	Allen Beverage, Co., Bridgeport, Conn. <i>Allen Beverages Root Beer</i>	positive	positive	Non-saponin hemolytic agent present; adulterated
K.F.-1354	Ansonia Bottling Works, Ansonia, Conn. <i>Ansonia Root Beer Beverage</i>	positive	negative	Saponin present; adulterated
K.F.-1323	Ansonia Bottling Works, Ansonia, Conn. <i>Lee Brand Root Beer</i>	positive	positive	Non saponin hemolytic agent present; adulterated
K.F.-1352	Ansonia Bottling Works, Ansonia, Conn. <i>Lee Brand Root Beer</i>	positive	negative	Saponin present; adulterated
K.F.-1353	Ansonia Bottling Works, Ansonia, Conn. <i>Lee Brand Root Beer</i>	positive	negative	Saponin present; adulterated
K.F.-1322	Ansonia Bottling Works, Ansonia, Conn. <i>Root Beer</i>	positive	positive	Non-saponin hemolytic agent present; adulterated
K.F.-1324	Ansonia Bottling Works, Ansonia, Conn. <i>Root Beer</i>	positive	positive	Non-saponin hemolytic agent present; adulterated
K.C.-591	Bev-Rich Products Inc., Philadelphia, Pa. <i>Beo-Rich Root Beer</i>	negative	negative	Passed
K.C.-624	Booth Bottling Co., Inc., Philadelphia, Pa. <i>Booth's Creamy Root Beer</i>	negative	negative	Passed
K.C.-587	Boylan Bottling Co, Paterson, N. J. <i>Draft Birch Beer</i>	negative	negative	Passed
K.C.-598	Canada Dry Bottling Co. of New Haven, Inc., Branford, Conn. <i>Canada Dry Root Beer</i>	negative	negative	Passed
K.C.-594	Cantrell and Cochrane Corp., Englewood, N. J. <i>C. and C Super Root Beer</i>	negative	negative	Passed
K.F.-1316	Colonial Bottling Co., Waterbury, Conn. <i>Colonial Beverage Root Beer</i>	negative	negative	Passed
K.C.-605	Cott Bottling Co., Inc., Manchester, N. H. <i>Cott Quality Old Fashioned Creamy Root Beer</i>	negative	negative	Passed
K.F.-1322	Crystal Bottling Works, Ansonia, Conn. <i>Castle Beverages Root Beer</i>	negative	positive	Non-saponin hemolytic agent present; adulterated
K.F.-1333	Crystal Bottling Works, Ansonia, Conn. <i>Castle Beverages Root Beer</i>	positive	positive	Non-saponin hemolytic agent present; adulterated
K.F.-1362	Crystal Bottling Works, Ansonia, Conn. <i>Castle Beverages Root Beer</i>	negative	negative	Passed
K.F.-1363	Crystal Bottling Works, Ansonia, Conn. <i>Castle Beverages Root Beer</i>	negative	negative	Passed
K.F.-1366	Crystal Bottling Works, Ansonia, Conn. <i>Castle Beverages Root Beer</i>	negative	negative	Passed
K.F.-1331	Crystal Bottling Works, Ansonia, Conn. <i>Crystal Root Beer</i>	positive	positive	Non-saponin hemolytic agent present; adulterated
K.F.-1364	Crystal Bottling Works, Ansonia, Conn. <i>Crystal Root Beer</i>	negative	negative	Passed
K.F.-1343	Crystal Bottling Works, Ansonia, Conn. <i>Crystal Root Beer</i>	negative	negative	Passed
K.F.-1345	Dad's Root Beer Bottling Co., Waterbury, Conn. <i>Dad's Root Beer</i>	positive	negative	Saponin present; adulterated
K.F.-1288	Elco Beverage Co., Bristol, Conn. <i>Elco Old Fashion Root Ale</i>	negative	negative	Passed
K.F.-1289	Elco Beverage Co., Bristol, Conn. <i>Elco Old Fashion Root Beer</i>	negative	negative	Passed
K.C.-585	Elco Beverage Co., Bristol, Conn. <i>Neb's Draft Birch Beer</i>	negative	negative	Passed
T.C.-201	Frostie Bottling Co., New Britain, Conn. <i>Frostie Old Fashion Root Beer</i>	positive	negative	Saponin present; adulterated
K.C.-592	C. E. Hires Co., East Providence, R. I. <i>Hires Root Beer</i>	negative	negative	Saponin present; adulterated
K.C.-596	Hoffman Beverage Co., Newark, N. J. <i>Hoffman Quality Root Beer</i>	negative	negative	Passed
T.C.-204	Hosmer Mountain Beverage Co., Willimantic, Conn. <i>Hires Root Beer Soda</i>	negative	negative	Passed
K.C.-533	Kenney's Bottling Works, Bridgeport, Conn. <i>Root Beer</i>	negative	negative	Passed
K.C.-505	Kresge's 5-10-25 Store No. 386, Middletown, Conn. <i>Root Beer</i>	negative	negative	Passed
K.C.-604	"L" Bar Restaurant, Bridgeport, Conn. <i>Draft Birch Beer</i>	negative	negative	Passed
K.F.-1385	Lynbrook Beverage, Inc., New Haven, Conn. <i>Mason's Old Fashion Root Beer</i>	positive	positive	Saponin and trace of non-saponin hemolytic agent present; adulterated
K.C.-568	Martin Bros. Bottling Works, Bridgeport, Conn. <i>Root Beer</i>	negative	negative	Passed
K.F.-1337	Mission Canned Beverage Corp., Brooklyn, N. Y. <i>Mission Creamy Root Beer</i>	negative	negative	Passed
K.F.-1389	Mission Canned Beverage Corp., Brooklyn, N. Y. <i>Mission Sparkling Cream Soda</i>	negative	negative	Passed
K.C.-595	Mission Orange Bottling Co., Stamford, Conn. <i>Mission Root Beer</i>	negative	negative	Passed
K.C.-577	John Otterstedt, Park Ridge, N. J. <i>Otterstedt's New Golden Light Birch Beer</i>	positive	negative	Saponin present; adulterated
K.C.-584	John Otterstedt, Park Ridge, N. J. <i>Otterstedt Birch Beer</i>	positive	negative	Saponin present; adulterated
K.C.-586	John Otterstedt, Park Ridge, N. J. <i>Otterstedt Birch Beer</i>	positive	negative	Saponin present; adulterated
K.F.-1344	John Otterstedt, Park Ridge, N. J. <i>Otterstedt Birch Beer</i>	positive	negative	Saponin present; adulterated
K.F.-1345	John Otterstedt, Park Ridge, N. J. <i>Otterstedt Birch Beer</i>	positive	negative	Saponin present; adulterated
W.M.-777	Pepsi Cola Co. of New Haven, Hamden, Conn. <i>Mason's Old Fashioned Root Beer</i>	positive	negative	Saponin present; adulterated
J.D.-121	Poles Products & Preserving Co., Hartford, Conn. <i>Tip Top Root Beer</i>	doubtful	negative	Saponin present; adulterated
K.F.-1341	Riverside Bottling Co., Waterbury, Conn. <i>Paul's Root Beer, Old Fashion</i>	negative	negative	Passed
K.F.-1325	Schueler Bros., Inc., Stamford, Conn. <i>Schueler's Dietary Beverage Sugar Free Root Beer</i>	negative	negative	Passed
K.C.-614	Stratford Bottling Works, Inc., Stratford, Conn. <i>Frostie Old Fashion Tasty Creamy Root Beer</i>	positive	negative	Saponin present; adulterated
K.C.-530	Stratford Bottling Works Inc., Stratford, Conn. <i>Root Beer</i>	faintly positive	negative	Trace of saponin present; adulterated
K.C.-593	Varuna Spring Water Co., Inc., Stamford, Conn. <i>Polo Club Creamy Old Fashioned Root Beer</i>	negative	negative	Passed
W.M.-789	White Rock Bottling Co., Boston, Mass. <i>White Rock Old Fashioned Root Beer</i>	positive	negative	Saponin present; adulterated

*F.P.-126. C. & C. Super Root Beer Enriched with Vitamin C.* Cantrell & Cochrane Corp., New York, N.Y. Labelled: "A pure wholesome delicious beverage containing in each 12 ozs. the minimum daily Vitamin C requirement for children up to 12 yrs." Analysis showed: Total sugars, 12.44 gm./100cc.; ascorbic acid (vitamin C), 22.8 mg./6 fl. oz.; copper, less than 0.5 p.p.m.; lead, less than 0.1 p.p.m.; no tin or zinc. Passed.

*A.L.-228 and 229. Cott Quality Mint Ginger Ale.* Cott Beverage Corp., New Haven, Conn. Samples had a very faint mint flavor. Misbranded because they contained undeclared green coal-tar dye.

### Fruit Drinks

Five official samples of fruit-flavored beverages were analyzed; one was passed and four were misbranded:

*K.F.-1290. Bev-Rich Grape Premium Soda.* Bev-Rich Products, Inc., Philadelphia, Pa. Labelled: "Contains carbonated water, sugar, citric acid, grape flavor and artificial color." Analysis showed: Total ash, 0.0566 gm./100cc.;  $K_2O$ , 3.8,  $P_2O_5$ , 0.06, and methyl anthranilate, 0.88, mg./100 cc.; coal-tar dye present. The excess of methyl anthranilate indicated this to be an artificially flavored and colored imitation grape soda not so labelled; misbranded.

*F.P.-127. C. & C. Super Grape Soda Enriched with Vitamin C.* Cantrell and Cochrane Corp., New York, N.Y. Labelled: "A pure wholesome delicious beverage containing in each 12 ozs. the minimum daily Vitamin C requirement for children up to 12 yrs. Made with artificial grape flavor." Analysis showed: Total sugars, 12.89, and total ash, 0.025, gm./100cc.;  $K_2O$ , 0.04,  $P_2O_5$ , 2.5, and ascorbic acid, 0.109, mg./100cc.; copper, less than 0.5, and lead, less than 0.1, p.p.m.; no tin or zinc. Misbranded because not labelled "Imitation Grape Soda."

*W.M.-810. Cott Sparkling Delite.* Cott Beverage Corp., New Haven, Conn. Labelled: "Contains carbonated water, sugar, fruit acid, artificial flavor & color, grape juice, fruit wine." Analysis showed: Total solids, 13.54, total sugars, 12.67, total ash, 0.020, and total acidity as tartaric acid, 0.25, gm./100cc.;  $K_2O$ , 1.0, and  $P_2O_5$ , 0.25, mg./100cc.; alcohol, none. This analysis indicated the absence of either grape juice or wine; sample was misbranded because of false statements and because it was an imitation grape soda not so labelled.

*K.F.-1346. Elco Vintage Royal Claret Soda.* Elco Beverage Co., Bristol, Conn. Labelled: "Contains sparkling carbonated water, fruit acid, color added, grape wine, grape juice, sugar and artificial flavor". Analysis showed: Total sugars, 12.34, total ash, 0.20, and total acidity (as tartaric acid), 0.16, gm./100cc.;  $K_2O$ , 0.7, and  $P_2O_5$ , 7.7, mg./100cc.; alcohol, none. No wine or grape juice present; should have been labelled "Imitation Grape Soda"; misbranded.

*E.S.-6000. Sunkist Orange Juice Drink.* H. P. Hood & Sons, Hartford, Conn. Labelled: "Contents: Water, orange juice, sugar and citric acid". Analysis showed: Total solids, 12.44, and ash, 0.138, gm./100cc.;  $K_2O$ , 64.8, and  $P_2O_5$ , 13.9, mg./100cc.; estimated per cent orange juice, 24. Passed.

### Whiskey, Alcohol, Anisette and Brandy

8884 and 8885, *Courvoisier V. S. O. P. Brand Liqueur Cognac*, W. A. Taylor Co., New York, N. Y., importers, were analyzed for the Quin-niack Club of New Haven. Samples were labelled "84 Proof", which is 42 per cent alcohol by volume. Analysis showed 42.08 per cent of alcohol.

The alcoholic contents of one sample of anisette, two of alcohol and four of whiskey were determined for the New Haven, Thomaston and Wallingford police in connection with illegal sales.

### Wine

One sample of wine was analyzed for a distributor and two samples were tested for the New Haven Police:

8763. *Grape Port.* Vincent Buonocore & Sons, New Haven, Conn. Alcohol, 20.40 per cent by volume; iron, 7.5 parts per million.

1740 and 1741. *Red Wine.* Police Dept., New Haven, Conn. Average alcohol content, 14.58 per cent by volume.

### Cocoa

The State purchasing specifications for cocoa are as follows:

"Cocoa: To be finely powdered cocoa of good quality and flavor, prepared from cacao nibs and containing not less than 22% cacao fat. On a moisture-free and fat-free basis, the cocoa shall contain not more than 8 per cent of total ash, not more than 0.4 of 1 per cent of ash insoluble in hydrochloric acid, and not more than 7 per cent of crude fiber."

Cocoa of this fat content is classed under Federal standards as "break-fast cocoa, high-fat cocoa"; ordinary or medium-fat cocoa contains between 10 and 22 per cent of fat.

Two samples of cocoa received from bidders were submitted by the State Supervisor of Purchases to see if they complied with the specifications. Analyses were as follows:

	190 per cent	562 per cent
Moisture	5.68	6.25
Fat	14.23	12.65
Total ash (moisture-and-fat-free basis)	6.47	2.68
Acid-insoluble ash (moisture-and-fat-free basis)	0.00	0.00
Fiber (moisture-and-fat-free basis)	7.74	6.86

Neither sample was the high-fat cocoa called for by the specifications; 190 also contained excessive fiber, indicating contamination with cacao shell.

### Coffee

Six samples of coffee were submitted by the Commissioner, of which three were passed and three were adulterated:

*W.M.-735. Guilford Brand Coffee.* U. & J. Lenson, New York, N.Y. Microscopic examination showed traces of coffee hulls and skins, but no foreign material; passed.



*K.F.-1312. Myla Brand Coffee.* Commonwealth Coffee Co., New York, N.Y. Traces of coffee hulls and skins present, but no foreign material; passed.

*K.F.-1299, 1300 and 1301. Silex Coffee.* Waldorf System, New Haven, Conn. Average analysis showed: Moisture, 4.24, total ash, 4.35, soluble ash, 3.17, soluble  $P_2O_5$ , 0.13, insoluble  $P_2O_5$ , 0.35, petroleum ether extract, 12.90, total nitrogen, 2.39, invert sugar, 0.45, sucrose, 0.29, fiber, 16.82, and caffeine, 0.74, per cent; alkalinity of ash equivalent to 2.92 cc. of tenth-normal acid per gram. This analysis indicated adulteration with water-extracted coffee (coffee grounds).

*W.M.-795. West Virginia Brand Logan Coffee.* Miner-Read-Tulloch Co., New Haven, Conn. Microscopic examination showed this sample to be all coffee; passed.

### Confectionery

Fifteen official samples of confectionery were examined; three were passed and 12 were adulterated or misbranded:

*K.C.-555 and 578. Brock Marshmallows.* Brock Candy Co., Chattanooga, Tenn. Labeled: "Ingredients: Sugar, corn syrup, gelatine, artificially flavored". Both samples were colored green, yellow, orange and pink with undeclared coal-tar dye (with a few uncolored marshmallows). Misbranded. (Although this product was reported as misbranded in 1951<sup>3</sup>, it was still being sold with the same labelling in 1954.)

*W.M.-851 and 854. Dietetic Slimettes Chocolate (Flavored).* Casanova Chocolate Co., Inc., Milford, Conn. These samples were adulterated because they contained calcium sucaryl, and synthetic sweetening agents are not permitted in any confectionery, even if labelled "Dietetic".

*W.M.-852 and 853. Dietetic Slimettes Chocolates.* Casanova Chocolate Co., Inc., Milford, Conn. Adulterated because they contained calcium sucaryl.

*W.M.-855. Dietetic Slimettes Truffle Bar.* Casanova Chocolate Co., Inc., Milford, Conn. Adulterated because of the presence of calcium sucaryl.

*K.N.-666. Fire Chief Toy and Candy.* Leader Novelty Candy Co., Inc., Brooklyn, N. Y. Net weight: Declared,  $\frac{3}{8}$  oz.; found (average of six packages), 1.48 oz. Fill of container satisfactory. Passed.

*W.M.-794. Glass Lantern Containing Candies.* T. H. Stough Co., Jeannette, Pa. Blown into the glass was the statement: "Gelatin Sugar Starch Corn-Syrup— $\frac{1}{2}$  oz.—Certified U. S. Colors—Stough Co. Jeannette Pa." Misbranded because undeclared artificial flavor was present and because the manufacturer's name and address were almost undecipherable and on the bottom of the lantern where they could not readily be seen.

*W.M.-806. Betty Lane Pumpkin Faces.* Letty Lane, Westville, N.J. Undeclared coal-tar dye present; misbranded.

*K.C.-558. Miller and Hollis.* Miller and Hollis Corp., Boston, Mass. This heart-shaped box of candy was misbranded because it bore no ingredient statement at all.

*K.F.-1265 Milk Chocolate.* Bortz Chocolate Novelties, Inc., Reading, Pa. This was a chocolate Easter rabbit with artificially colored sugar decorations. Estimated composition of the chocolate portion from our analysis was: Milk solids, 12.0, cacao fat, 35.0, sucrose, 46.6, and fat-free chocolate and water (by difference), 6.4, per cent; shellac (about 50 mg.) present. Misbranded for failure to declare the shellac, sugar and coal-tar dye.

*K.C.-554. Solar Rocket Pops.* Creston Confectionery Co., Inc., Brooklyn, N. Y. This sample consisted of a cardboard box containing four small chocolate lollipops on wooden sticks; a cellophane window permitted the heads of the lollipops but not the sticks to be seen. There was some question as to whether this sample was deceptively packed, but it was passed.

*K.F.-1383. Summerettes.* Stop & Save Grocery, Waterbury, Conn. This glass jar of chocolate "sprills" was misbranded because it bore no name or address of a manufacturer, packer or distributor.

*K.C.-553. Vernell's Fresh Butter Mints.* Vernell's Fine Candies, Seattle, Wash. Net contents: Declared, 7 oz.; found, 7.06 oz. Analysis showed 0.99 per cent of fat whose constants were: Butyro refraction ( $40^{\circ}C.$ ), 41.0; Reichert-Meissl value, 30.0; Polenske value, 3.4. These constants indicated that all of the fat was butter fat and that the candies contained 1.24 per cent of butter. Passed.

### Contaminated or Decomposed Foods

Sixty samples of foods were submitted by the Commissioner because of suspected insect or rodent infestation or contamination with foreign materials, or because of complaints that they had made people ill. Included were: Thirteen samples of cheese; nine of meat and meat products; eight of flour; seven of corn meal; three each of bread, cake and sodas; two each of canned beets and canned peas; and one each of apple pie, beer, candy, canned corn, crackers, honey, macaroni, oat cereal, parchment paper and "popsicles". Twenty-four samples were passed and 36 were adulterated. The adulterated samples were the following:

*W.M.-748. All Beef Super Light Frankforts.* Great Atlantic and Pacific Tea Co., New York, N. Y. These frankforts were moldy.

*J.D.-118. Bond Angel Food Bar.* General Baking Co., Springfield, Mass. One Asiatic garden beetle (*Autoserica castanea*) present.

*K.N.-1066. Bread.* Mrs. E. Bucchera, Middletown, Conn. Pieces of seeds and plant material present.

*E.C.-656 and 658. Flour.* Vocatura's Bakery, Norwich, Conn. Both samples were infested with confused flour beetles (*Tribolium confusum*);

<sup>3</sup>Conn. Agr. Expt. Sta. Bul. 574, 15 (1953).

*E.C.-656* also contained bag fibers and nylon bristles (possibly from a toothbrush), and *E.C.-658* contained two pieces of string.

*J.B.-3. Frankfort.* Manny's Drive-In, Middletown, Conn. A small piece of glass was found in this frankfort.

*E.S.-5914 to 5924 inclusive, 5988 and 5989. Gambardella Italian Style Grated Cheese.* P. Gambardella and Son, New Haven, Conn. *E.S.-5914 and 5916 to 5924* contained charred material (apparently cheese); *E.S.-5914 to 5921, 5923 and 5924* contained fragments of colored thread; *E.S.-5914* contained an ant; *E.S.-5919* contained sand; *E.S.-5915, 5923 and 5989* contained portions of insects; and *E.S.-5988* contained unidentified fibrous and plant material.

*J.B.-26. Honey.* John Misek, Jr., West Suffield, Conn. Mr. Misek submitted this sample because his combs had been sprayed with a fire-extinguisher and he wished to know if the honey had been contaminated thereby. The smear of honey on a piece of waxed paper which comprised this sample was strongly acid to litmus and gave a positive test for sulphate, indicating that the honey was contaminated with sulphuric acid from a fire-extinguisher of the sodium bicarbonate-sulphuric acid type.

*E.C.-626A and K.N.-662. Luxury Loaf.* New London Provision Co., Inc., New London, Conn. These samples were taken at the request of the manufacturers, who wished to know the cause of the green spots which had been appearing on the surfaces of their meat loaves after processing at 160°F. Spectrographic analysis of these spots showed them to be high in chromium, iron and sodium and to contain a little nickel. The obvious explanation was that high concentrations of salt at these points had caused local corrosion of the stainless steel pans.

*A.F.-154. Mason's Root Beer.* First National Stores, Inc., West Hartford, Conn. This bottle contained two pieces of spaghetti about three inches long.

*W.M.-863. Nabisco Sugar Honey Graham Crackers.* National Biscuit Co., New York, N. Y. A bluish-green string was imbedded in one of these crackers in such fashion that it must have been baked into it.

*W.M.-726 to 729 inclusive. Napanne Brand Yellow Corn Meal.* Napanne Milling Co., Napanne, Ind. These samples contained respectively: (1), Four live confused flour beetles and insect webbing; (2), an Indian meal moth larva (*Plodia interpunctella*) and insect webbing; (3), two Indian meal moth larvae and insect webbing; and (4), insect webbing only.

*J.D.-101. Niblets Brand Fresh Corn Off the Cob.* Green Giant Co. Le Sueur, Minn. This canned corn contained a corn-borer.

*S.O.-293. Pa-Ma-Kin Brand Cooked Ham.* Plymouth Rock Provision Co., New York, N. Y. This ham was decomposed.

*F.P.-202. Pepsi-Cola.* Pepsi-Cola Bottling Co., Agawam, Mass. Moldy.

*W.M.-730. Pillsbury Brand Rye Chops.* Pillsbury Mills, Minneapolis, Minn. Insect webbing present.

*E.S.-5950. Popsicle.* Borden Co., Bridgeport, Conn. Two mouse feces with imbedded hairs were found in this "popsicle".

*W.M.-821. Ruppert's Knickerbocker Beer.* Jacob Ruppert, New York, N. Y. Moldy.

*T.C.-226. 7 Up.* Seven-Up Bottling Co., Norwich, Conn. Traces of dirt and mold present.

*W.M.-856. Yellow Corn Meal.* Marchigiano Bakery, New Haven, Conn. This corn meal was infested with two live confused flour beetles and five saw-toothed grain beetles (*Oryzaephilus surinamensis*).

Forty-nine unofficial samples were examined for the State Liquor Commission, the Greenwich, Hartford, New Haven and Waterbury Health Departments, manufacturers, dealers and private citizens; these included eight samples each of cheese and meat products, five each of bread and sodas, four of milk, three of beer, two each of candy, canned strawberries and coffee, and one each of bee frames, canned corn, cucumber, gin, peppers, pie, salt, tuna fish and whiskey. Contamination was found in 37 of these, and 12 were passed. The adulterated samples were the following:

*238 and 8090. Ballantine Extra Fine Beer.* P. Ballantine & Sons, Newark, N. J. Sample 238 contained a lump of material that analysis showed to be stearic acid colored green with a coal-tar dye; it was presumably a melted wax crayon. Sample 8090 contained the head of a rodent—either a mouse or a young rat.

*8019 to 8023. Beef Cuts.* Onofrio's Market, New Haven, Conn. These samples were submitted by the dealer with a complaint that the meat tasted soapy. Analyses were as follows:

No.	Cut	pH	Ammonia (NH <sub>3</sub> ), per cent
8019	Round	6.45	0.02
8020	Loin	5.58	0.02
8021	Rib	5.75	0.02
8022	Cooked beef	5.70	0.01
8023	Chuck	6.05	0.02

Tests for quaternary ammonium compounds were negative.

The "soapy" taste was no doubt due to the traces of ammonia in this meat, which probably originated from a leak in a refrigeration system.

*323. Bee Frames.* Odd Fellows' Home, Groton, Conn. These frames were submitted because the bees had been dying. Analysis showed: Copper, 25, lead, 30, silver, 20, tin, less than 50, and zinc, 100, parts per million; DDT absent.

Inspectional evidence had shown that a plating shop was near these hives; the most probable explanation for the occurrence of such quantities of silver and zinc in these frames was that the bees had been carrying residues from this shop to their hives.

9259. *Borden's Milk*. New Haven Health Dept. Kerosene (0.52cc.) was found in this milk.

236. *Bread*. Mrs. Robert C. Mack, Warehouse Point, Conn. Two mouse feces and several mouse hairs present.

7772. *Bread*. Mrs. Irving Lavigne, New Haven, Conn. Mouse feces present.

8087. *Bread*. Waterbury Health Dept. This bread contained several fragments of some hard plastic.

8953. *Bread*. New Haven Health Dept. Rat feces present.

342. *Coca-Cola*. Waterbury Health Dept. A piece of melted and hardened chewing gum was present.

9585. *Coca-Cola*. New Haven Health Dept. The bottle contained an unidentified fungous growth.

9826. *Coffee*. Mrs. Pasquale Daddio, New Haven, Conn. This was a prepared beverage in a "Thermos" bottle; it contained 0.12 per cent of acetic acid, which may either have been produced by fermentation or have come from deliberate addition of about 3 per cent of vinegar.

178 to 183 and 234 and 235. Grated Cheese. P. Gambardella & Son, New Haven, Conn. These samples were submitted by the manufacturer as a result of the findings on official samples *E.S.-5914-5924 and E.S.-5988 and 5989* which are reported on page 16. Results of microscopic examination of the present samples were similar: Pieces of colored thread were present in all samples, and most contained charred cheese particles; 235 contained a trace of dirt.

896. *Homogenized Vitamin D Approved Milk*. Brock-Hall Dairy Co., Hamden, Conn. This milk had an odor of turpentine, but the quantity present was no more than a faint trace.

8014. *Krasdale Strawberries in Extra Heavy Syrup*. Krasdale Foods, Inc., New York, N. Y. This sample was submitted with a complaint that it caused illness. Analysis showed 50 parts per million of tin, which may possibly have caused some gastric discomfort.

7847. *Milk*. Bridgeport Health Dept. There were small quantities of sand and dirt in the bottoms of the two quarts of milk comprising this sample.

1394. *Pabst Blue Ribbon Beer*. Pabst Brewing Co., Newark, N. J. There was a ring of what appeared to be polymerized linseed oil on the inside surface of this bottle.

343. *Pepsi-Cola*. John J. Kinney, Jr., New Haven, Conn. Adhering to the inner surface of this bottle was a yellow lump of what appeared to be plastic cement.

1658. *Pepsi-Cola*. Edward Kulis, Clinton, Conn. This sample contained a residue of some siliceous material colored with Prussian Blue (ferrous ferricyanide).

1290. *Pie*. York Delicatessen, New Haven, Conn. This sample was submitted by a purchaser with a complaint that it had a creosote odor and had caused nausea and diarrhea. It did have a foreign odor, which resembled raw pork more than it did creosote; bacteriological examination by the Bureau of Laboratories of the State Department of Health showed the presence of non-hemolytic staphylococci and streptococci.

765. *Premier Foods Cream Style Golden Sweet Corn*. Francis H. Leggett & Co., New York, N. Y. This corn contained a European corn borer and a portion of a burnt book match.

9600. *Red Peppers*. Waterbury Health Dept. A corn ear worm was present.

8629. *Root Beer*. Spiegel Bottling Co., West Haven, Conn. There was a clump of mold in this bottle.

8990. *Salt*. Miss Annie Bell Smith, New Haven, Conn. This salt was contaminated with perfumed talcum powder.

1253. *Schutter's Old Nick*. Schutter Candy Co., Chicago, Ill. This candy bar was infested with insect webbing and a badly-crushed insect larva of what was either a Mediterranean flour moth (*Ephestia kuehniella*) or an Indian meal moth (*Plodia interpunctella*).

9890. *Soderholm's Old Fashioned Butter Krust Bread*. Phyllis Nettleton, New Haven, Conn. This slice of toast contained a pupa of some grain insect.

#### DAIRY PRODUCTS

##### Butter

Twelve official and one unofficial samples of material sold for butter were examined; five were passed and eight were adulterated or misbranded:

*K.C.-619. Butter*. Stratford Health Dept. Fat constants were: Butyro refraction (40°C.), 43.2; Reichert-Meissl value, 29.61; Polenske value, 1.78. Passed.

*J.D.-105. Butter*. Peter Pan Luncheonette, Hartford, Conn. Fat constants: Butyro refraction (40°C.), 51.9; Reichert-Meissl value, 0.26; Polenske value, 0.24. This was straight oleomargarine; adulterated.

*J.C.-119. Butter*. Greenwood Variety Store, Hartford, Conn. Fat constants: Butyro refraction (40°C.), 51.7; Reichert-Meissl value, 0.20; Polenske value, 0.12. This was straight oleomargarine; adulterated.

8532. *Butter*. Hartford Health Dept. Constants of fat: Butyro refraction (40°C.), 42.0; Reichert-Meissl value, 27.88; Polenske value, 2.14; Kreis test for rancidity, negative. Sample had an off-odor and flavor suggesting rancidity, but these presumably were due to absorption from some other material with which the butter was stored. Passed.

*K.N.-665. Country Fine Butter*. Stop & Shop Market, Hartford, Conn. Per cent fat: 82.49. Constants of fat: Butyro refraction (40°C.), 41.0; Reichert-Meissl value, 29.06; Polenske value, 2.74. Net weight; 15.66 oz. Pure butter but short weight.

*F.P.-122. Cudahy's Sunlight Butter.* Mrs. Alfred D'Onofrio, East Hartford, Conn. Fat constants: Butyro refraction (40°C.), 41.1; Reichert-Meissl value, 28.80; Polenske value, 2.74. Passed.

*K.C.-552. Jersey Pride Roll Butter.* National Creamery Co., Somerville, Mass. Fat constants: Butyro refraction (40°C.), 40.9; Reichert-Meissl value, 32.20; Polenske value, 2.62. Passed.

*J.D.-107. Miolo Yellow Margarine.* Miami Margarine Co., Cincinnati, Ohio. Fat constants: Butyro refraction (40°C.), 51.9; Reichert-Meissl value, 0.26; Polenske value, 0.12. This was straight oleomargarine, but was being sold for butter at the Standard Luncheonette in Hartford and was consequently adulterated.

*J.D.-110. Mistletoe Vegetable Oleomargarine.* Sandy's Restaurant & Grill, Hartford, Conn. Fat constants: Butyro refraction (40°C.), 50.8; Reichert-Meissl value, 0.39; Polenske value, 0.35. This oleomargarine was adulterated because it was being sold as butter.

*J.D.-106 and 109. Purity Oleomargarine.* Capital City Products, Columbus, Ohio. Fat constants (average): Butyro refraction (40°C.), 51.7; Reichert-Meissl value, 0.43; Polenske value, 0.33. These oleomargarine samples were adulterated because they were being sold as butter at Val's Diner and the Gourson Drug Store respectively, both of Hartford.

*J.D.-115. Sweet Life Yellow Margarine.* Chat-N-Chew Luncheonette, Hartford, Conn. Fat constants: Butyro refraction (40°C.), 52.7; Reichert-Meissl value, 0.39; Polenske value, 0.24. Adulterated because it was being sold as butter.

*K.C.-599. White Rose Fancy Quality Flavor Guaranteed Creamery Butter.* Jos. J. Herold Co., New York, N. Y. Fat constants: Butyro refraction (40°C.), 43.0; Reichert-Meissl value, 30.39; Polenske value, 2.14. Net contents: Declared, ¼ lb; found, 3.95 oz. Passed.

### Cheese

Five samples of cheese were examined for the Commissioner, and three were analyzed for a manufacturer; seven samples were passed and one was misbranded:

*K.F.-1313. Aljim Brand Parmesan Italian Style Grated Cheese.* Aljim Co., Waterbury, Conn. Water, 26.86, and fat, 30.08, per cent; no lactose or starch. Net wt., 16.7 oz. Passed.

*K.F.-1237. C. & F. Delicious Italian Style Grated Cheese.* C. & F. Cheese Distributors, East Haven, Conn. Analysis showed: Water, 30.29, casein, 35.66; fat, 18.60, lactose, 0.19, and ash, 11.65, per cent; dry skim milk absent. Microscopic examination revealed the presence of a few fragments of colored thread and particles of charred cheese. Passed as a grated skim-milk cheese.

*8951. Finest Quality Pasteurized Mozzarella.* Sunny Brook Enterprises, Inc., Union Springs, N. Y. Water, 54.18; casein, 21.82; fat, 1.89; lactose, 0.51, and ash, 3.71, per cent. Passed.

*8950. Gambardella Grade Mozzarella Cheese.* P. Gambardella & Son,

Inc., New Haven, Conn. Water, 55.72; casein, 19.33; fat, 2.02; lactose, 1.23, and ash, 2.28, per cent. Passed.

*W.M.-745. Grated Cheese.* Rosner's Market, New Haven, Conn. Water, 4.84; casein, 40.86; fat, 41.43, lactose, 0.00, and ash, 9.16, per cent. Misbranded because unlabelled.

*8952. Mozzarella Cheese.* G. Scavarese & Son, Inc., Boston, Mass. Water, 57.84; casein, 27.30; fat, 1.05; lactose, trace, and ash, 3.38, per cent. Passed.

*K.F.-1304 and 1305. Pepe Imported Cheese Romano Cheese.* Frank Pepe Macaroni Co., Waterbury, Conn. Average analysis showed: Water, 24.90, and fat, 31.89, per cent; no lactose or starch. Passed.

### Cream

Forty-six samples of cream were analyzed for butter fat for two dairies and a restaurant; fat contents ranged between 17.5 and 45.0 per cent, and averaged 38.5 per cent.

### Dry Skim Milk

*F.P.-135. Spray Nonfat Dry Milk Solids,* was submitted by the Commissioner as a result of a complaint from the Waddell School of Manchester that it had an inferior taste and odor. Analysis showed: Moisture, 6.20, titratable acidity of reconstituted milk (as lactic acid), 0.13, and fat, 0.87, per cent. Standards under the old law<sup>4</sup> called for not over: Moisture, 5, acidity, 0.17, and butter fat, 1.5, per cent. Passed.

### Frozen Custard

Five samples of "frozen custard" analyzed for Chester L. Morse, West Haven, showed averages of 35.46 per cent solids and 11.55 per cent fat.

### Unfortified Fluid Milks

Fat determinations were run on five samples of cow's milk and one of goat's milk for dairymen and a cheese manufacturer. The goat's milk, 9372, contained 4.10 per cent of fat.

### Vitamin D Milk

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

In 1954, 210 samples were examined. Results of the assays are shown in Table 4; 21 samples were definitely below the unitage claimed. The percentage of samples fully or substantially meeting guaranties was 90, as against 86 found in 1953.

<sup>4</sup>Rules and Regulations Relating to the Food and Drug Law of Connecticut, Regulation 42 (April 12, 1938).

In the 20-year period 1935-1954 inclusive, 2,565 samples were tested; 92 per cent contained the required 400 units of vitamin D per quart or were sufficiently close thereto to be passed.

In addition to assaying the official vitamin D milk samples, one sample was analyzed chemically for the New Haven Health Department:

1611. *Homogenized Vitamin D Milk*. Rosehurst Farm, Woodbridge, Conn. Total solids, 17.04; fat (Roese-Gottlieb method), 4.73; protein, 4.82; ash, 1.00; lactose, 6.47, and solids-not-fat, 12.31, per cent. Constants of fat: Reichert-Meissl value, 27.51; Polenske value, 2.38; Kirschner value, 24.73.

The ratio of Kirschner to Polenske values<sup>5</sup> corresponded to 99.9 per cent butter fat, proving the absence of any foreign fat. However, the protein/fat ratio was 1.02, and the lactose content was below the normal range of 7.29 – 8.81 per cent for milk of its solids and fat content<sup>6</sup>, both of which factors would have pointed toward partial skimming if it were not that normal skimmed milk contained only about 8.6 per cent of solids-not-fat. The only conclusion fitting the facts seemed to be that this milk had been adulterated with a considerable proportion of either concentrated skim milk or skim milk powder (plus possibly some cream or butter fat unless the original milk was of high fat content).

#### Deceptively Packed Foods

A food "whose container is so made, formed or filled as to be misleading" is misbranded under the Food, Drug and Cosmetic Act. What this means in practice is that it is illegal to pack foods in opaque containers which are larger than necessary, and so mislead the consumer into thinking he (or she) is getting more than he is. In 1954 four samples were submitted by the Commissioner because of suspected slack fill; two were passed and two were misbranded. The deceptively packed samples were the following:

K.F.-1398. *Martini Linguine No. 17*. DeMartini Macaroni Co., Brooklyn, N. Y. Net contents: Declared, 1 lb.; found, 1 lb. 1 oz. Fill of container, 64 per cent.

K.F.-1399. *Martini Spaghetti No. 8*. DeMartini Macaroni Co., Brooklyn, N. Y. Net contents: Declared, 1 lb.; found, 15.7 oz. Fill of container, 64 per cent.

#### Extracts and Flavors

Forty-one samples of various extracts and flavors were submitted by the Commissioner; 23 were passed and 18 were adulterated or misbranded:

K.F.-1274. *Baker's True Fruit Raspberry Flavor*. Baker Extract Co., Springfield, Mass. Labelled: "Ingredients: Raspberry extractives and juice, alcohol 16%." Analysis showed: Ash, 0.89 gm./100cc.; K<sub>2</sub>O, 438, and P<sub>2</sub>O<sub>5</sub>, 77.0, mg./100cc.; ionone absent; estimated per cent raspberry juice, 196. Passed.

<sup>5</sup>Bolton, Richmond and Reavis, *Analyst*, 37, 185 (1913)  
<sup>6</sup>Woodman, *Food Analysis*, 1st Ed., p. 134.

TABLE 4. VITAMIN D MILK

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

TABLE 4. VITAMIN D MILK — (Continued)

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
Middletown	Brookfield Dairy	1	1	—	—
	Daniels Farm Dairy	1	1	—	—
	Hillside Dairy	1	1	—	—
Milford	Pleasantview Dairy	1	1	—	—
	Sunshine Dairy	1	1	—	—
	Clover Dairy	2	2	—	—
Milldale	McDermott Dairy	2	2	—	—
	Riverside Dairy	1	1	—	—
Montville	John A. Coggeshall's Dairy	2	2	—	—
	Guida-Seibert Dairy Co.	2	2	—	—
New Britain	Heslin Dairy Co.	2	2	—	—
	J. J. Shapiro & Sons	2	2	—	—
	A. J. Spring & Sons	2	2	—	—
New Canaan	Miller's Farm Dairy	1	—	1	—
	General Ice Cream Corp.	2	1	—	1
New Haven	H. P. Hood & Sons	1	—	—	1
	Eddy Dairy	2	—	2	—
Newington	J. William Holt & Son Farm Dairy	2	—	1	1
	Mortensen Dairy Farm	2	1	—	1
	J. A. Moylan & Son Dairy	3	1	—	2
	Spring Brook Dairy	2	2	—	—
	Michael's Dairy	1	1	—	—
New London	New London & Mohegan Dairies	1	1	—	—
	Radway's Dairy	1	1	—	—
	Conn's Dairy	1	—	1	—
	Far View Farm	1	—	—	1
	Knudsen Bros.	2	2	—	—
North Stonington	Meadow Lake Farm Dairy	1	1	—	—
	Clover Farms Dairy	2	1	1	—
	Devine's Dairy	2	1	1	—
	Harrick's Dairy	2	1	—	1
	Beebe's Dairy	3	2	—	1
Norwichtown	Great Oak Farm	2	1	—	1
	Peterson's Dairy	1	1	—	—
	Broad Brook Dairy	2	2	—	—
	Preston Dairy	2	2	—	—
	Fisher Bros.	1	1	—	—
Putnam	Burritt's Dairy	2	2	—	—
	Charles B. Gilbert	2	2	—	—
	Mingo's Kenwood Farm	2	2	—	—
	Sunny Crest Farm	2	1	1	—
	Salisbury Farms, Inc.	1	1	—	—
Scotland	Hillyland Farm Dairy	1	1	—	—
	Ajello Bros. Dairy	1	1	—	—
	Pharos Farm	2	2	—	—
	Woodford Farm Division, Bryant & Chapman	2	2	—	—
	Sheffield-Maplehurst Dairy	1	1	—	—
Talcottville	Wells Farm	1	1	—	—
	F. E. Freimuth	1	1	—	—
	Fred J. Wood	1	1	—	—
	Enfield Dairy	1	1	—	—
	H. S. Reid, Inc.	1	1	—	—
Thompsonville	River View Dairy	1	1	—	—
	Skipton Dairy	1	1	—	—
	Smyth Dairy	1	1	—	—

TABLE 4. VITAMIN D MILK — (Continued)

City or town	Dairy	No. of samples tested	Satisfactory	Passed	Below unitage claimed
Torrington	Clover Dairy	1	—	1	—
	Co-Operative Dairy Co.	2	1	—	1
	Greenwood's Dairy	1	1	—	—
Trumbull	Torrington Creamery	1	1	—	—
	Parker's Dairy	1	1	—	—
	Beaumont Farm	1	1	—	—
Wallingford	J. H. Daly Co.	1	—	1	—
	Fairview Dairy	3	1	—	2
	J. P. Novak	1	—	1	—
Washington	Long Meadow Farm	1	1	—	—
	Marsh Dairy Farms	1	—	1	—
Waterbury	Brookside Dairies, Inc.	1	1	—	—
	Cashin's Dairy Products, Inc.	1	1	—	—
	Tranquility Farm Dairy	2	2	—	—
	Waterbury Co-Op. Dairy, Inc.	2	1	—	1
	R. F. Worden & Sons	2	1	—	1
Wauregan	Wauregan Dairy	1	1	—	—
	Webster, Mass. Choimiere Dairy	1	1	—	—
West Hartford	Deary Bros.	1	1	—	—
	A. C. Petersen	1	—	1	—
West Haven	Clark Dairy	1	1	—	—
	Ferris Dairy	1	1	—	—
Westport	Orems Dairy	1	1	—	—
Wilton	Avery's Dairy	1	1	—	—
	J. O. Johnson & Son	1	1	—	—
Winsted	Willow Brook Dairy	1	1	—	—
	Rosehurst Dairy	1	1	—	—
Wolcott	Driscoll's Dairy	3	2	—	1
	Total	210	167	22	21

*W.M.-752. Buisman's Famous Dutch Flavoring.* Fine Food Processing Co., Burbank, Calif. Labelled: "Mix with your favorite brand of coffee for delicious flavor. — Contains caramelized starch and calcium phosphate. — Use this mixture in any strength desired according to taste. Our recommendation is to use this mixture at ONLY HALF the strength customarily used for ordinary coffee. CONTAINS NO CHICORY — CONTAINS NO CAFFEINE."

This product was obviously intended to reinforce the flavor of coffee so that the amount of coffee used per cup could be reduced. Its employment in this manner by a restaurant would probably constitute adulteration, but since such use by a consumer would involve no deception the sample had to be passed.

*W.M.-831. Capitol Brand Imitation Vanilla Flavor.* Safe Owl Products, Inc., Brooklyn, N. Y. Coumarin absent; passed.

*J.B.-6, A.L.-245 and W.M.-832. Caravan 16 Fold Concentrated Imitation Vanilla.* A. Fiorillo & Co., Southington, Conn. Labelled: "Contents Propylene Glycol, Glucose, Vanilla, Coumarin, Sugar Color, Heliotropine." Analysis showed an average coumarin content of 1.73 per cent. Since

coumarin has lately been proved to be an injurious compound, all samples were adulterated.

W.M.-833. *Concentrated Imitation Vanilla Flavor*. Goldex Co., Brooklyn, N. Y. Contained 0.40 per cent coumarin; adulterated.

J.B.-20. *Concentrated Vanilla Flavor*. A. Fiorillo & Co., Southington, Conn. Coumarin absent; passed.

A.L.-244. *Control Vanaolin 32X*. A. Fiorillo & Co., Southington, Conn. Labelled: "Contains: Propylene glycol, vanillin, Ethavan, coumarin, sugar color." Analysis showed 5.6 per cent of coumarin; adulterated.

W.M.-834. *Diane Brand Van-Base*. D. R. Poverman, New Britain, Conn. Labelled: "A fully concentrated imitation vanilla flavor — Contents vanillin, coumarin, propylene glycol, alcohol, caramel color, veg. aromatics." Analysis showed 1.04 per cent of coumarin; adulterated.

K.F.-1361. *Dietetic Root Beer Base*. Blue Seal Extract, Cambridge, Mass. No saponin; passed.

W.M.-854. *Fritzbro True Maple Concentrate*. Fritzsche Brothers, Inc., New York, N. Y. Labelled: "Consists of true maple syrup concentrated by removal of substantially all sugar & water alcohol 6%." This product was made according to Public Use Patent 1,642,789, which was taken out by John W. Sale (since deceased) and John B. Wilson of the U. S. Food and Drug Administration. The process in outline is as follows:

A 28° Baumé syrup is heated to 175-180° F. and treated with a solution containing a weight of barium hydroxide equal to that of the sugars in the sample. The barium hydroxide combines with the sugar in the syrup to form barium sucrate, which precipitates and is filtered off. The filtrate is then treated with just enough sulphuric acid to combine with the barium remaining in the solution, the barium sulphate is filtered off, and the filtrate is concentrated *in vacuo* to one-tenth of its volume. This concentrate is neutralized with calcium carbonate, filtered, and further concentrated to a density of 34° Bé. to make the final product.

Analysis of W.M.-854 showed: Water, 33.70, sucrose, 0.43, invert sugar, 24.25, and total ash, 3.92, per cent; Winston lead number, 10.66; malic acid value, 2.01; copper, 39, lead, 3.9, tin, 20, and zinc, 78, parts per million; no barium. The lead number and ash indicated a seven-fold concentration of the flavoring ingredients in maple syrup. Passed.

K.C.-583 and T.C.-200. *Frostie Old Fashion Tasty Creamy Beverage Base*. The Frostie Company, Baltimore, Md. Labelled: "Ingredients Caramel Color, Root Beer Flavor, Vanillin and Other Artificial Flavors, Saponine, Gum Arabic, Alcohol and Water." Saponin present; adulterated.

J.B.-10. *Gold Medal Imitation Vanilla Flavor*. Fred Fear & Co., Brooklyn, N. Y. Labelled: "Composed of vanillin, ethyl vanillin, coumarin, alcohol, caramel and water." Analysis showed 0.10 per cent of coumarin; adulterated.

T.C.-203. *Hires Root Beer Base*. Charles E. Hires Co., Philadelphia, Pa. No saponin; passed.

J.B.-7. *Imitation Chocolate Vanilla Flavor*. Whitehall Food Mfg. Corp., Brooklyn, N. Y. Coumarin, 0.68 per cent; adulterated.

J.B.-15. *Imitation Vanilla Flavor*. J. Sousville & Sons, East Paterson, N. J. Coumarin absent; passed.

J.B.-19. *Imitation Vanilla Flavor*. Fred Fear & Co., Brooklyn, N. Y. Declared ingredients were: "Vanillin, ethyl vanillin, alcohol, caramel and water." Coumarin absent; passed.

A.L.-246. *Imitation Vanilla Concentrate*. A. Fiorillo & Co., Southington, Conn. Declared ingredients were: "Vanilla, ethyl vanillin, coumarin, alcohol, propylene glycol, caramel color, sugar, water." Analysis showed 0.44 per cent of coumarin; adulterated.

A.L.-247. *Imitation Vanoyl Concentrated Vanilla Flavor*. A. Fiorillo & Co., Southington, Conn. Labelled: "Contains syrup, solvent, ethyl vanillin, coumarin, caramel color." Analysis showed 0.44 per cent of coumarin; adulterated.

K.F.-1327. *Liquid Brand 5144 Root Beer Beverage Base*. Liquid Carbonic Corp., Chicago, Ill. Labelled: "Contains water, sugar, vanillin, vegetable gum, caramel color, artificial flavor & foam." Saponin present; adulterated.

W.M.-835 and 836. *Mason's Root Beer Extract*. Mason & Mason, Inc., Chicago, Ill. Both samples were labelled: "Contains — gum arabic, sugar, vanillin, methyl salicylate, other flavoring oils, caramel color, sodium benzoate." W.M.-835 bore the statement "No Foam" on the lid, and gave negative tests for saponin; W.M.-836 did not carry this statement, and gave positive tests for saponin. One sample was therefore passed while the other was adulterated.

K.C.-601. *Root Beer Beverage Base*. Liquid Carbonic Corp., Chicago, Ill. Labelled: "Contains water, sugar, vanillin, vegetable gum, caramel color, artificial flavor and foam." Saponin present; adulterated.

K.F.-1298. *Root Beer Beverage Base No. 20587*. Liquid Carbonic Corp., Chicago, Ill. Labelled: "Contains water, sugar, vanillin, vegetable gum, caramel color and artificial flavor." Tests for saponin negative; passed.

K.F.-1297 and 1370. *Root Beer Flavor No. 20568*. Liquid Carbonic Corp., Chicago, Ill. Labelled: "Contains water, propylene glycol, and vegetable extractives." Tests for saponin negative; passed.

K.F.-1326. *Root Beer Soda Water Flavor*. V. E. Kohnstamm, Inc., New York, N. Y. Labelled: "Contains essential oils, vegetable gum, caramel color and water." An extract of this sample gave a positive color test for saponins and hemolyzed red blood cells both in the presence and absence of cholesterol. Adulterated with saponin and a non-saponin hemolytic agent.

K.F.-1359. *Root Beer Soda Water Flavor No. 1559*. V. E. Kohnstamm, Inc., New York, N. Y. Tests for saponin negative; passed.

K.F.-1342. *Root Beer Soda Water Flavor No. 1855*. V. E. Kohnstamm, Inc., New York, N. Y. Declared ingredients were: "Essential oil, vegetable gum, aldehydes, caramel color, water." Tests for saponin negative; passed.



*K.F.-1351, 1368 and 1369. Root Beer Soda Water Flavor No. 2135.* V. E. Kohnstamm, Inc., New York, N. Y. Declared ingredients were: "Essential oils, vegetable gum, caramel color and water." Tests for saponin were positive on *K.F.-1351* and *1368* but negative on *K.F.-1369*; this latter sample was passed while the first two were adulterated.

*W.M.-830. Safe Owl Imitation Vanilla Flavor.* Safe Owl Products, Inc., Brooklyn, N. Y. Coumarin absent; passed.

*K.F.-1291. Side Kick Bar Mix.* House of Frothie, Inc., New York, N. Y. Tests for saponin negative; passed.

*K.F.-1294 and 1295. Sour Puss Mixer.* Dell Products Corp., East Orange, N. J. Tests for saponin negative; passed.

*J.B.-22. Sun-Ripe Vanilla Flavored Syrup.* Sun Ripe Orange Co., East Hartford, Conn. Labelled: "Prepared with pure cane sugar, water, imitation vanilla flavor, vanillin, coumarin, and caramel color—1/10 of 1% benzoate of soda." No coumarin could be detected in this syrup, so it was passed.

*K.C.-597. Trik Flavor Base Mixer.* Bo-Mar Products Inc., Union City, N. J. Tests for saponin negative; passed.

*A.L.-243. XX Vanilla Flavor Imitation.* Standard Specialties Co., New York, N. Y. Labelled: "Contains water, solvent, synthetics, ethyl vanillin and caramel color." Coumarin absent; passed.

Two unofficial samples of beverage bases were analyzed for a manufacturer; both were adulterated with saponin:

*9329. Creamy Root Beer No. 3084 Beverage Base.* Flavorex Co., Baltimore, Md. An extract of this sample hemolyzed red blood cells, but hemolysis was prevented by the addition of cholesterol.

*9762. No. 1270 Root Beer Concentrate.* Flavorex Co., Baltimore, Md. An extract of this preparation behaved as did 9329 above.

### Fish and Shellfish

One official sample each of frozen clams, oysters and shrimp, as well as one unofficial sample of oyster shells and crabs, were tested for the Commissioner; two were misbranded and two were passed:

*W.M.-743. Frozen Clams.* Misbranded because the package was unlabelled.

*K.N.-701. Orleans Brand Medium Shrimp.* Orleans Seafood Co., New Orleans, La. This sample was submitted because of a complaint that it contained glass; the "glass" proved to be struvite (magnesium ammonium phosphate) crystals, which form naturally in shellfish on standing and are harmless. Passed.

*7880. Oyster Shells and Small Red Crabs.* Newcomb & Hand, Dover, Del. These were supposed to have been separated from the same lot of oysters as *K.N.-661* below; they weighed 4.76 oz. If they had been present in *K.N.-661* as received they would have constituted adulteration.

*K.N.- 661. Superior Brand Oysters.* Newcomb & Hand, Dover, Del. These oysters were of good quality and only two or three very small pieces of shell were present; passed.

One sample of fresh mackerel which had been treated with a preservative containing boric acid (Sample 7993, page 39) was analyzed to see how much of this adulterant was retained:

*7994. Fresh Mackerel.* George Theil, East Hartford, Conn. Two separate portions of the fleshiest part of the fish which were thoroughly washed before analysis still showed 0.42 per cent of boric acid, proving the "Thermic Fish Keeper" (p.39) could not be removed by washing and was not safe to use.

### Flour

Four samples of flour were examined for the Commissioner, and one sample was tested for compliance with State purchasing specifications for the State Supervisor of Purchases. One sample was passed, and four were misbranded.

The four official samples were taken in connection with an interstate study of the relation of the moisture contents of flours to net weight deficiencies. There is a legal tolerance of eight ounces on individual 24.5 lb. bags of flour; there is no specified tolerance for 10 lb. bags, but on a proportional basis the tolerance for such bags would be 3.27 oz., and it was on this basis that *W.M.-736 and 738* were judged:

*W.M.-738. General Mills Gold Medal Flour.* General Mills, Inc., Minneapolis, Minn. Moisture, 12.27 per cent. Net weight: Declared, 10 lb.; found 9 lb. 11.7 oz. Short weight 4.3 oz.

*W.M.-741 and 742. General Mills Gold Medal Flour.* General Mills, Inc., Minneapolis, Minn. Average moisture content, 11.54 per cent. Net weight; Declared, 25 lb.; found (average), 24 lb. 5.9 oz. Short weight 10.1 oz.

*W.M.-736. Pillsbury's Best Flour.* Pillsbury Mills, Inc., Minneapolis, Minn. Moisture, 11.47 per cent. Net weight; Declared, 10 lb.; found, 9 lb. 11.5 oz. Short weight 4.5 oz.

State purchasing specifications for Enriched Bread Flour call for a minimum of 11.5 per cent protein and a maximum of 0.5 per cent ash; there are also baking test requirements which this laboratory was not equipped to check. The sample submitted by the Supervisor of Purchases met the protein and ash limits:

*9866. Enriched Bread Flour.* Moisture, 12.15; protein, 12.06, and ash, 0.50, per cent.

### Fruit Juices

Twenty-seven unofficial samples of apple juice, five official samples of orange juice, and one official sample each of grape and lemon juice, were analyzed; 33 samples were passed and one was misbranded.

The official samples were the following:

*W.M.-737. A. & P. Brand Concord Grape Juice.* Great Atlantic & Pacific Tea Co., New York, N. Y. Total solids, 16.99, total sugars, 15.07, ash,



0.24, total acidity (as tartaric acid), 0.86, and actual tartaric acid, 0.68, gm./100cc.; P<sub>2</sub>O<sub>5</sub>, 24.8, and K<sub>2</sub>O, 124, mg./100cc. Passed.

**K.N.-670. Birds Eye Frosted Foods Quick Frozen Concentrated Orange Juice.** Birds Eye Division, General Foods Corporation, New York, N. Y. This sample was procured to check on the amount of loss of ascorbic acid (vitamin C) in such juices on standing after dilution. The sample was diluted according to directions with three volumes of tap water, this reconstituted juice was placed in the refrigerator, and portions were withdrawn daily and analyzed for ascorbic acid. Results were as follows:

Days since dilution	Ascorbic acid, mg./100cc.
1	53
2	49
3	48
7	42

The average percentage loss of ascorbic acid per day under these conditions was 3.5.

**K.F.-1255. Cott California Lemon Juice, Reconstituted, Natural Strength.** Cott Pure Fruit Syrup Corp., Manchester, N.H. Labeled: "Contains pure California lemon juice reconstituted to natural strength with purified water, vegetable stabilizer added, preserved with less than 1/10 of 1% of sodium benzoate." Analysis showed: Ash, 0.406 gm./100cc.; K<sub>2</sub>O, 178, and ascorbic acid, 19.2, mg./100cc. Comparison with values found on authentic fresh lemon juice prepared at this Station<sup>7</sup> showed 111 per cent as much potash but only 43 per cent as much ascorbic acid. The claim of "natural strength" was therefore misleading, since while the flavor strength was essentially that of fresh lemon juice the vitamin C content was less than half as great. Misbranded.

**T.C.-163 and 164. Freshly Squeezed Pure Orange Juice.** First National Store, East Hartford, Conn. These samples were freshly squeezed from whole oranges in the presence of the inspector, and were therefore authentic. They were taken primarily to study the rate of loss of ascorbic acid on standing, but were also analyzed for ash and K<sub>2</sub>O in order to accumulate additional information on the proportions of these ingredients occurring in unaltered orange juice. These juices were analyzed for ash, K<sub>2</sub>O and ascorbic acid immediately upon receipt (two days after preparation), then placed in the refrigerator and portions withdrawn every other day and reanalyzed for ascorbic acid. Results were as follows:

No.	Age in days	Ash, gm./100cc.	K <sub>2</sub> O, gm./100cc.	Ascorbic acid, mg./100cc.
T.C.-163	2	0.471	271.0	49.4
	6			46.9
	8			46.9
T.C.-164	2	0.482	274.4	49.0
	6			47.9
	8			47.8

The average percentage loss of ascorbic acid per day was 0.7 — only one-fifth of the rate found for the reconstituted juice K.N.-670.

<sup>7</sup>Conn. Agr. Expt. Sta. Bul. 558, 33 (1952).

Two other authentic juices were analyzed in 1937<sup>8</sup>; the average values found in the two years were as follows:

	1937	1954	Average of all
Ash, gm./100cc.	0.409	0.477	0.443
K <sub>2</sub> O, mg./100cc.	227.	273.	250.
Ascorbic acid, mg./100cc.	47.8	49.2	48.5

**A.F.-152. Snow Crop Pure Concentrated Orange Juice, True Natural Flavor.** Snow Crop Division, Clinton Foods, Inc., New York, N. Y. Tests for monochloroacetic acid and quaternary ammonium compounds negative; odor and flavor of 1:3 dilution O.K. Passed.

**K.N.-671. Quick Frozen Snow Crop Pure Concentrated Orange Juice.** Clinton Foods, Inc., New York, N. Y. This sample was procured for the same purpose as K.N.-670 and tested in the same manner; results were as follows:

Days since dilution	Ascorbic acid, mg./100cc.
0	54
1	51
2	49
3	46
7	40

Average percentage loss of ascorbic acid per day in the reconstituted juice was 3.7 — nearly the same as the 3.5 found for K.N.-670.

The 27 unofficial samples of apple juice were all analyzed for Dr. Philip Garman of our Entomology Department in connection with studies of the effect of various types of spray treatment on the quality of apples; maximum, minimum and average values found were as follows:

	Maximum, gm./100cc.	Minimum, gm./100cc.	Average, gm./100cc.
Total acidity as malic acid	0.87	0.38	0.63
Invert sugar	7.94	7.22	7.47
Sucrose	3.97	2.90	3.59
Total sugars	11.70	10.41	11.23

### Honey

Two official and two unofficial samples of honey were examined. Analyses are given in Table 5; two samples were passed and two were adulterated.

### Jellies and Preserves

Four samples of jelly and two of preserves were submitted by the Commissioner; four were passed and two were misbranded. Analyses are given in Table 6.

### Mayonnaise and Salad Dressing

Two official and two unofficial samples of mayonnaise and two official samples of French dressing were examined; analyses are given in Table 7. Five samples were passed and one was misbranded.

<sup>8</sup>Conn. Agr. Expt. Sta. Bul. 415, 684 (1938).

TABLE 5. HONEY

No.	Manufacturer or distributor and brand	Direct Polarization, °V, 20°C	Invert Polarization, °V, 20°C	Sucrose	Dextrose		Water	Ash	Remarks
					per cent	Added Glucose			
9779	R. E. Andrews, Torrington, Conn. <i>Dark</i>	+3.79°	+19.90°	6.57	3.58	58.94	17.54	0.73	Either wood (hickory, oak or poplar) or honeydew honey; could not be legally sold as honey because dextrorotatory
A.L.-188*	Brookvale Apiary, Northford, Conn.	-5.52°	+11.54°	7.11	35.48	29.36	5.60	20.60	Molasses-like flavor, but passed
8670	Philemon J. Hewitt, Jr., Litchfield, Conn.	+12.61°	+23.47°	11.43	33.14	26.25	22.05	17.30	Honeydew honey; cannot be sold legally as honey
K.F.-1256†	Origin unknown	-12.87°	+9.37°	2.44	39.44	35.77	10.44	17.90	0.23 Passed

\* Aniline chloride number 8.5.

† Aniline chloride number 2.1.

TABLE 6. JELLIES AND PRESERVES

No.	Manufacturer or distributor	Total solids, per cent	Total sugars, per cent	Ash, per cent	Acidity, per cent	K <sub>2</sub> O, mg./100gm.	P <sub>2</sub> O <sub>5</sub> *, mg./100gm.	Juice (est.), per cent	Remarks
J.D.-124	Hartford Sugar Co., Hartford, Conn. <i>Hasco Pure Apple Cherry Jelly</i>	68.91	64.16	0.19	0.50*	103	16.5	63	Passed
W.M.-788	Hodes Bros., New Haven, Conn. <i>Social Brand Pure Strawberry Jelly</i>	70.54	65.01	0.18	0.59†	73	16.2	37	Deficient in juice content; misbranded
A.L.-282 and 283	Lincoln Foods, Inc., Lawrence, Mass. <i>Lincoln Tropical Fruit Preserves</i>	65.98	56.80	0.19	0.54†	64	15.9	47	Passed
A.L.-218	Miner, Read & Tullock, New Haven, Conn. <i>Sunrise Mint Jelly</i>	72.46	66.34	0.28	0.61*	90	10.6	49	Misbranded because not labelled "Apple Jelly, Mint Flavoring and Artificial Coloring Added"

\* As malic acid

† As citric acid

TABLE 7. MAYONNAISE AND SALAD DRESSING

No.	Manufacturer or distributor and brand	Egg yolk, per cent	Egg white, per cent	Oil, per cent	Type of oil	Vinegar, per cent	Strength of vinegar, per cent	Sugar, salt, spices, per cent	Added water, per cent	Remarks
K.C.-564	W. B. Case Box Lunch Co., Bridgeport, Conn. Silver Star Mayonnaise	5.46	1.02	88.26	Corn or Soy with 10% peanut	2.68	8.89	2.58	---	Passed.
1613	Miner, Read & Tullock, Inc., New Haven, Conn. Sunrise Mayonnaise	8.55	4.19	74.15	Cotton-seed	7.49	9.61	5.62	---	Passed.
K.F.-1257	Mott's Super Markets, Waterbury, Conn. Mott's Mayonnaise Sunrise Mayonnaise	6.91	1.12	80.29	Corn or soy	10.00	4.00	1.53	0.15	Misbranded because no address given.
A.L.-219	Recipe Foods, Inc., Baltimore, Md. Bennett's Continental Style French Dressing	4.69	0.45	48.95	Corn or soy	34.06	4.52	11.85	---	Passed.
A.L.-220	Recipe Foods, Inc., Baltimore, Md. Bennett's Continental Style French Dressing	4.54	0.84	48.93	Corn or soy	33.78	4.71	11.91	---	Passed.
1612	Otto Seidner, Inc., Westerly, R.I. Mayonnaise Seidner	9.99	4.02	69.45	Cotton-seed	11.62	6.12	4.92	---	Labelled "Rich in egg yolk"; passed.

## Meat and Meat Products

## Frankforts

Under State Regulation 186-27.13, Frankfort and other types of sausage may not contain more than 3.5 per cent of added ingredients such as cereal, dry skim milk, soy flour and starch, must be free of sulphites, and may not contain more than 10 per cent of added water; if the casings are artificially colored the coloring must be declared.

Four official samples of frankforts were analyzed to check compliance with these regulations; one was passed and three were misbranded:

*K.N.-668. Capitol Brand Superior Quality Skinless Frankfurts.* Hartford Provision Co., Hartford, Conn. Water, 51.74, protein, 12.69, lactose, 3.59, dextrose, 0.47, dry skim milk, 6.97, and added water, 0.99, per cent; starch, soy flour and benzoate absent. Misbranded because of excessive dry skim milk; also misbranded because the statement "Inspected and passed by Board of Health of State of Connecticut" was false.

*A.L.-223. Frankfurters.* Home Meat Center, Meriden, Conn. Water, 56.90, protein, 13.44, lactose, 1.48, dextrose, 0.24, dry skim milk, 2.88, and added water, 3.14, per cent; starch and soy flour absent. Passed.

*E.C.-661. Frankfurts.* Otto Czikowsky's Quality Meats, Taftville, Conn. Water, 63.24, protein, 14.65, lactose, 4.18, dextrose, 0.21, dry skim milk, 8.12, and added water, 4.87, per cent; starch absent. Misbranded because of excessive dry skim milk.

*E.C.-663. Roessler's Yellow Tag Frankfurts.* Sachem Provision Co. Division, Carl Roessler, Inc., Norwich, Conn. Water, 59.85, protein, 12.56, lactose, 3.09, dextrose, 0.92, dry skim milk, 6.00, and added water, 10.63, per cent; starch absent. Misbranded because of considerable excess of dry skim milk and slight excess of added water.

## Hamburg

Regulation 186-27.10 defines "Hamburg, Hamburger" as "comminuted fresh beef, with or without addition of suet", and sets a fat limit of 30 per cent; the addition of sulphites to hamburger (as well as all other meat products) is forbidden. It should be noted that the Connecticut standard differs from the Federal one in not permitting the presence of seasoning.

Eighty-one samples of hamburger were submitted by the Commissioner. Fat was determined on 77 of these, most of which were also tested for sulphite; three samples were tested for sulphite only; and one sample was tested only for the presence of benzoate. Fifty-nine samples were passed; 19 contained excess fat; and three (*T.C.-167 to 169*, manufactured by Eastbrook Beef Co., Providence, R. I.) were found to be preserved with sulphite. Analyses of the excessively fatty samples are given in Table 8.

Three samples of hamburger from the Cheshire High School cafeteria, *1680 to 1682*, which were submitted because of their suspiciously red color, were tested for sulphite with negative results.

Seven "Kosher" hamburgs were tested for the State Police. As has been noted before<sup>9</sup>, because ground beef prepared according to the

<sup>9</sup>Conn. Agr. Expt. Sta. Bul. 585, 35 (1954); 596, 29 (1955).

TABLE 8. HAMBURG CONTAINING EXCESSIVE FAT

City or town	No.	Market or restaurant	Fat, per cent
Danielson	T.C.-202	Great Atlantic & Pacific Tea Co.	34.67
Jewett City	T.C.-207	Ruzyena's Market	36.31
	T.C.-209	Ruzyena's Market	37.06
Middletown	J.B.-304	Popular Markets	33.27
Mystic	E.C.-689	Pic & Pay Supermarket	38.14
New Britain	J.B.-302	Charter Oak Market Basket	33.37
	J.B.-2	L & L Super Food Stores	31.00
New Haven	W.M.-848	City Market	34.89
	W.M.-811	J. Moro & Sons	31.17
	W.M.-849	J. Moro & Sons	30.74
	W.M.-804	Mott's Market	35.45
Norwich	E.C.-690	United Fruit Store	37.30
	E.C.-697	Universal Food Stores	30.16
Putnam	T.C.-197	Weiss Bros.	40.33
	T.C.-218	Weiss Bros.	34.74
	T.C.-219	Weiss Bros.	33.46
Willimantic	T.C.-210	Felman's Store	33.41
	T.C.-213	Ferrigno's Super Market	32.52
	T.C.-211	Great Atlantic & Pacific Tea Co.	37.29

TABLE 9. HAMBURG SOLD AS "KOSHER"

City	No.	Market	Sodium chloride, per cent (dry basis)
Hartford	7667	Crown Meat Market	0.94
	7663	Ideal Meat Market	1.96
	7665	Irving Meat Market	1.59
	7664	Mazny's Meat Market	2.88
	7669	Paramount Meat Market	1.07
	7668	Salisbury Meat Market	2.02
	7666	Sanitary Meat Market	2.16

regulations of the Orthodox Jewish dietary code is treated with salt, "Kosher" hamburger contains much more salt than does the normal variety, whose salt content on the dry basis is only 0.25 per cent. Analyses of the 1954 "Kosher" hamburger samples are given in Table 9; all were passed, although one (7667) contained suspiciously little salt.

**Meat Loaves**

Two miscellaneous meat products were submitted by the Commissioner; one was passed and the other was misbranded:

*K.C.-563. Roessler's Honey Ham.* Roessler Packing Co., New Haven, Conn. Labelled "Ingredients: Lean pork meat, beef, dried skim milk, water, sugar, salt, spices, sodium nitrate and sodium nitrite." This meat loaf was misbranded because it contained neither honey nor ham.

*E.C.-669. Veal Loaf.* Bury's, Moodus, Conn. Labelled: "Ingredients: Veal, pork, water, non fat milk powder, onions, spices." Analysis showed: Lactose, 2.57; dextrose, 0.67, and dry skim milk, 4.99, per cent.

Connecticut Regulation 186-27.11 defines "Meat Loaf" as "the product consisting of a mixture of comminuted meat with spice and/or with cereals, with or without milk and/or eggs, pressed into the form of a loaf and cooked". This standard was intended to define the type of product that the ordinary housewife prepares and calls a "meat loaf" rather than the canned essentially all-meat product that is known as a "meat loaf" in the packing trade. This was done deliberately because it was believed that the general intent of the Food, Drug and Cosmetic Act was that all foods be labelled with the names by which they were known to the general public — that is, their "common or usual names" — and that where such names had different meanings to the general public and a specialized trade, common usage should govern. It has nevertheless been recognized that as a practical matter objection should not be taken to products in interstate commerce that are labelled in compliance with differing Federal regulations, and such products have been passed.

Although the standard mentions "milk" and not dry skim milk as an ingredient of meat loaf, *E.C.-669* was passed.

**Pork Sausage**

Regulation 186-27.12 sets a limit of 50 per cent fat for "pork sausage and breakfast sausage". Three samples of pork sausage were examined for the Commissioner; two were passed and one was misbranded:

*E.C.-660. Pork Sausage.* Otto Czikowsky's Quality Meats, Taftville, Conn. Water, 49.89; protein, 10.94; fat, 36.81, and added water, 6.53, per cent. Passed.

*E.C.-668. Pork Sausage Links.* Bury's, Moodus, Conn. Water, 33.65; protein, 10.66; fat, 52.78, and added water, 0.00, per cent. Misbranded because of excessive fat.

*K.N.-669. Sausage.* Hartford Provision Co., Hartford, Conn. Tests for sulphite and benzoate negative; passed.

**Oils, Vegetable****Blended Oils**

Ten official and three unofficial samples of oils sold as blends of olive with other oils were examined; four were passed and nine were adulterated or misbranded:

*K.F.-1254. Belmonte 75% Peanut and Corn Oil 25% Imported Olive Oil.* Castelcarini Packing Co., Brooklyn, N. Y. Butyro refraction (25°C.), 69.6; squalene, 61.6 mg./100gm.; estimated per cent olive oil, 11; peanut oil, about 5 per cent; cottonseed and mineral oils and artificial flavor and color not detected. Probably deficient in olive oil; definitely misbranded because peanut oil was not the major constituent.

*W.M.-844. Lucci Brand 90% Corn Oil 10% Pure Olive Oil.* Lucci Sales Co., Brooklyn, N. Y. Butyro refraction (25°C.), 69.6; squalene, 75 mg./100gm.; estimated per cent olive oil, 16; cottonseed, peanut and mineral oils and artificial color not detected; flavor doubtful; net contents 127.7 fl. oz. Passed.

*8947. Oil.* Rosner's Market, New Haven, Conn. Butyro refraction (25°C.), 69.3; squalene, 39 mg./100gm.; estimated per cent olive oil, 6; peanut oil, about 10 per cent; cottonseed and mineral oils and artificial flavor and color not detected. Passed.

*K.C.-603, 609, 610, 616 and 623. Paradiso Brand 75% Peanut or Corn Oil 25% Pure Olive Oil.* Imported and Domestic Oil Co., Brooklyn, N. Y. Average analysis showed: Butyro refraction (25°C.), 69.3; squalene, 43 mg./100gm.; estimated per cent olive oil, 6; cottonseed oil present (except in *K.C.-623*); peanut oil, trace or none; no mineral oil; artificial flavor and color present (except in *K.C.-623*); net contents, 122.2 fl. oz. (except for *K.C.-623*, which was a 6 fl. oz. bottle). All samples except *K.C.-623* adulterated with cottonseed oil, coal tar dye and artificial flavor. All samples misbranded because of deficiency in olive oil and absence of peanut oil. *K.C.-603, 609, 610 and 616* also misbranded because not labelled "Imitation Olive Oil" and short volume 5.8 fl. oz.

*W.M.-809, 845 and 846. Sasso Brand 80% Peanut and Corn Oil 20% Pure Imported Olive Oil.* Sasso Sales Co., Brooklyn, N. Y. Average analysis showed: Butyro refraction (25°C.), 69.5; squalene, 64 mg./100gm.; estimated per cent olive oil, 13; peanut oil, about 10 per cent in *W.M.-809* and little or none in *W.M.-845 and 846*; mineral oil and artificial flavor and color not detected; net contents (*W.M.-845 and 846*), 127.0 fl. oz. *W.M.-809 and 846* adulterated with cottonseed oil; all samples misbranded because peanut oil was either absent or a minor ingredient.

*251. Santuzza Brand Oil, 75% Corn Peanut, 25% Pure Olive Oil.* Carmela Mia Packing Co., Inc., Brooklyn, N. Y. Butyro refraction (25°C.), 68.6; squalene, 78 mg./100gm.; estimated per cent olive oil, 17; peanut oil about 10 per cent; cottonseed oil trace; no mineral oil; artificial flavor and color not detected. Net contents: Declared, one quart; found, 32.3 fl. oz. Passed.

*250. 25-75 Blend.* Antonio B. Ardolino, New Haven, Conn. Butyro refraction (25°C.), 68.2; squalene, 82 mg./100gm.; estimated per cent olive oil, 18; peanut oil, about 10 per cent; cottonseed oil faint trace; mineral oil and artificial flavor and color not detected. Passed.

#### Corn Oil and Cocoa Butter

One sample sold as corn oil was analyzed for the Commissioner, and certain fat constants were determined on an unofficial sample of cocoa butter in connection with an investigation of a sample of milk chocolate:

*W.M.-725. Corn Oil.* C. F. Simon's Sons, Inc., Philadelphia, Pa. Butyro refraction (25°C.), 68.2; peanut oil, about 20 per cent; cottonseed oil present; mineral oil and artificial flavor and color not detected. Adulterated and misbranded; little or no corn oil present; probable composition about 80 per cent cottonseed oil and 20 per cent peanut oil.

*8789. Hershey Cocoa Butter.* Hershey Chocolate Corp., Hershey, Pa. Butyro refraction (40°C.), 45.8; Reichert-Meissl value, 0.26.

#### Olive Oil

Eleven samples of oils sold for olive oil were submitted by the Commissioner, and three samples were analyzed for private citizens; ten samples were passed and four were adulterated or misbranded. The adulterated and misbranded samples were the following:

*W.M.-734 and 740. Casa Reale Brand Pure Imported Olive Oil.* Sunset Oil Packing Co., Brooklyn, N. Y. Average analysis showed: Butyro refraction (25°C.), 67.0; squalene, 145 mg./100gm.; estimated per cent olive oil, 41; cottonseed, peanut, rice and mineral oils and artificial flavor and color not detected. Adulterated with corn or soy oil.

*7770. Pure Olive Oil.* John Raccio, West Haven, Conn. This can was sold to Mr. Raccio as containing pure olive oil direct from Italy, but when opened it proved to be filled mostly with several pounds of moldy sausage.

*E.C.-659. Pure Olive Oil Extra Fine Lion Brand Imported.* Lion Brand Products Co., Boston, Mass. Net contents: Declared, one gallon; found, 125.0 fl. oz. Short volume 3.0 fl. oz.

#### Preservatives

*J.B.-24. Manah Preservative,* manufactured by Whitaker Manah, Tulsa, Okla., was submitted by the Commissioner because it was understood that it was being used in commercial hamburger. Declared ingredients were: "Salt, Sugar, Sodium Benzoate, Bicarbonate of Soda and Calcium Stearate."

Other samples of this product were analyzed in 1947 and 1948<sup>10</sup>, at which time the composition was shown to be approximately: Sodium benzoate, 5, sodium bicarbonate, 5, sugar (sucrose), 33, salt, 54, and water, 3, per cent. The only difference in the present sample appeared to be the addition of calcium stearate, presumably added in trace amount to prevent caking.

The sample itself was not illegally labelled and had to be passed, but its usage on hamburger would be illegal because regulations prevent the addition of any preservative to *fresh* meat, which by definition is what hamburger is.

*7993, Thermic Fish Keeper,* submitted by George Theil, East Hartford, Conn., was labelled: "Contains — Boric Acid, salt, cornstarch, alum." An accompanying circular read in part as follows:

<sup>10</sup>Conn. Agr. Expt. Sta. Bul. 528, 29 (1949); 538, 26 (1950).

"A substance to keep your favorite catch, stream or lake fresh. I have used this formula for a good many years, and have had excellent results up to a six week period. In other words, your fish that are treated with this preparation, can be kept without refrigeration for as long as six weeks."

After stating "Clean inside of fish thoroughly . . . then remove the gills . . . Do not scale or skin fish", the circular directed:

"Dry fish inside and outside with newspaper or cloth. Now sprinkle on the powder, that means all over the fish, inside and outside. Then wrap each fish individually in newspaper.

"When ready to use just scale or skin your fish and wash off with cold water, soak about ten minutes in cold water. There is nothing in this formula that can hurt you, so don't be afraid if you think you didn't get it all off."

Mr. Theil submitted this sample, together with some fresh mackerel he had treated with it, to see if it were safe to use. Results of our examination of the mackerel (Sample 7994) are given on page 29. Analysis of the "Thermic Fish Keeper" showed: Boric acid ( $H_3BO_3$ ), 24.82, salt (NaCl), 74.79, and starch and alum (by difference), 0.39, per cent.

Years ago commercial dried salt codfish used to be treated with boric acid as a preservative; this boric acid was intended to be removed by soaking and rinsing before the fish was cooked. This practice has long been abandoned because of the known toxic properties of boric acid, and a specific regulation under our old food and drug law<sup>11</sup> stated that "It is held that the presence of boric acid . . . in normal food may render such food injurious to health, and (its) presence is therefore an adulteration." Mr. Theil was advised that it was not safe to use the "Thermic Fish Keeper" and that sale of any fish treated with it would be illegal.

### Spices and Condiments

Six samples of black pepper, five of horseradish and one of mustard were examined for the Commissioner, and one sample of a hamburger seasoning was tested for the Cheshire school cafeteria system. Ten samples were passed and three were adulterated or misbranded:

*K.C.-617 and 621 and S.O.-323 and 324. Carolinda Pure Horse Radish.* Carolinda Fine Foods, Greenwich, Conn. Labelled: "Pure horse radish root, distilled vinegar, salt, less than 1/10 of 1% sulphur dioxide." Microscopic examination showed the presence of foreign vegetable material (probably turnip) in *K.C.-617*, which was consequently adulterated; the other three samples were passed.

*K.C.-590 and W.M.-813. Fischer's Astor Pure Ground Black Pepper.* B. Fischer & Co., Inc., New York, N. Y. No evidence of adulteration; passed.

*K.F.-1391. Horse Radish Cream Sauce.* C. B. Fraser, Inc., New Haven, Conn. No evidence of adulteration; passed.

<sup>11</sup>Rules and Regulations Relating to the Food and Drug Law of Connecticut, Regulation 7(d) (July 1, 1937).

*K.F.-1286, E.C.-628 and K.N.-677. Maison Royal Pure Black Pepper Ground.* Food Trading Corp. of America, New York, N. Y. No evidence of adulteration; passed.

*1683. Milani's Base Mix for Meat Loaves—Hamburgers, Etc.* Louis Milani Foods, Inc., Chicago, Ill. Labelled: "Contains bread crumbs, salt, flour, monosodium glutamate, sugar, beef extract, spice and dehydrated vegetables." Test for sulphite negative; passed.

*W.M.-799. Mister Mustard Brand, Dijon Style.* Frank Tea & Spice Co., Cincinnati, Ohio. Net wt., 1.27 oz. This sample of prepared mustard was misbranded because the label bore no net weight or ingredient statement.

*W.M.-744. Pure Black Pepper.* Rosner's Market, New Haven, Conn. No adulteration was found on microscopic examination, but sample was misbranded because it was unlabelled.

### Spray Residues

Since 1931 inspectors of the Food and Drug Commission have sampled to a greater or lesser degree the products of Connecticut apple orchards to see whether they contained excessive spray residue. The permitted limits are 0.050 grain/lb. of lead, 0.025 grain/lb. of arsenic trioxide and seven parts per million of DDT.

This year only two official apple samples were received; one was passed and one contained excessive lead:

*A.L.-226. Apples.* Hazenhurst Orchards, Haddam, Conn. Lead, 0.023 grain/lb. Passed.

*T.C.-216. Apples.* Phillips Market, Willimantic, Conn. Arsenic trioxide, 0.021, and lead, 0.070, grain/lb. Excess lead; adulterated.

Three unofficial samples, two of peach branches and one of soil from under some rose bushes, were analyzed for arsenic as follows:

*349. Peach Branch.* Plant Pathology Dept. Arsenic trioxide, 25 parts per million.

*402. Peach Branch.* Plant Pathology Dept. Arsenic, none.

*8700. Soil from around Rose Bushes.* Isaac P. Kellogg, Washington, Conn. Arsenic trioxide, 1.8 parts per million.

### Syrups

Five samples of fruit-flavored syrups and one of coffee syrup were submitted by the Commissioner, and one sample of maple syrup was tested for a consumer. Six samples were passed and one was adulterated.

Analyses of the official samples are given in Table 10; the maple syrup was the following:

*8991. Maple Syrup.* Frank Vece, North Haven, Conn. Alcohol, 0.26 per cent by volume; zinc, 5 parts per million; no lead or copper; odor, slight moldy. This sample had begun to ferment.

TABLE 10. SYRUPS

No.	Manufacturer or distributor and brand	Total solids, gm./100cc	Total sugars, gm./100cc	Ash, gm./100cc	Total acidity, gm./100cc	K <sub>2</sub> O, mg./100cc	P <sub>2</sub> O <sub>5</sub> , mg./100cc	Estimated per cent juice	Remarks
A.L.-216	Bershire-Lehigh Co-Op. Fruit Growers, Inc., Fleetwood, Pa. Wiltrick's 4 to 1 Brand Concentrated Mix for Grape Drink	59.23	54.19	0.097	1.67*	35.9	15.7	27	Passed
W.M.-776	S. C. Clayton Co., Inc., Boston, Mass. Za-Rex Brand Pure Fruit Flavored Raspberry Syrup	94.56	86.80	0.156	0.94†	29.1	5.0	10	Passed
A.L.-214	Snow Crest Beverages, Inc., Salem, Mass. Snow Crest Concentrated Pure Cherry Flavored Syrup	93.02	84.16	0.169	1.51†	32.9	5.6	10	Passed
A.L.-213	Snow Crest Beverages, Inc., Salem, Mass. Snow Crest Concentrated Pure Grape Flavored Syrup	89.95	84.04	0.144	1.33*	31.0	5.9	17	Passed
A.L.-212	Snow Crest Beverages, Inc., Salem, Mass. Snow Crest Concentrated Pure Raspberry Flavored Syrup	91.71	83.84	0.158	1.38†	29.5	4.9	10	Passed
A.L.-215	Snow Crest Beverages, Inc., Salem, Mass. Snow Crest Concentrated Pure Strawberry Flavored Syrup	93.19	85.48	0.163	1.25†	25.6	4.9	9	Passed
K.F.-1348	Cott Pure Fruit Syrup Corp., Manchester, N. H. Cott Coffee Syrup	67.20							

\* As tartaric acid.

† As citric acid.

Caffeine 9.9 mg./100cc. Labelled: "Made from fresh roasted coffee beans, cane sugar syrup and 1/10 of 1% benzoate of soda". Caffeine content indicated only 0.6% coffee, but coffee odor and flavor were strong. Probably prepared from a coffee flavor rather than "fresh roasted coffee beans", but passed pending factory inspection.

Vegetable Products

Three samples of tomato juice, and one sample each of canned tomatoes and tomato purée, were submitted by the Commissioner; four samples were passed and one was misbranded:

J.D.-122. Iona Tomato Juice, Salt Added, Standard Quality Grade C. Great Atlantic & Pacific Tea Co., New York, N.Y. Net contents: Declared, 1 pt. 2 fl. oz.; found, 18.8 fl. oz. Ascorbic acid, 0.15 mg./cc. According to "Accepted Foods" <sup>12</sup>, the average vitamin content of canned tomato juice is 0.20 mg./gm., and the range is 0.13-0.29 mg./gm. Passed.

J.D.-123. Iona Tomato Purée. Great Atlantic & Pacific Tea Co., New York, N. Y. Net contents: Declared, 10½ oz.; found, 10.1 fl. oz. Ascorbic acid, 0.22 mg./cc. Passed.

K.C.-600 and A.L.-217. Park Foods Brand Fancy Tomato Juice. Park City Food Products, Inc., Bridgeport, Conn. Declared net contents were 1 quart 14 fl. oz. Net contents found were: For K.C.-600 (average of 6 cans), 46.02 fl. oz.; for A.L.-217, 42.6 fl. oz. K.C.-600 was passed; A.L.-217 was short volume 3.4 fl. oz.

W.M.797. Tomatoes. Connecticut Canning Co., New Haven, Conn. This sample was sent to the New York District of the U. S. Food and Drug Administration for mold count determinations; they reported that no mold was found. Passed.

Two samples of tomato purée and one of tomato paste were analyzed for dealers:

617. Contadina Tomato Paste. Birdsall & Wilcox, New Haven, Conn. This was purchased on a 30 per cent solids basis. Analysis showed: Total solids, 29.13; salt, 0.50, and salt-free solids, 28.63, per cent.

6340 and 6341. Tom Tom Fancy California Tomato Purée. Valley Canning Co., Sonoma, Calif. Analysis was as follows:

No.	Specific Gravity	
	Declared	Found
6340	1.045	1.049
6341	1.060	1.056

Two hundred and sixty samples of dried potatoes were analyzed for the Tobacco Laboratory of this Station; maximum, minimum and average values were as follows:

	Maximum, per cent	Minimum, per cent	Average, per cent
Potassium	4.55	2.65	3.31
Calcium	0.151	0.043	0.073
Magnesium	0.21	0.09	0.15
Sodium	0.13	less than 0.01	0.06
Chlorine	0.89	0.23	0.47

Vinegar

Eight official samples of wine vinegar, two official and five unofficial samples of cider vinegar, and one unofficial sample each of distilled and

<sup>12</sup>American Medical Association, 1939, p. 54.

honey vinegar, were analyzed; four samples were passed and 13 were misbranded. Analyses of the wine vinegars are given in Table 11; results on the other vinegars were as follows:

9501 to 9503. *Cider Vinegars*. R. W. Young, Clintonville, Conn. Analyses were as follows:

No.	Total acidity (as acetic acid), gm./100cc.	Alcohol, per cent by volume
9501	2.23	0.53
9502	3.96	1.20
9503	0.83	0.93

All samples were incompletely fermented and none fully met the legal standard of 4 per cent acetic acid, although 9502 approached it.

K.C.-567. *Duffy's Gold Seal Pure Cider Vinegar*. Duffy-Mott Co., Inc., New York, N. Y. Labelled: "Reduced with water to 40 grain. Made of fresh whole apples." Analysis showed: Total solids, 1.44, ash, 0.20, and total acidity (as acetic acid), 5.11, gm./100cc.; caramel absent. Misbranded because not "pure" but diluted cider vinegar and because the concentration was not "40 grain" but "50 grain."

K.C.-574. *Grisdale Brand Strictly Fancy Quality Pure Apple Cider Vinegar*. Gristede Bros., Inc., New York, N. Y. Total solids, 1.40, ash, 0.24, and total acidity (as acetic acid), 4.85, gm./100cc. Sample failed to meet the 1.6 per cent solids requirement of the statutes (G. S. 3896) for pure cider vinegar.

397. *Honey Vinegar*. W. M. Bradley, New Haven, Conn. Total acidity (as acetic acid), 0.96 gm./100cc. Incompletely fermented.

8878 and 8879. *Vinegar Stock*. Robert W. Young & Sons, Clintonville, Conn. Analyses were as follows:

No.	Total acidity (as acetic acid), gm./100cc.	Alcohol, per cent by volume	pH
8878	0.94	0.80	3.90
8879	2.33	1.20	3.68

Both samples were incompletely fermented.

K.F.-1272. *Winner Distilled White Vinegar*. William Shure, Inc., Waterbury, Conn. Total acidity, 4.27 gm./100cc.; permanganate oxidation number, 3.12. Passed.

#### Water

In spite of what is apparently a common impression to the contrary, this Station has never made sanitary analyses of drinking water; the only State laboratory that does make such analyses is the Bureau of Laboratories of the State Department of Health in Hartford. Occasionally we do determine the elemental composition of mineral waters, analyze water supplies for chemical contamination, and check the acidities of well waters to see if they are likely to cause corrosion of copper plumbing.

During 1954 six samples of brook, pond and well waters were tested for the Waterbury Health Department, a commercial laboratory, a nursery and private citizens, as follows:

TABLE 11. WINE VINEGAR

No.	Manufacturer or distributor and brand	Total solids, gm./100 cc.	Ash, gm./100 cc.	Total acidity (as acetic acid), gm./100 cc.	Actual tartaric acid, gm./100 cc.	Color	Remarks
W.M.-843	Giambanco Wine Vinegar Plant, Oakland, Calif. <i>Pee Gee</i>	1.41	0.22	5.10	0.08	natural	Acidity guaranteed 5%; passed
K.C.-575	Gristede Bros., Inc., New York, N.Y. <i>Grisdale</i>	1.86	0.13	5.10	0.11	natural	Passed
K.F.-1388	J. Assola Co., New York, N.Y. <i>Tortino</i>	2.97	0.29	4.98	0.11	natural	Labelled "PURE WINE VINEGAR" and "Reduced with Water to 5% Acetic Strength"; misbranded because a diluted vinegar is not "pure".
K.F.-1389	J. Assola Co., New York, N.Y. <i>Tortino</i>	2.97	0.29	5.13	0.13	natural	Misbranded; see above
A.L.-227	Palmieri Food Products, New Haven, Conn. <i>Pure California</i>	2.12	0.60	5.06	0.12	natural	Passed
K.C.-557	Reid Murdock, Chicago, Ill. <i>Monarch</i>	1.37	0.37	4.90	0.06	natural	Labelled "Pure wine vinegar 5% acidity"; misbranded because acidity was below that declared and sample was not "pure" but diluted wine vinegar.
K.C.-551	J. L. Sclafani, New York, N.Y. <i>Sclafani</i>	2.25	0.20	4.98	0.10	natural	Misbranded because not "pure" wine vinegar as labelled but vinegar diluted with water.
K.C.-565	Uddo and Taormina Co., Brooklyn, N.Y. <i>Progresso</i>	1.14	0.09	5.09	0.03	natural	Labelled "Pure wine vinegar reduced with water to 5% acetic strength"; misbranded because no diluted vinegar is a "pure" vinegar.



8877. *Brook Water*. Nutile Nursery, North Haven, Conn. This sample was submitted to check whether it was responsible for the formation of white spots on the leaves of flowers that were sprayed with it. Analysis showed: Total solids, 114, calcium, 50, magnesium, 10, and sodium, 15, parts per million; pH, 6.75. This water was considered normal.

194. *Pond Water*. Fairfield Laboratory, Bridgeport, Conn. Goldfish were dying in this pond, and spraying with DDT was suspected as the cause, but analysis showed no DDT in the water.

133. *Water from Fish Pond*. L. S. Downey, Woodbridge, Conn. All the fish had died in this pond, which had a heavy scum; analysis showed a dissolved oxygen content of only 1.8 parts per million, which pointed to oxygen deficiency as the cause of the fishes' deaths.

239. *Water from Well near Hitchcock Lake, Wolcott*. Waterbury Health Dept. This well water was submitted to determine the cause of its turbidity and purplish color. X-ray examination of dust from the boring made when the well was driven (Sample 240, page 51) showed that the purplish color was due to biotite ("black mica", mixed hydrated oxides of iron) held in suspension by clay particles. The filtered water was clear, and had a total iron content of only 0.11 p.p.m. and a pH of 6.75.

9330. *Well Water*. Ernest H. Hart, Orange, Conn. Contamination with gasoline was suspected but not found; the lead content of the water was less than 0.01 p.p.m.

451. *Well Water*. Charles McCoy, Madison, Conn. This sample was brought in with a complaint that the water turned red when boiled, but the sample submitted showed no such reddening and contained no ferrous iron; the pH was 6.75.

#### Miscellaneous

##### Dog and Cat Foods

Six pet foods were submitted by the Commissioner, chiefly to check their protein guaranties; two samples were passed and four were misbranded:

K.C.-566. *100% Brand Cat Food*. S. E. Mighton Co., Bedford, Ohio. Protein: Declared, 10 per cent; found, 11.02 per cent. Passed.

K.C.-470 and 556. *Petburger Animal Food*. The Home of Petburger, Canastota, N. Y. Labelled: "Petburger is made of OVER 85% fresh wholesome beef and beef by-products. No cereal fillers of any kind." Declared ingredients were: "Beef and beef by-products, soy bean oil meal, tomato pomace, powdered skim milk, salt, water, and G-AN-EN [containing dried cheese whey, dried buttermilk, dried brewers' yeast, cheese rinds, sulphates of iron (1.73%), zinc (0.038%), copper (0.036%), manganese chloride (0.018%), Niacin (0.003%), vitamin A feeding oil and D activated plant Sterol (0.772%)]. Feed guaranties were: Protein, 15; fat, 5; fiber, 2, and water, 71, per cent.

Analysis of K.C.-470 showed: Protein, 13.88; fat, 8.11; fiber, 1.23; water, 70.56; lactose, 0.59; dextrose, 0.26, and insoluble nonfermentable

carbohydrates (Hendrey method), 0.68, per cent. Estimated composition from this analysis was: Dry skim milk, 1.15; soybean oil meal, 6.34; added water, 35.89, and meat and meat by-products (by difference), 56.62, per cent.

Analysis of K.C.-556 showed 19.06 per cent protein and 66.81 per cent water, while microscopic examination indicated not over 25 per cent of meat.

Both samples were misbranded because they contained considerably less meat than their labels indicated; K.C.-470 was also substantially deficient in protein.

K.C.-560 and K.F.-1263. *Pet Dog Food*. A. B. Distributing Co., Waterbury, Conn. Protein: Declared, 10 per cent; found (average), 9.07 per cent. Deficient in protein; misbranded.

K.C.-576. *Red Chief Dog Food*. Foster Canning, Inc., Farmingdale, N. J. Labelled: "Now with 1000 units vitamin D added. — Min. Protein 9%." Analysis showed 10.41 per cent of protein, and a vitamin D assay by feeding to rats was satisfactory. Passed.

##### Foaming Agents

Twenty official and four unofficial samples of preparations used for putting a "head" on carbonated beverages and mixed drinks were tested for the presence of saponin and other unpermitted hemolytic agents; four samples were passed and 20 were adulterated — 18 with saponin and two with another hemolytic agent. Analyses are given in Table 12.

##### Other Miscellaneous Products

Twelve other foods and miscellaneous non-food products were examined for the Commissioner; six samples were passed and six were misbranded:

W.M.-753. *Chicken Salad Sandwich*. Automat Services, Inc., Hartford, Conn. Labelled: "INGREDIENTS — Enriched bread, chicken meat, turkey meat, salad dressing, celery, bread crumbs, salt, spices." Microscopic examination showed that a substantial proportion of poultry meat was present, but sample was misbranded because a sandwich containing both chicken and turkey is not a "chicken salad sandwich."

K.F.-1309. *Colonna Italian Kitchen Toasted Flavored Bread Crumbs*. J. Colonna Bros., North Bergen, N.J. Labelled: "A special blending consisting of . . . grated cheese . . . delicate herbs . . . and choice condiments to enhance your favorite dishes." The main ingredient — bread crumbs — should have been included in the ingredient list, but the sample was passed.

S.O.-311. *French Fried Potatoes*. Charpentier's Restaurant, East Norwalk, Conn. No foreign substance found; passed.

K.F.-1378. *Gelosene*. E. F. Drew & Co., Inc., New York, N. Y. This was an ice cream stabilizer. Declared ingredients were: "Irish Moss, Locust Bean Gum, Sugar, Salt." Analysis showed: Sucrose, 55.07, invert

TABLE 12. FOAMING AGENTS

No.	Manufacturer or distributor and brand	Hemolysis Test		Remarks
		No cholesterol	Choles-terol added	
K.C.-573	Blue Seal Extract Co., Cambridge, Mass. Foam	positive	negative	"Saponine" declared; saponin present; adulterated.
K.C.-588	Castle Products Co., Irvington, N. J. Heads for Cocktails	positive	positive	"Paraffine alcohols, vegetable extractives" declared; nonsaponin hemolytic agent present; adulterated.
170	Castle Products Co., Irvington, N. J. Heads for Cocktails	positive	positive	Same as K.C.-588; adulterated.
W.M.-864	Castle Products Co., Irvington, N. J. Heads for Cocktails	positive	negative	"Vegetable extractive" declared; saponin present; adulterated
K.C.-572	Dell Products Corp., East Orange, N. J. Creamy Head for Sour Puss Mixer	doubtful faintly	doubtful faintly	Passed
T.C.-231	Dell Products Corp., East Orange, N. J. Creamy Head for Sour Puss Mixer	positive	positive	Passed
K.F.-1334	Flavorex Co., Baltimore, Md. Foam Solution 1672	positive	positive	Non-saponin hemolytic agent present; adulterated
9693	House of Frothee, Inc., New York, N. Y. Foaming Agent Made from Bark of Yucca Tree	positive	negative	Saponin present; adulterated
K.C.-580	House of Frothee, Inc., New York, N. Y. Frothee	positive	negative	"Root extraction" declared; saponin present; adulterated
K.F.-1292	House of Frothee, Inc., New York, N. Y. Frothee	positive	negative	Same as K.C.-580; adulterated
K.F.-1293	House of Frothee, Inc., New York, N. Y. Frothee	positive	negative	Same as K.C.-580; adulterated
K.F.-1296	House of Frothee, Inc., New York, N. Y. Frothee	positive	negative	Same as K.C.-580; adulterated
K.F.-1303	House of Frothee, Inc., New York, N. Y. Frothee	positive	negative	Same as K.C.-580; adulterated
K.F.-1355	House of Frothee, Inc., New York, N. Y. Frothee	positive	negative	Same as K.C.-580; adulterated
K.F.-1356	House of Frothee, Inc., New York, N. Y. Frothee	positive	negative	Same as K.C.-580; adulterated
W.M.-749	House of Frothee, Inc., New York, N. Y. Frothee	positive	negative	Same as K.C.-580; adulterated
9692	House of Frothee, Inc., New York, N. Y. Frothee	doubtful	negative	"Sorbitan monolaurate, sorbitol" declared; passed
9861	House of Frothee, Inc., New York, N. Y. Frothee	positive	negative	"Sorbitan monolaurate, sorbitol" declared; saponin present; adulterated
K.F.-1302	Jay Mar Syrup Co., Waterbury, Conn. Beerfoam	negative	negative	Passed
K.F.-1349	Laurel Brand Food Products Co., Woodside, L.I., N. Y. Cocktail Foam	negative	negative	"Root extraction" declared; saponin present; adulterated
J.D.-120	Poles Products, Hartford, Conn. Vegetable Foam	positive	negative	Saponin present; adulterated
K.F.-1350	Pure Fruit Syrup Co., New York, N.Y. Plumfoam	positive	negative	Saponin present; adulterated
K.F.-1287	Shepaug Club, Washington, Conn. Creamy Foam	doubtful	doubtful	Passed
K.C.-570	Topper Co., Cambridge, Mass. Topper	positive	negative	"Saponine" declared; saponin present; adulterated

sugar, 0.42, salt (NaCl), 18.04, and gums (by difference), 26.47, per cent; tests for Irish moss (A.O.A.C. Method 32.235) doubtful. Sample passed with reservations.

W.M.-751. Lord Carlton 100% Pure Maraschino Cherries. Carlton Food Co., Brooklyn, N. Y. This was an 8-oz. glass jar of green-dyed cherries in syrup, labelled: "Ingredients: U. S. Certified Color and Flavor Preserved with 1/10 of 1% Benzoate of Soda, Sugar and Water."

There is no question but what originally "Maraschino Cherries" were cherries packed in Maraschino liqueur, and Federal Food Inspection Decision 141 of 1912 recognized this fact. However, on March 15, 1940 the U. S. Food and Drug Administration issued Trade Control Statement No. 194 revising their stand; this statement read in part as follows:

"A committee representing a trade association visited the Administration and made known its contention that the term 'Maraschino Cherries' has attained a broader significance than that set forth in Food Inspection Decision 141 issued in 1912 under the Food and Drugs Act of 1906 and has come to mean to the consumer cherries which have been dyed red, impregnated with sugar and packed in a sugar sirup flavored with oil of bitter almonds or a similar flavor.

... "The Administration has reached the conclusion that the term 'Maraschino Cherries' may be regarded as the common or usual name of the article in question."

Frankly, we do not approve of what we consider to be the principle of this decision—that if people are supplied an imitation over so long a period that they forget what the real thing is like, the imitation acquires a sort of "squatter's right" to the name of the product imitated. Nevertheless, because Section 3929(c) of the Connecticut Food, Drug and Cosmetic Act states that "This act is intended to enact state legislation . . . which will promote uniformity of such legislation and its administration and enforcement, in and throughout the United States", we are in effect compelled to abide by such Federal rulings. W.M.-751 would therefore have had to be passed, were it not that T.C.-194 specified red dyeing and these cherries were colored green.

J.S.-304. Mister Ice. Canned Ice Division, Freezit Corporation of America, Dallas, Texas. This can was sampled by the Food and Drug Commission at the Rockville, Connecticut plant of the manufacturers, at the request of John P. McBride, Director of Standards and Necessities of Life, Department of Labor and Industries of the State of Massachusetts, who wished confirmation of his findings that the contents were only water.

The labelling read in part as follows: "MISTER ICE . . . another amazing miracle of modern science. A non-melting and re-usable ARTIFICIAL ICE. The NEW convenient economical way to cool all foods and beverages. Ideal for — Home Uses, Traveling, Picnics, Fishing and Hunting Trips, Medical and Hospital Use, Veterinarians, Photographers, and Scores of Other Uses. . . . INSTRUCTIONS NEVER OPEN THIS CAN! — Before using, freeze can in refrigerator or deep freeze — This can

equivalent to 3 times its weight in ordinary ice. . . . Use 'Mister Ice' cans over and over again. — CONTENTS NOT FOR HUMAN CONSUMPTION."

Analysis of *J.S.-304* showed: Total solids, 1,900, and non-volatile solids, 1,750, parts per million; solids chiefly iron oxide, with some magnesium and very little sodium. In other words, the contents of the "Mister Ice" can were nothing but rusty water.

This product was obviously a fraud on the public, and the label statements that the contents of the can were "non-melting" and "equivalent to 3 times its weight in ordinary ice" were false. However, products of this type do not come within the scope of the Food, Drug and Cosmetic Act.

*F.H.-8578. Orange Juice Stick.* Royal Ice Cream, Manchester, Conn. This sample consisted of the melted-down remains of 12 "popsicles" which had originally been labelled "water, conc. orange juice, sugar and vegetable gum". Analysis showed: Sucrose, 15.73, invert sugar, 4.14, and ash, 0.17, gm./100 cc.;  $K_2O$ , 76.9,  $P_2O_5$ , 58.6, and ascorbic acid (vitamin C), 9.2, mg./100 cc; coal tar dye present. Calculated composition from the analysis was: Orange juice, 32, added sugar, 17, and added water, 51, per cent. Misbranded because it contained undeclared coal-tar dye and because its name mentioned only the one ingredient orange juice.

*E.S.-5681. Orange Juice Stik.* Brock-Hall Dairy Co., Hamden, Conn. Labelled: "A water ice rich in Vitamin C — Ingredients: Water, concentrated orange juice, sugar and stabilizer, U. S. Certified Color. A real frozen orange juice. This Orange Juice Stik contains the juice and health values of a delicious Florida Orange. It's REAL orange juice." Analysis showed: Total solids, 27.30, sucrose, 16.68, invert sugar, 4.44, and ash, 0.390, gm./100 cc;  $K_2O$ , 200,  $P_2O_5$ , 27.6, and ascorbic acid, 35.6, mg./100 cc. Calculated composition from the analysis was: Orange juice, 78, added sugar, 15, and added water, 7, per cent.

This sample undoubtedly contained a much higher percentage of orange juice and a higher vitamin C content than *F.H.-8578*, but it was still not straight frozen orange juice and was therefore also misbranded.

*W.M.-701. Sodium Caseinate Edible Powder, Food and Pharmaceutical Grade, Lot 3NJ-11-13.* Sheffield Chemical Co., Inc., Norwich, N. Y. Moisture, 4.93; ash, 4.25; casein (N x 6.38), 88.30, and sodium, 1.48, per cent.

Casein occurs naturally in cow's milk in the form of a calcium salt containing 1.50 per cent of calcium oxide<sup>13</sup>; on a proportional basis chemically pure sodium caseinate would contain 1.23 per cent of sodium and 98.34 per cent of casein. Our analysis would then indicate the following composition for *W.M.-701*: Sodium caseinate, 89.79; sodium carbonate, 0.88; moisture, 4.93, and undetermined, 4.40, per cent. Passed.

*A.L.-231. Spec-Tak Washing Compound.* Diversey Corp., Newark, N. J. Sodium carbonate, 5.00; sodium hydroxide, 78.20, and water (by difference), 16.80, per cent. Passed.

*K.F.-1360. Sugar Color.* Crystal Bottling Co., Ansonia Bottling Co., Ansonia, Conn. Tests for saponin and other hemolytic agents negative; passed.

<sup>13</sup>Winton and Winton, *Structure and Composition of Foods*, vol. II, p. 75.

*K.C.-579. Sugar Toasted Peanuts.* Fresh-Pak Mfg. Co. Misbranded for failure to give the manufacturer's address.

Sixty-two miscellaneous unofficial samples were examined for: The State Department of Agriculture; the Bridgeport, Hartford and Waterbury health departments; the Waterbury Hospital; the Clinton, Hamden, New Haven, Seymour, Southington and Stamford police; the South Manchester fire marshal; physicians, tobacco growers, a laundry, food dealers and private citizens. Forty-four samples were passed and 18 were adulterated, misbranded or otherwise objectionable.

The following samples may prove of interest:

*240. Core from Well Drilling.* Waterbury Health Dept. X-ray analysis showed the presence in this dust of considerable quantities of clear mica, biotite ("black mica") and clay. This sample was a boring from the well near Hitchcock Lake in Wolcott, analysis of whose water (239) is reported on page 46.

*1752. Detergent Powder.* Hartford Health Dept. Analysis indicated this powder to be a mixture of soap, trisodium phosphate and sodium lauryl sulphate; the pH of a one per cent solution was 9.80.

*1329 to 1332. Evidence in Fatal Burning of William Armbrorst.* Seymour Police Dept. These samples, consisting of a tan leather belt, a portion of some burned trousers, a gabardine sport shirt and some underwear, were worn by a man who died shortly after being found in bed badly burned. The lack of nap eliminated the possibility of flash burning; the burnt pattern was such as to indicate that the trousers became ignited separately in both hip pockets while Mr. Armbrorst was sitting down. It was known from his statement before he died that he had been sitting down watching television when his clothes caught fire, and that he had beaten out the flames and gone to bed; he was in bed in shock when found. It can be speculated that he failed to extinguish the fire completely and that it kept on smoldering while he was sleeping; there was some suspicion that the fire might have started from lighted matches dropped into his pockets (while he was half asleep) by prankster customers of the tavern where the incidents occurred.

*1071. Fredricks' "D" Vitamin D Concentrate.* Robert M. Fredericks Co., Long Island City, N.Y. This preparation was sold for use by milk producers in fortifying milk. Assay by rats indicated that it was of satisfactory potency.

*1090. Gray and White Rock.* Edward Varipapa, New Haven, Conn. This rock came from a Western mine and was supposed to be rich in silver. Spectrographic analysis confirmed that silver was present, but the proportion appeared to be less than two per cent.

*8596. Kirjo Wheat Germ Cereal.* Empire State Flour Co., New Haven, Conn. Phosphorus, 0.32 per cent.

*8454. Kitchen Craft Bouillon Base.* Kitchen Craft Foods Corp., Brooklyn, N. Y. Salt (NaCl), 16.81 per cent.

*8452. Large Rock.* Mrs. Richard Hawkins, Guilford, Conn. This sample contained no uranium; it was an iron ore of some kind.

1374. *Powdered Bleach*. Dixwell Self-Service Laundry, Hamden, Conn. Combined chemical and X-ray analysis showed this to be a mixture of sodium tripolyphosphate, sodium metaphosphate and sodium hypochlorite; the pH of a one per cent solution was 7.8.

1091. *Rock Containing Large Black Crystals*. Edward Varipapa, New Haven, Conn. These crystals were quite pure galena (lead sulphide).

8776. *Sediment Collected from Water Seepage in Basement*. Franklin Arrigoni, Durham, Conn. Analysis showed this sediment to be ferric sulphate.

8453. *Small Rock*. Mrs. Richard Hawkins, Guilford, Conn. This was not a rock at all, but a fragment of metallic casting whose chief ingredient was antimony; minor ingredients were lead, tin and arsenic. No uranium was present.

437. *Snake*. Walter Corey, M.D., Hamden, Conn. This was a baby snake about eight inches long, gray with reddish-brown spots. It was identified by Dr. Raimon Beard of our Entomology Department as a milk snake.

7771. *Special Spaghetti Sauce Containing "Diasal"*. H. Birdsall, New Haven, Conn. Labelled: "Spaghetti sauce, contains cotton seed oil, garlic, onions, paprika, pepper, and Diasal."

"Diasal" is a proprietary salt substitute containing potassium chloride and glutamic acid intended to be used by people on a low-salt diet. Analysis of 7771 showed: Water, 82.88, protein, 1.56, fat, 1.57, fiber, 0.67, other carbohydrates (sugar, starch), 11.31, ash, 2.01, sodium chloride (salt), 0.15, and potassium chloride, 0.96, per cent; calories per 100 grams, 66.

8876. *Water and Two Pieces of Coral*. Milton Bernblum, New Haven, Conn. Mr. Bernblum had purchased this coral and placed it in his aquarium, only to have his fish die shortly thereafter. Examination of the coral showed it to have a strong seaweed odor, and large quantities of chloride and sulphate could be leached from it. Analysis of the water showed: Total solids, 2,875, and chloride, 680, parts per million.

The probable cause of the fishes' deaths was poisoning by salts from dried sea water which impregnated the coral.

8775. *Water Seeping Through Basement Floor*. Franklin Arrigoni, Durham, Conn. This was the same case as 8776 above. The water had a pH of 4.0 and contained both considerable dissolved sulphate and a large quantity of reddish-brown sediment that analysis showed to be basic ferric sulphate. The obvious explanation was that dilute sulphuric acid from an outside source was seeping through the floor and attacking iron plumbing.

1755. *Woman's Nightgown*. New Haven Police Dept. This sample was submitted because the wearer had a severe dermatitis that a dermatologist believed was of detergent origin. Traces of an organic-sulphate-type detergent such as sodium lauryl sulphate were found in washings from this gown.

## DRUGS

Forty-three samples of drugs were submitted by the Commissioner; 24 samples were passed and 19 were adulterated or misbranded:

J.S.-294. *Ampuls Evipal Soluble, 1 Gm.* Winthrop Chemical Co., Inc., New York, N. Y. Labelled: "Evipal, the trademark of Winthrop Chemical Company, Inc., indicates its reliable brand of N-methylcyclohexenylmethyl barbituric acid, the descriptive name of which is hexobarbital." Passed.

W.S.-416 and 422. *Blue Cross Brand 70% Isopropyl Alcohol Rubbing Compound*. Power Chemical Co., Philadelphia, Pa. The National Formulary IX requires that this preparation contain between 68 and 72 per cent of isopropyl alcohol by volume at 25° C. Analyses of the two samples showed respectively 67.40 and 68.10 per cent of isopropyl alcohol; passed.

J.S.-297. *Burn Compound Boric Acid Ointment, Special Formula*. Boston Drug & Chemical Co., Boston, Mass. This sample consisted of a carton containing a one-pound block of ointment which from its labelling had apparently originally been prepared for U. S. Navy use. It was misbranded as far as sale to the general public was concerned because the label did not state in what respects it differed from U.S.P. Boric Acid Ointment.

J.S.-300. *Calcisalin Tablets*. Harrower Laboratory, Inc., Jersey City, N. J. These were tablets containing calcium lactate, ferrous sulphate, alumina gel and a large number of vitamins, intended for use as a prenatal dietary supplement. They were adulterated because they were moldy.

J.S.-316. *Cebeplex B-12 Richale*. Richale Pharmaceutical Co., Hartford, Conn. Most of these large yellow coated tablets had split longitudinally and the brown-colored interiors had exuded to the surface in spots, apparently as a result of swelling after absorption of moisture. The bottle also contained a long hair. Adulterated.

J.S.-305. *Cephasal Tablets, Anodyne and Antipyretic*. Richale Pharmaceutical Co., Hartford, Conn. Declared ingredients per tablet were: Acetylsalicylic acid, 3.5, caffeine citrated, 0.5, and phenacetin, 2.5, grains; ascorbic acid, 25.0 mg. When the bottle was opened a strong odor of acetic acid was noted, indicating decomposition of the aspirin. Adulterated.

H.P.-188. *Cig-A-Rest Anti Smoking Lozenges*. Eastern Pharmaceutical Co., Jersey City, N. J. Labelled: "Lobeline sulfate 1/128 gr. A safe pharmaceutical preparation to aid in cutting down and completely breaking the smoking habit in seven days. . . . Avoid smoking before breakfast. After each meal take a Cig-a-Rest and let it dissolve slowly in the mouth. During the day, each time you want to smoke, take a whole or half Cig-a-Rest. Note: Avoid taking on an empty stomach, as nausea may result. Do not take more than 16 lozenges in 24 hours."

This sample was submitted to the Connecticut Committee on Foods, Drugs, Cosmetics and Devices, which reported that while the tablets were of doubtful value no legal fault could be found with them.

*J.S.-317. Dentalgia Drops, Massengill.* S. E. Massengill Co., Bristol, Tenn.-Va. Labelled: "Ethyl alcohol 75% by volume. Each fluid ounce contains — morphine sulphate  $\frac{1}{4}$  gr., chloral hydrate 27 gr. (warning: both the above may be habit-forming), with pellitory, oil cloves, oil cajuput, oil peppermint and camphor." Passed.

*J.S.-128. Dent's Keep-Awakes.* C. S. Dent & Co., Cincinnati, Ohio. Labelled: "Each tablet contains approximately as much caffeine as a cup of coffee." Analysis showed 59 mg./tablet of caffeine. Since according to "Accepted Foods"<sup>14</sup> an average six-ounce serving of coffee contained 117 or 223 milligrams of caffeine (according to whether it was made from one or two tablespoonfuls of coffee), the claim for *J.S.-128* was not exaggerated and the sample was passed.

*J.S.-281. Dill's Odorless Tasteless Castor Oil U.S.P.* Dill Co., Norristown, Pa. Passed.

*J.S.-282. Dry-Tabs.* Cary Pharmacal Co., Chicago, Ill. Labelled: "An aid to help curb functional BEDWETTING when due to emotional or nervous tension or habit only. Active ingredient: Each tablet contains  $\frac{1}{2}$  grain Ephedrine Sulphate."

This preparation was submitted to the Connecticut Committee on Foods, Drugs, Cosmetics and Devices for an opinion on whether it was safe for over-the-counter sale; the committee reported that it should be sold only on prescription.

*K.F.-1374. First on Burns.* F.O.B. Incorporated, Chicago, Ill. Labelled: "Active ingredients — oxyquinoline sulphate, liquid petrolatum usp, rosemary oil usp, oil of linseed — oil of geranium." This was an aerosol preparation intended to be sprayed on body surfaces to treat burns and prevent sunburn. It was submitted to the Connecticut Committee on Foods, Drugs, Cosmetics and Devices, which recommended that the claims be limited to: "Useful for minor burns."

*J.S.-200. Flavettes Lozenges.* Norwich Pharmacal Co., Norwich, N. Y. Labelled: "Each lozenge contains: Benzocaine (1/20 gr.) 3 mg. flavored with Saccharin, Extract of Licorice, Powdered Ginger and Oils of Anise, Wintergreen, Peppermint, Coriander and Clove." This sample was also submitted to the Connecticut Committee on Foods, Drugs, Cosmetics and Devices, which reported that it found no evidence that benzocaine was toxic in the specified dosage. Passed.

*J.S.-299. Formaldehyde Solution.* I. Posner, Inc. The N. F. IX requires this preparation to contain not less than 37 per cent of formaldehyde; analysis of *J.S.-299* showed only 35.35 per cent, so sample was below strength. It was also misbranded because the label did not give the distributor's address.

When this sample was submitted it was reported that it was suspected of being sold to Negroes as a hair-straightener. While we found no reference to such use in any cosmetic text, it is possible that it might work, because it is well known that formaldehyde will precipitate proteins and so might be expected to stiffen hair.

<sup>14</sup>American Medical Association, 1939, p. 362.

*W.S.-413. Glyco-Thymoline.* Kress & Owen Co., Middletown, N. J. Declared ingredients were: "Alcohol 4% Sodium Benzoate, Sodium Bicarbonate, Borax, Sodium Salicylate, Glycerine, Eucalyptol, Menthol, Thymol, Oil Sweet Birch, Oil Pini Pumilionis." Sample was labelled as "an alkaline deodorizing and non-irritating solution for application to skin and mucous membranes"; nowhere was it flatly claimed to be an antiseptic or germicide or to cure any disease. Passed.

*J.S.-265. Heavy Mineral Oil Tasteless.* Hy's Pharmacy, Inc., Hartford, Conn. Saybolt viscosity, 100° F., 395 seconds; neutral to litmus; sulphur compounds absent; passed U.S.P. XIV tests for readily carbonizable substances and solid paraffin.

This sample was submitted primarily because it was labelled "May be used during pregnancy" and the Commissioner suspected that this statement might have been intended as a recommendation for its use as an abortifacient; the Connecticut Committee on Foods, Drugs, Cosmetics and Devices reported, however, that heavy mineral oil had no abortifacient properties and could safely be used as a laxative during pregnancy where castor oil could not. The sample was passed as labelled.

*J.S.-296. Inhalant Glysufed.* S. E. Massengill Co., Bristol, Tenn. Labelled: "Contains: Ephedrine, 1%; Menthol, 0.075%; Glycerin, 2.5%; Lactic Acid, 0.77%; in an aqueous, sucrose base, with Chlorobutanol (Chloral Derivative), 0.55%, as a preservative — A vasoconstrictor for topical application to the mucosa of the nose and throat." Passed.

*H.P.-186 and 187. Industrial Pure Toluol.* Castilli Laboratories, Inc., Southington, Conn. *H.P.-186* was a colorless clear liquid, 98 per cent of which distilled between 109 and 110.5° C.; it was passed. *H.P.-187* consisted of two layers, of which the upper (86 per cent of the total) proved to be toluene, while the lower was a 28 per cent solution of glycerine in water; this sample was consequently adulterated.

*J.S.-312. Maxwell Smokeless Cigarette Relaxer.* Maxwell Cigarette Tube Corp., New York, N. Y. This consisted of an imitation cigarette in a cigarette holder, enclosed in a plastic tube. Declared ingredients were: "Menthol, Natural Oils in special base." The label read: "Smoking Too Much? draw on a Maxwell Smokeless Cigarette Relaxer Cool — Refreshing — Soothing Lasts One Month NOT A CIGARETTE NO TOBACCO DO NOT LIGHT."

This device, which was obviously intended only to have a psychological effect on people trying to break off smoking, was passed.

*J.S.-291. Nembutal Capsules gr. 1½.* Abbott Laboratories, Inc., North Chicago, Ill. This sample was composed of authentic "Nembutal" (pentobarbital) capsules obtained for comparison with *J.S.-290* below.

*J.S.-306. NP-27 for Athlete's Foot.* Norwich Pharmacal Co., Norwich, N. Y. Declared ingredients were: "Isopropyl alcohol 50% Active ingredients: orthochloro-mercuriphenol 0.022%, benzoic acid, salicylic acid, propylparaben." Analysis showed: Isopropyl alcohol, 48.20 per cent by volume; salicylic acid, 1.40, benzoic acid, 1.06, propyl parahydroxybenzoate, 1.99, and orthochloromercuriphenol, 0.019, gm./100 cc.

This sample was submitted because of a complaint that it had caused

severe burns; it was suspected that this effect was due to hypersensitivity to salicylic acid, perhaps aggravated by the drying effect of the isopropyl alcohol. The sample was passed.

*J.S.-280. Penicillin-Dihydrostreptomycin Ointment Veterinary.* Farmers Veterinary Distributors, New London, Conn. An accompanying leaflet stated that this ointment was "a stable preparation of Crystalline Potassium Penicillin G 150,000 units with 125 mg. of Dihydrostreptomycin base present as the sulfate, incorporated in a special non-irritating base." The sample was misbranded because its carton was labelled only with a "No. 14" and the false statement: "Tested & Certified by U. S. Food & Drug Dept."

*J.S.-320 to 322. Precal Plus Richale.* Richale Pharmaceutical Co., Hartford, Conn. These tablets were labelled as containing calcium lactate, ferrous sulphate, alumina gel and a long list of vitamins. There were bluish-black spots on them possibly picked up from the mold in which they were formed. Adulterated.

*J.S.-314. Preparation for Stomach Ailments.* Leo Ingala, Waterbury, Conn. Stated to have been made from wine, senna pods and honey. Sample consisted of two fluid ounces of a brownish-red cloudy liquid which was actively fermenting and had a "sour mash" odor. Adulterated because of decomposition.

*R.W.-380 and 381. Prescription No. 40737.* Bridge Plaza Drug Stores, Groton, Conn. The prescription called for three-grain quinidine sulphate tablets; analysis showed 3.07 grains/tablet. O.K.

*J.S.-289. Purepac Distilled Extract of Witch Hazel, N.F.* Purepac Corp., New York, N.Y. The National Formulary IX requires that Hamamelis Water contain between 14 and 15 per cent of alcohol by volume; analysis of *J.S.-289* showed 14.38 per cent. Passed.

*W.S.-421. Saccharin Tablets.* Mrs. Frank Grillo, Hartford, Conn. Analysis showed 0.258 grain/tablet of saccharin; this saccharin melted at 227.5° C. Passed.

*J.S.-324. Six Capsules, Half Yellow and Half Colorless.* Hartford Police Dept. Analysis of these capsules showed them to contain lactose and 0.71 grain/capsule of sodium pentobarbital ("Nembutal"). Misbranded because not sold on prescription.

*J.S.-325. Six Yellow Capsules.* Hartford Police Dept. Analysis showed these to be 1.48 grain sodium pentobarbital capsules containing lactose as a diluent. Misbranded because not sold on prescription.

*W.S.-481. Soothing Cream.* Beauty Counselors, Inc., Grosse Pointe, Mich. Labelled: "Composed of soothing oils and an inhibitory antiseptic in a greaseless base. Contains hexachlorophene, camphor, phenol (carbolic acid) less than 1/2%, menthol, clove oil, art. oil of wintergreen, oil peppermint and thymol." This sample was submitted because of a complaint by a user that it caused her face to become "red and swollen around the eyes", but tests on four members of the laboratory staff showed no reaction whatever, so sample was passed.

*J.S.-298. Special Formula Boric Acid Ointment.* G. Barr & Co., Chicago, Ill. Labelled: "Boric Acid U.S.P. 10% Lanolin U.S.P. 9% White petrolatum 81%." Adulterated because lanolin and white petrolatum had been substituted for the bleached beeswax and liquid petrolatum of the U.S.P. XIV; misbranded for failure to give directions for use.

*J.S.-318. Substitute Turpentine.* Hoffman's Paints, Hartford, Conn. This was actually a substitute for turpentine, or a "turpentine substitute", rather than a "substitute turpentine", but sample was passed even though "Turpentine" was in much larger letters than "Substitute".

*J.S.-286. Theragel Therapeutic Vitamins Chase High Potency Therapeutic Formula.* Portland Pharmacy, Portland, Conn. Passed without analysis because of lack of facilities for vitamin assay.

*J.S.-287. Theragran Squibb Therapeutic Formula Vitamin Capsules.* E. R. Squibb & Sons, New York, N. Y. Passed without analysis because of lack of facilities for vitamin assay.

*R.W.-383. Two Yellow Capsules.* Connecticut State Police. Analysis showed these to be 1.27 grain pentobarbital sodium (Nembutal) capsules. Misbranded because not sold on prescription.

*J.S.-290. Yellow Capsule.* Mrs. Florence Kettledon, Hartford, Conn. Infrared analysis showed this to be a pentobarbital capsule identical in appearance with a known "Nembutal" capsule (*J.S.-291* above). It was misbranded because purchased illegally.

*J.S.-293. Vitamin E Capsules.* H. L. Moore Drug Exchange, New Britain, Conn. Labelled: "Each capsule contains d-alpha Tocopheryl Acetate (from vegetable oils) equivalent by biological assay to: Vitamin E-30 international units A source of Vitamin E Use in human nutrition not yet established." Misbranded because the container bore no manufacturer's name or address and no statement of net contents.

*H.P.-189. Xanthinix Tablets.* Cole Chemical Co., St. Louis, Mo. Labelled: "Stimulation of Male Sexual Functions Cole's XANTHINIX An Aphrodisiac . . . COMPOSITION Each XANTHINIX tablet contains the following active ingredients: Ext. Nux Vomica 7 mg. (strychnine 0.5 mg.) Caffeine-Theophylline Compound 60 mg."

This preparation was submitted to the Connecticut Committee on Foods, Drugs, Cosmetics and Devices, which gave it as its opinion that the claims made in the accompanying circular were false because in the light of modern therapeutics the declared active ingredients did not have specific aphrodisiac action.

*J.S.-268 and 269. Zymalixir.* Upjohn Co., Kalamazoo, Mich. Labelled: "Each 5 cc. (approx. 1 teaspoonful) contains: Ferrous Gluconate 130.0 mg. (equivalent to 15 mg. of iron), Liver Concentrate 65.0 mg., Thiamine Hydrochloride (B<sub>1</sub>) 1.0 mg., Riboflavin (B<sub>2</sub>) 1.0 mg., Nicotinamide 8.0 mg., Pyridoxine Hydrochloride (B<sub>6</sub>) 0.5 mg., Folic Acid 1.0 mg., Vitamin B<sub>12</sub> Activity 2 micrograms, Alcohol 1.5%." *J.S.-268* was submitted by a consumer who suspected substitution or dilution because he thought this sample was not as viscous as previous lots of "Zymalixir"



he had purchased; J.S.-269 was a comparison sample obtained by a drug inspector at another drug store.

Both samples were yellow-brown liquids with bright green fluorescences and thiamine-like odors; J.S.-269 was somewhat more viscous than J.S.-268. Analyses were as follows:

	J.S.-268	J.S.-269
Total solids, gm./100 cc.	58.11	62.73
Ash, gm./100 cc.	0.36	0.56
Iron (Fe), mg./5 cc.	8.3	14.0

J.S.-268 showed a 45 per cent deficiency in iron over the declared 15 mg./5 cc., and was therefore adulterated; J.S.-269 was passed.

Fifty miscellaneous unofficial drug samples were examined for: The Food and Drug Commission; the Pharmacy Commission; the State Department of Health; the State Police; the State Supervisor of Purchases; the University of Connecticut; the New Britain health department; the Bridgeport, New Haven, Norwalk and Stamford police; a lawyer; a physician; and private citizens. Seventeen samples were passed and 33 were adulterated, misbranded or otherwise objectionable. The following may prove of interest:

1088. *Cebplex with B<sub>12</sub> Richale*. Richale Pharmaceutical Co., Hartford, Conn. These yellow tablets were cracked, moist on the outside and had brown discolorations. Decomposed.

8959. *Dexamyl Tablets*. Smith, Kline & French Laboratories, Philadelphia, Pa. Supposed to contain 5 mg. dextro-amphetamine sulphate and 32 mg. amobarbital per tablet. Analysis showed 5.3 mg. amphetamine sulphate and 32.2 mg. amobarbital per tablet, but only 61 per cent of the amphetamine was in the dextro form and 39 per cent was racemic, so sample was adulterated.

994 and 1092. *Homicebrin*. Eli Lilly & Co., Indianapolis, Ind. Labelled to contain 5 per cent of alcohol and the following quantities of vitamins per 5 cc: Vitamin A synthetic (palmitate), 3000 U.S.P. units; thiamine chloride, 1 mg.; riboflavin, 1.2 mg.; vitamin B<sub>12</sub> (activity equivalent), 3 mcg.; ascorbic acid, 60 mg.; vitamin D synthetic, 1,000 U.S.P. units. 994 was submitted by the New Britain Health Department because of suspected deterioration; 1092 was a comparison sample. Analyses were as follows:

	994	1092
Total solids, per cent	20.13	20.17
Ascorbic acid, mg./5 cc.	46.	53.
Alcohol, per cent by volume	7.59	7.59
pH of 5% solution	3.8	3.8
Flavor	acid, lemon	acid, lemon

Both samples were passed.

9964. *Hospital Tested Benefax Analgesic Compound*. Whitehall Pharmacal Co., New York, N. Y. Labelled: "Active ingredients: Benzocaine, methyl salicylate, salicylic acid, Balsam of Peru". Analysis showed: Methyl salicylate, 7.29; salicylic acid, 2.54; ethyl p-aminobenzoate

(Benzocaine), 2.67; Peru balsam and mineral oil, 45.64, and water and undertermined (by difference), 41.86, per cent.

This sample was submitted by a purchaser with a complaint that when she used it her arm broke out in a severe rash that required extended treatment by a dermatologist. A patch test on the arm of one of our staff showed no irritation, however. It is well known that a number of people are hypersensitive to salicylates; Salter<sup>15</sup> says that "Various forms of skin eruptions are noted", "These skin rashes may resemble typical scarlet fever or measles", and "urticaria to the extent of erythema multiforme may occur and even bulbous impetigo or eczema".

Sample was considered misbranded because the label stated "harmless even to children", as well as for failure to label: "Caution: Discontinue use if excessive irritation develops."

266 and 9968. *Mephenesin*. Kremers-Urban Co., Milwaukee, Wis. "Mephenesin" is 3-o-toloxyl-1, 2-propanediol, which is an antispasmodic used as a skeletal muscle relaxant in Parkinsonism, paraplegia, hemiplegia, diplegia, multiple sclerosis, etc., and experimentally in cerebral palsy, certain mental conditions, tetanus and alcoholism. 9968 was a sample of 0.5 gram Mephenesin tablets submitted by the State Supervisor of Purchases because of complaints by patients in a State hospital that it caused abnormal reactions; 266 was a comparison sample. Both samples gave identical infrared patterns and both contained 0.49 gm./tablet of chloroform-soluble material; both were passed.

9298. *Poison Ivy Remedy*. V. W. Bailey, North Haven, Conn. Mr. Bailey had prepared this remedy himself from the following plants: Red clover (*Trifolium pratense*), dandelion (*Taraxacum officinale*), lemon (*Citrus Limon*) and "Joe-Pye Weed" (*Eupatorium purpureum*). The materials were boiled with water and strained; he claimed that he had found the resultant decoction to be very effective as a lotion for treating poison ivy eruptions. He submitted this sample to our laboratory to determine if possible what the active ingredient was. Because it was known that some iron salts had proved effective as poison ivy remedies, the sample was analyzed chemically and spectrographically with the following results: Total solids, 2.40, ash, 0.56, organic matter (by difference), 1.84, potassium, 0.15, calcium, 0.11, and magnesium, 0.03, gm./100 cc.; manganese, 10, sodium, 20, copper, 1, and boron, 2, parts per million; phosphorus, iron and aluminum, not detected. It was obvious from this analysis that if any active ingredient were present it could not be an iron or any other metallic salt and must be of organic nature; no further study of this preparation was made.

9281. *Prescription*. State Pharmacy Commission. This prescription, which called for capsules containing one grain of papaverine, one-and-one-half grains of aminophylline and one-fourth grain of sodium phenobarbital, had been put up by a pharmacist at St. Vincent's Hospital, Bridgeport; an error in compounding was suspected. The sample submitted was composed of three red capsules; analysis showed: Papaverine, 0.95; aminophylline, 1.57, and sodium phenobarbital, 0.26, grains/capsule. Sample was O.K.

<sup>15</sup>Textbook of Pharmacology, 1952, p. 56.

8762. *Prescription No. 220-912.* James H. Kane, New Haven, Conn. This sample was submitted by an attorney whose client claimed it made her so ill she had to be hospitalized. The prescription called for Cellothyl Tablets, which are methycellulose tablets made by Chilcott Laboratories, Morris Plains, N. J. Analysis of 8762 showed it to be composed of tablets of methylcellulose N.F., so the prescription had been correctly dispensed and could not have been responsible for the symptoms complained of.

9764. *Prescription No. 140366.* Tunnel Drug Store, Hartford, Conn.

9765. *Prescription No. 123081.* Eddie's Pharmacy, Hartford, Conn.

9847. *Standard Prescription for Reference.* Connecticut Agricultural Experiment Station, New Haven, Conn.

Samples 9764 and 9765 represented identical prescriptions filled at two drugstores for the same patient, which were submitted by the State Pharmacy Commission for analysis because they were visibly quite different and an error in compounding one or both was suspected; Sample 9847 was made in this laboratory for comparison. 9764 was a light pinkish-brown liquid, while 9765 was deep red, containing undissolved green plant material, and was labelled "Shake well before using."

The prescription (of Dr. I. W. Cornwall of Hartford) called for the following ingredients to be made to three fluid ounces with Elixir Lactopepsin: Tincture Valerian Ammoniated and Tincture Hyoscyamus, each 2 fluid drachms; codeine sulphate, 6 grains, and sodium bromide, 2 drachms (120 grains). Converted to a metric basis this was equivalent to: Ammoniated valerian tincture N.F. VIII, 8.30cc.; hyoscyamus tincture N.F. IX, 8.30 cc; codeine sulphate, 0.44 gm., and sodium bromide, 8.77 gm.; all made to 100 cc with compound pepsin elixir N.F. IX.

Analyses of the two drugstore samples, as compared with a preparation carefully made in the laboratory according to the prescription, were as follows:

	9764 (Tunnel Drug Store), gm./100 cc.	9765 (Eddie's Pharmacy), gm/100 cc.	9847 (Laboratory), gm./100 cc.
Total solids	31.30	25.14	39.59
Ash	0.28	10.55	8.00
Alcohol (per cent by volume)	11.80	18.40	22.75
Ammonia (NH <sub>3</sub> )	0.017	0.078	0.073
Codeine sulphate	0.068	0.175	0.434
Sodium bromide	0.14	9.89	8.50
Amaranth	trace	more than in #9847	present

Both 9764 and 9765 were deficient in codeine, the sodium bromide had been left out of 9764 altogether, and in the case of 9765 ground valerian had been substituted for the tincture. 9764 and 9765 were therefore both adulterated.

1652. *Retort Saccharin Soluble Tablet Triturates (Effervescent 1/4 Grain).* Retort Pharmaceutical Co., Inc., Long Island City, N. Y. This sample was submitted by the State Supervisor of Purchases because of a complaint by a State hospital that the tablets did not dissolve readily and were less sweet than normal. Our examination showed, however,

that the tablets dissolved more rapidly than two other brands with which they were compared, and contained 0.289 grain/tablet of saccharin sodium. The sample was therefore passed.

4237. *Rubber Toys.* State Dept. of Health. This sample consisted of five inflated rubber toys, inside each of which a green tablet had been inserted to make it rattle; the toys had been referred by the Danbury Health Officer to the Danbury Police, who sent them to the State Department of Health, whence they came to us. The health officer was concerned lest small children break open the toys and swallow the tablets, which might be poisonous.

Analysis of the tablets (which weighed 0.30 gram each) showed them to be composed of magnesium carbonate, dyed green with a coal-tar dye, and cemented together with a trace of wax binder; they were therefore harmless. Almost identical tablets were found in a rubber Easter egg in 1950.<sup>16</sup>

7234. *Salve.* Mrs. Ruth L. Ryan, East Hartford, Conn. This minute sample was submitted for analysis by a patient who had found it beneficial in relieving sinus congestion and wanted to know what the formula was so that she could have more made up for her at a drugstore. Examination showed it to be a vaseline-base ointment containing camphor, probably eucalyptol and menthol, and possibly also a little oleoresin of capsicum; this is essentially the composition of the proprietary preparation "Vick's Vapo-Rub."

8771. *Small Blue Pills.* Norwalk Police Dept. These two pills were suspected of containing a narcotic; no opium alkaloid was present, but they did contain a barbiturate. From the "McNeil" indented on them it was probable that they were Butisol Sodium tablets made by McNeil Laboratories, Philadelphia, Pa.

8595. *Sulfanilamide Tablet.* Department of Animal Diseases, University of Connecticut. Analysis showed that this was not a sulfanilamide tablet at all but contained 19.14 grains of antimony potassium tartrate (tartar emetic).

783. *TAF Tablets.* Summers Laboratories, Inc., Ambler, Pa. These tablets were prepared for William H. Ryder, M.D., of New Haven; each was supposed to contain 30 grains of dextrose and one-half grain of heavy magnesium oxide plus small quantities of lactose, sodium bicarbonate and pink coloring. Dr. Ryder submitted them to find out why the originally pink tablets turned brown on standing.

When a mixture of dextrose and heavy magnesium oxide in the same proportions as they occurred in the tablets was prepared in the laboratory and allowed to stand, it turned brown after three weeks. The browning noted in the tablets was therefore due to a slow reaction between the sugar and magnesium oxide; it is well known that sugars react with alkalies to form colored decomposition products.

8772. *Yellow Capsule.* Norwalk Police Dept. This capsule was suspected of containing a narcotic, but analysis showed that a barbiturate rather than an opium alkaloid was present.



8640. *Zymalixir*. Upjohn Co., Kalamazoo, Mich. This sample was sent by the manufacturer to the Food and Drug Commission as a result of our findings on *J.S.-268* and *269* as reported on page 57. Analysis showed 14.0 milligrams of iron in 5 cc., so it was passed.

### COSMETICS

Nine official samples of cosmetics were submitted by the Commissioner; eight samples were passed and one was misbranded:

*J.S.-319. Arrid*. Carter Products, Inc., New York, N.Y. Labelled: "Contains aluminum sulfate." This sample was submitted because of a complaint of irritation following its use; it was not analyzed, but was tested on themselves by five members of our staff without ill effect and was therefore passed. According to Greenberg and Lester<sup>17</sup>, a few people possess an idiosyncrasy to aluminum deodorants.

Another sample of this preparation analyzed in 1945<sup>18</sup> contained 24.03 per cent of aluminum sulphate [ $Al_2(SO_4)_3 \cdot 18H_2O$ ] and 17.42 per cent of urea.

*W.S.-429. Blushing*. Rilling Dermetics Co., New York, N.Y. The only declared ingredient of this face cream was a meaningless "Hydronized Oils", but because the law does not require the active ingredients of cosmetics to be named sample was passed.

*J.S.-277 and 279. Calox Tooth Powder*. McKesson & Robbins, Inc., Bridgeport, Conn. *J.S.-277* was submitted because of a complaint by a user that it made the gums sore; *J.S.-279* was an unused comparison sample. Analysis showed both samples to contain sodium perborate. According to Sollman<sup>19</sup>, this compound "is strongly alkaline, producing considerable irritation and even corrosion, so that it often does more harm than good. As a mouth wash, not more than a teaspoonful should be used in a glass of water. Its continued use often produces hypertrophy of the lingual papillae and darkening of the gums." This probably explained the gum-soreness complained of, but because the sodium perborate was no doubt present in Calox Tooth Powder in diluted form, and the powder had been on the market for many years, the samples were passed pending consultation with the U. S. Food and Drug Administration.

*J.S.-275. Derbac Tar Medicated Shampoo*. Cereal Soaps Co., Inc., New York, N.Y. Labelled: "Active ingredients: Soap and Pine Tar". An accompanying circular stated: "No alcohol, no animal fats. Just pine tar and cocoanut oil." Under the heading "Shampoo for Pediculosis (lice and nits)", this circular also gave the following directions:

"Pediculosis is contagious and unfortunately can be caught anywhere by anyone. One treatment with Derbac Tar Medicated Shampoo and special Derbac Comb will safely, pleasantly and immediately rid hair of lice and nits. Complete directions are given on leaflet accompanying special Derbac Comb, and these must be followed to obtain satisfactory results."

<sup>17</sup>Handbook of Cosmetic Materials (1954), p. 39.

<sup>18</sup>Conn. Agr. Expt. Sta. Bul. 499, 39 (1946).

<sup>19</sup>Manual of Pharmacology, 6th Ed. (1942), p. 687.

According to the U. S. Dispensatory<sup>20</sup> U.S.P. Pine Tar Ointment is "employed for its antiparasitic effect in tinea capitis and other fungoid infections of the skin", but this authority contains no reference to the use of pine tar as an insecticide. Sample was nevertheless passed.

*J.S.295. Madam C. J. Walker Skin Brightener, Triple Strength*. Mme. C. J. Walker Mfg. Co. Labelled: "Active ingredients: ammoniated mercury 5% and bismuth subnitrate . . . for Beautifying and temporarily lightening dark or sallow skin."

Bleach creams containing up to 5 per cent of ammoniated mercury are permitted to be sold provided they bear certain specified warning statements and directions. The label of *J.S.-295* carried some of the required material, but failed to state "that prolonged use may produce unsightly discoloration; and that application to a large area of the body is dangerous", and did not provide for cleaning off "with some such substance as benzine or oil". For these reasons, as well as because no manufacturer's address was given, sample was misbranded.

*W.S.-406. Miss Clairol 48 Sable Brown Dark Brown Hair Color Bath*. Clairol Inc., Stamford, Conn. Analysis showed the major active ingredient to be paraphenylenediamine (identified by the infrared pattern of its diacetyl derivative); minor ingredients present were not completely identified. Sample bore all the caution statements required by law, and was passed.

*J.S.-276. Squibb Toilet Lanolin with Potassium Oleate and Stearate*. E. R. Squibb & Sons, New York, N.Y. Labelled: "A smooth, delicately perfumed, soothing cream for tender, dry or rough skin." Not straight lanolin but a mixture of lanolin with a potassium soap, but passed.

*R.W.-382. Wheatley All Purpose Lotion*. Wheatley, New York, N.Y. This sample was taken because of a complaint that several bottles of this lotion in the Metropolitan Store, Norwich, broke as a result of freezing, and the girl who mopped up the mess acquired a fungous infection. The sample was submitted to the Bureau of Laboratories of the State Department of Health, which reported after examination that no pathogenic fungi were found. Sample was therefore passed.

Four unofficial samples were examined, one each for the Food and Drug Commission, the Pharmacy Commission, the State Supervisor of Purchases and a lawyer; all samples were passed:

*788. Kontrol Dental Stain Remover*. Mark Allen Co., Detroit, Mich. Labelled: "Helps Keep Teeth Stain Free - Safe - Will Not Harm Enamel - Kontrol removes tobacco and food stains - work small quantity on to wet tooth brush - brush teeth thoroughly with Kontrol before using your favorite brand dentifrice - safe to enamel." Analysis showed: Calcium pyrophosphate, 68.47, moisture, 1.98, and organic matter (by difference), 29.55, per cent. The organic matter contained a wetting agent (possibly a sulfonated oil), flavoring, and possibly starch, sugar or saccharin. Since calcium pyrophosphate was considered to be a relatively mild abrasive, sample was passed.

8038. *LESTOIL*. Adell Chemical Co., Holyoke, Mass. This hand soap was submitted by a lawyer because a client of his had developed a dermatitis after using it. It was a yellow product of jellylike consistency and a pine oil odor, having a pH of 8.65. Calculated composition from our analysis was: Water and pine oil, 78.99; cocoanut oil, 11.83; sodium laurate, 0.80; ethanolamine laurate, 5.87; free ammonia ( $\text{NH}_3$ ), 0.03; free ethanolamine, 1.88; trisodium phosphate ( $\text{Na}_3\text{PO}_4$ ), 0.58, and borax ( $\text{Na}_2\text{B}_4\text{O}_7$ ), 0.02, per cent.

It is known that quite a few people are sensitive to cocoanut oil.

9740. *Shaving Soap*. State Supervisor of Purchases. This sample was submitted because of a complaint that it had caused a rash. It had been purchased on State specifications which called for: "a high grade cake soap, of good light color, thoroughly saponified and at least equal in all respects to one made of a mixture of 63 per cent of high grade tallow and 3 per cent of cocoanut oil. May be perfumed or not. Shall make a good thick free lather." Analysis showed: Volatile matter, 8.78; free acidity (as oleic acid), 0.78; neutral ash, 3.93; unsaponified matter, 0.93; combined alkali (as  $\text{K}_2\text{O}$ ), 13.62; total fatty matter, 73.17; soap (calculated), 85.08, and glycerine (by difference), 0.50, per cent; no free caustic, carbonate, borate or phosphate.

This analysis indicated a straight potassium sodium hard soap with potassium predominating. There appeared to be no reason why it should cause a rash unless the user were allergic to cocoanut oil.

9947. *Swav Brushless*. Norwich Pharmacal Co., Norwich, N. Y. Labelled: "Contains Unguentine." This sample was referred to us through the Pharmacy Commission by a lawyer with a complaint that "Approximately fifteen minutes after applying a portion of the cream, (his client's) face began to burn and itch and he broke out over the entire shaving area. The cream also affected the fingers on right hand which was used to apply it, in that the skin on these fingers became inflamed and sensitive and eventually flaked and peeled off."

Calculated composition from our analysis was: Water, 68.99; triethanolamine stearate, 7.41; free stearic acid, 12.70; lanolin and perfume, 8.90; borax ( $\text{Na}_2\text{B}_4\text{O}_7$ ), 0.92; zinc oxide, 0.06; copper, 0.001; undetermined inorganic matter, 0.03, and undetermined organic matter (by difference), 0.99, per cent. The pH was 7.25; a patch test on the arm of one of our chemists showed no irritation.

It is known that some people are hypersensitive to triethanolamine and lanolin, and it appears probable that sensitivity to one of these ingredients or to the perfume was responsible for the symptoms complained of.

### COLLABORATION WITH OTHER DEPARTMENTS

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

	<u>Samples</u>
U. S. Geological Survey (water)	40
U. S. Treasury Dept. (narcotics)	1
State Dept. of Health (narcotics)	77
State Police	62
State Water Commission	3
Station departments:	
Biochemistry	25
Entomology	280
Plant Pathology	35
Soils	132
Tobacco Laboratory	24
	<u>679</u>

### BABCOCK GLASSWARE, ETC.

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

	<u>Pieces</u>	<u>Incomplete or inaccurate</u>
Babcock glassware	3,496	39
Thermometers	171	9

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