CHAPTER 4

Food Standards Established by the Department of Health, Education, and Welfare

Part A

Introduction

Food standards are among the many responsibilities and authorities of two parts of the Department of Health, Education, and Welfare, conveniently referred to as HEW, of which the appointed head, the Secretary, is a member of the President's Cabinet. These two parts are:

1. the Food and Drug Administration (FDA)
2. the Public Health Service (PHS or USPHS)

It is appropriate to recall that the predecessor of the Food and Drug Administration was established to administer what was then called the "Pure Food and Drug Law," as enacted in 1906. Its administration until 1927 was by the former Bureau of Chemistry of the U.S. Department of Agriculture. Continuing in the USDA, the Food, Drug, and Insecticide Administration was established in 1927, and in 1930, while it was still in the USDA, the name was changed to Food and Drug Administration. In 1940 the Food and Drug Administration was transferred from the USDA to the Federal Security Agency, which in 1953 became the Department of Health, Education, and Welfare.

Part B of this chapter describes many important aspects of FDA responsibilities, methods, and results concerning food standards. It is emphasized that the FDA food standards are in terminology and are, in fact, truly "definitions and standards of identity."

The Public Health Service was created more than 100 years ago to cope primarily with infectious or contagious diseases. PHS has extensive responsibilities in the quarantine category to forestall, combat, and minimize the spread of contagious diseases through surveillance of foods and water, and by other means, such as isolation. Documents by the PHS and discussions with PHS staff members bring forth frequent references to the word "quarantine," such as in "Interstate Quarantine Regulations." The emphasis in food standards by PHS is on the means to forestall and, when necessary, to eradicate infectious diseases.

PHS has also an extensive advisory role to states, cities, districts, and other official bodies on safety standards for milk, ice cream, drinking
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water, and some other foods. It has mandatory responsibilities for the safety standards of foods served aboard interstate carriers, such as railroad trains, ships, airplanes, and motor buses.

Part B
Definitions and Standards of Identity of Foods by the Food and Drug Administration

The Food and Drug Administration is widely recognized for its responsibilities and authority in establishing and enforcing definitions and standards of identity for foods.

In the earlier years, prior to 1938, the FDA had no authority to promulgate mandatory food standards. In response to food-industry encouragement, the FDA helped in those years to develop advisory standards which were adopted voluntarily by branches of the food processing organizations, of which the food canning industry is an example.

The Food, Drug, and Cosmetic Act as Amended (1) authorizes the FDA to establish food standards. Under this authority, the FDA has promulgated definitions and standards of identity, also standards of quality and fill of container, for approximately 200 foods.

Standards and related regulations of foods by agencies of the federal government departments, it should be noted, apply to foods which are shipped in interstate commerce. State laws and regulations govern foods which move in their commerce, whether the shipments are in intrastate or in interstate commerce. As a practical matter, however, the laws and regulations of 30–35 states are almost identical with those of the federal government, and the trend is toward adoption of similar legislation by additional states. Moreover, a high proportion of the country's food is necessarily processed, packaged, and labeled suitably for interstate shipment to any of the 50 states.

Publications which provide information on FDA's food laws and standards by regulatory promulgation are those which have been described in Chapter 2, namely: the Federal Register (2); Code of Federal Regulations (3); Food • Drug • Cosmetic Law Reports (4); and the U.S. Code Annotated (5), the latter with respect to the statutory law only.

General regulations—in contrast with specialized features—of the Definitions and Standards of Identity for Foods by the Food and Drug Administration are published in the Code of Federal Regulations, Title 21 CFR Part 10, as Amended [see A-10]. A revision of Part 10 relating to definitions and standards for food was published in the
Federal Register, Vol. 27, pp. 11255–11257, November 15, 1962. It was stated that the revision was made solely for editorial and codification purposes, no material changes being made in the text of the regulations. The major changes included transfer of some sections of Parts 1 and 3 to Part 10. Also, one section of Part 121 [121.8(a) and (b)], relating to food additive regulations, was transferred to Part 10.

As cited later, the FDA also is responsible for administration of three other laws—the Tea Importation Act, the Federal Import Milk Act, and the Filled Milk Act—which have standards features. The Tea Importation Act standards are different in that the article itself, not a written description, is the standard.

Food Standards Responsibility and Authority of the FDA

The Food and Drug Administration has many kinds of responsibilities over foods, drugs, cosmetics, and livestock feed. One of its very important duties is to establish definitions and standards of identity for foods and to enforce them. Section 401 of the Food, Drug, and Cosmetic Act, quoted as follows, concerns food standards.

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SEC. 401. Whenever in the judgment of the Secretary such action will promote honesty and fair dealing in the interest of consumers, he shall promulgate regulations fixing and establishing for any food, under its common or usual name so far as practicable, a reasonable definition and standard of identity, a reasonable standard of quality, and/or reasonable standards of fill of container: Provided, That no definition and standard of identity and no standard of quality shall be established for fresh or dried fruits, fresh or dried vegetables, or butter, except that definitions and standards of identity may be established for avocados, cantaloupes, citrus fruits, and melons. In prescribing any standard of fill of container, the Secretary shall give due consideration to the natural shrinkage in storage and in transit of fresh natural food and to need for the necessary packing and protective material. In the prescribing of any standard of quality for any canned fruit or canned vegetable, consideration shall be given and due allowance made for the differing characteristics of the several varieties of such fruit or vegetable. In prescribing a definition and standard of identity for any food or class of food in which optional ingredients are permitted, the Secretary shall, for the purpose of promoting honesty and fair dealing in the interest of consumers, designate the optional ingredients which shall be named on the label. Any definition and standard of identity prescribed by the Secretary for avocados, cantaloupes, citrus fruits, or melons shall relate only to maturity and to the effects of freezing.

1 F. D. C. Regs. parts 10, 14-19, 25, 27, 29, 36, 37, 42, 45, 51, 53.

Revised page, September 6, 1958.
Standard-Making Procedure of FDA

Procedures of proposing, devising, discussing, adopting, announcing, and of revising food standards reflect the experiences of FDA and others concerned since the Food, Drug, and Cosmetic Act of 1938. Even before that date, however, the predecessor organization, the Bureau of Chemistry in the U.S. Department of Agriculture, had collaborated with food industry groups toward creation of advisory food standards.

Trade associations, individual producers or processors, the FDA itself, or consumer groups may and often do initiate steps toward the establishment of FDA food standards. If FDA concurs or if FDA initiates steps toward a new or revised standard, it shall publish a "Proposed Standard" in the Federal Register, inviting written comments, including objections, before a specified date. Any interested party may express approval or disapproval and in either event the particulars should be carefully spelled out. FDA must consider all the responses. Depending on the evidence, FDA may accept or reject suggestions and publish an Order providing a certain definition or standard. If there are objections with reasonable grounds, FDA will announce a hearing for public discussion of the issues raised by the objections. Witnesses at hearings testify under oath.

Publication of Food Standards

From the standpoint of accessibility in regularly available documents, the Food and Drug Administration has consistently published its actions on food standards in the Federal Register. They consequently thus appear in the Code of Federal Regulations. Some agencies discussed in this book have not been consistent in so publishing their actions. Definitions and standards of identity of foods by the Food and Drug Administration are published in Title 21 CFR Parts 10–53. The CFR is brought up to date annually by supplement. For references after January 1 of each year, the reader can look to the codification indexes of the Federal Register, which are issued daily, monthly, quarterly, and annually.

All food standards issued by FDA are also published regularly and promptly, in codified form by the private publication, Food · Drug · Cosmetic Law Reports (4). This service, utilized extensively by lawyers, government officials, and others provides prompt codified information to subscribers.

The Federal Register, the Code of Federal Regulations, and several other publications, as explained in Chapter 2, provide full publication of the food standards of the Food and Drug Administration.
The Food and Drug Administration usually is able to provide on request a single-copy reprint of its food standards, either food by food or by the Part.

Foods for Which Standards Have Been Established

Definitions and standards of identity, quality, and fill of container which have been promulgated under the Food, Drug, and Cosmetic Act (I) are published in Title 21 CFR. They relate to the following foods:

- Part 14: Cacao Products (naiise, French Dressing, Salad Dressing)
- Part 15: Cereal Flours and Related Products (Part 27: Canned Fruit and Canned Fruit Juices)
- Part 16: Alimentary Pastes
- Part 17: Bakery Products (Part 29: Fruit Butters, Fruit Jellies, Fruit Preserves)
- Part 18: Milk and Cream
- Part 19: Cheeses, Processed Cheeses, Cheese Foods, Cheese Spreads and Related Foods (Part 36: Shellfish)
- Part 20: Frozen Desserts (Part 42: Eggs and Egg Products)
- Part 21: Food Flavorings; Vanilla Extract and Related Products (Part 45: Oleomargarine, Margarine)
- Part 22: Canned Vegetables (Part 46: Nut Products)
- Part 23: Bread, Crackers, and Related Products (Part 51: Canned Vegetables)
- Part 24: Shellfish
- Part 25: Dressings for Foods—Mayonnaise

Single copies of these standards usually can be obtained, without charge, from the Food and Drug Administration. Each Part is in a separate pamphlet. When requesting these, the Part number(s) should be clearly stated. Multiple copies may be ordered at nominal prices, from the Superintendent of Documents, Washington 25, D.C.

It is to be noted that the first group in the FDA listing is Part 14, and the Part numbers now assigned are in progressive but broken sequence; the unassigned Part numbers are reserved for future use as required.

**Title 21 CFR Part 14: Cacao Products**

FDA Standards on 12 food products in the Cacao Products category are described in 21 CFR Part 14. Their names and respective Section numbers are reproduced in full in the Appendix [A-11].

**Title 21 CFR Part 15: Cereal Flours and Related Products**

All of the FDA standards for products milled from wheat and from corn (maize) are published in 21 CFR Part 15. Another later Part concerns breads. Farina (§15.130) and Enriched Farina (§15.140) were included in the flour hearings from the outset in 1939 because farina is a granular intermediate product in the milling of wheat into flour. See
Appendix [A-12] for a list of all products in this category as standardized by FDA. The Cumulative Pocket Supplement of January 1, 1962 shows the addition of § 15.525 concerning Enriched Rice.

**Title 21 CFR Part 16: Alimentary Pastes**

As shown in the Appendix [A-12], macaroni products and noodle products are defined by the FDA. Like other food standards by FDA, they are published in 21 CFR.

**Title 21 CFR Part 17: Bakery Products**

Part 17 is comprised of 5 Sections, 17.1-17.5, which all relate to bread and rolls of 5 general types as shown in the Appendix [A-13].

Bread types which are obviously different than those designated in these sections and which do not "purport" to be breads of these types are not defined by FDA definitions and standards of identity. Thus, many types of "specialty" breads such as rye bread, nutbreads, and some others are not standardized by FDA.

**Title 21 CFR Part 18: Milk and Cream**

In 21 CFR Part 18 standards of identity are shown for dairy products as listed in the Appendix [A-13]. The Congress has again in 1956 changed the name of the product known for many decades as "skim milk powder." Various parties were unhappy with the alternative names, "dried skim milk," "powdered skim milk," "skim milk powder" as specified in the order promulgating the identity standard for this food, published July 12, 1940. The newer name "nonfat dry milk," enacted by Congress on July 2, 1956, prevails now. The Act is administered by the FDA and the product continues as before.

The definition and standard of identity of evaporated milk was amended by the FDA as announced in the Federal Register of April 5, 1962 (27 F.R. 3253). That administrative revision followed a proposal published in the Federal Register for all to see, and to which there were no objections.

**Title 21 CFR Part 19: Cheeses; Processed Cheeses; Cheese Foods; Cheese Spreads; and Related Foods**

Part 19 describes more than 60 kinds of cheese. This category, or class of foods, has by far the largest number of distinctive standards, and additions continue. Their names and their respective section numbers in Part 19 of 21 CFR are listed in the Cumulative Pocket Supplement to 21 CFR as of January 1, 1962. That listing is reproduced in full in the
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Appendix [A-15]. Also reproduced, is the forepart of the standard for cheddar cheese, § 19.500. This standard is typical and concerns a cheese which is well known and widely consumed.


Frozen desserts for which standards have been established are ice cream, frozen custard, french ice cream, french custard ice cream, ice milk, fruit sherbets, and water ices. They are published in §§ 20.1–20.5 of 21 CFR [A-15].

The definitions and standards of identity for frozen desserts are now partly effective. Although formal hearings on ice cream standards were started by FDA in 1942, the action was in abeyance throughout World War II. Additional attention was directed to the subject in the years 1946–59. In the issue of July 27, 1960, of the Federal Register, the FDA defined by Order its standards for frozen desserts (6). The testimony under oath by representatives of government, and of industries, by professors, organized consumer groups, and others had mounted to the stupendous volume of about 40,000 pages, creating an administrative problem of titanic proportion.

This case illustrates well the principles, the tedium, the intricacies, the trials, and tribulations of formalizing food standards. According to law, the standards must be developed from the findings of fact which are based on all the substantial evidence offered either orally or in written exhibits. In the evolution of these standards, the findings of fact are truly crucial. In this case there are 78 findings of fact. If no objection is raised, inaction is tantamount to concurrence. In any event, the FDA is obligated under the law to promulgate regulations based on the substantial evidence in the record.

This limited space permits only reference to the voluminous testimony. For those who must see the findings of fact, copies may be available on request to FDA. Also, the testimony itself in its full official detail is on file in the office of the Hearing Clerk, FDA, and may be observed there during office hours.

Like some other food standards, these on frozen desserts have been and continue to be difficult to formulate. There are genuine and well-founded differences of opinion and judgment about them. Ultimately, it is hoped, decisions will be reached on each feature.

**Title 21 CFR Part 22: Food Flavorings**

The FDA has promulgated in this class of food products new regulations on vanilla extract and on vanilla-vanillin extract in the Federal
Register of September 1, 1962, Vol. 27, pp. 8757–8758.¹ In this group there are 9 sections as follows:

Sec.
22.1 Definitions.
22.2 Vanilla extract; identity; label statement of optional ingredients.
22.3 Concentrated vanilla extract; identity, label statement of optional ingredients.
22.4 Vanilla flavoring; identity; label statement of optional ingredients.
22.5 Concentrated vanilla flavoring; identity; label statement of optional ingredients.
22.6 Vanilla-vanillin extract; identity; label statement of optional ingredients.
22.7 Vanilla-vanillin flavoring; identity; label statement of optional ingredients.
22.8 Vanilla powder; identity; label statement of optional ingredients.
22.9 Vanilla-vanillin powder; identity; label statement of optional ingredients.


**Title 21 CFR Part 25: Dressings for Foods**

The FDA has promulgated in this category standards of identity for mayonnaise (also called "mayonnaise dressing"), french dressing, and salad dressing. These standards are published in 21 CFR Part 25. §25.1, concerning mayonnaise and mayonnaise dressing, as well as the specific references to all of the above products, are listed with their exact references in the Appendix [A-16].

Even if a food is not called "mayonnaise" but is so similar as to purport to be mayonnaise then it must conform to the FDA standard of identity. If it does not come within the jurisdiction of the FD&C Act, then the federal regulations do not apply but the state law will be applicable.

**Title 21 CFR Part 27: Canned Fruits and Canned Fruit Juices**

The number of FDA definitions and standards of identity of canned fruits, canned fruit juices, and frozen products of fruits has been greatly expanded in recent years. Some of the newer standards are for prunes, seedless grapes, berries, plums, and for orange products.

As shown in the Appendix [A-17], seven of these are for artificially sweetened foods. It is interesting to note that at the end of 1955 there were no FDA definitions for artificially sweetened canned fruits or canned

¹ Because of objections, the FDA announced a stay of this Order in the Federal Register, Vol. 27, No. 213, 10651, Nov. 1, 1962.
fruit juices. At the end of 1959 there were six, and at the end of 1961 seven artificially sweetened foods in this category. Such products are regarded as foods for special dietary purposes and are, therefore, subject to special labeling requirements as set forth in 21 CFR Part 125.

The FDA, in a Tentative Order in the Federal Register, Vol. 27, pp. 10494–10502, October 27, 1962, published further on Orange Juice and Orange Juice Products. Findings of fact resulting from a formal, public hearing on the subject, together with the Administration's definitions and standards of identity for ten orange juice products are set forth in detail. Thirty days were allowed for the filing of written exceptions. The products and their codification references, all in 21 CFR, are:

§ 27.105 Orange juice
§ 27.106 Frozen orange juice
§ 27.107 Pasteurized orange juice; heat-processed orange juice, heat-stabilized orange juice
§ 27.108 Canned orange juice
§ 27.109 Frozen concentrated orange juice, frozen orange juice concentrate
§ 27.110 Concentrated orange juice for manufacturing, orange juice concentrate for manufacturing
§ 27.111 Canned concentrated orange juice, canned orange juice concentrate
§ 27.112 Reconstituted orange juice, orange juice from concentrate
§ 27.113 Orange juice with preservative
§ 27.114 Concentrated orange juice with preservative

**Title 21 CFR Part 29: Fruit Butters, Jellies, and Preserves**

Definitions of fruit butters, fruit jellies, fruit preserves, and related products, insofar as they are standardized by the FDA, are published in Part 29 of 21 CFR. Their types and respective Section numbers are provided in the Appendix [A-18]. It is especially noteworthy that the two categories added since 1955, §§ 29.4 and 29.5 are concerned entirely with artificially sweetened foods, thus reflecting the trend toward lower sugar and lower calorie preferences by consumers.

The artificial sweetening ingredients are saccharin, sodium saccharin, calcium saccharin, sodium cyclamate, potassium cyclamate, calcium cyclamate, or any combination of these. Quantitative limits for the jelling ingredients are defined and their names must be declared on the labels.

**Title 21 CFR Part 36: Shellfish**

In Title 21 CFR Part 36, the FDA has defined Shellfish in 14 distinct definitions and standards of identity [A-19]. These relate to canned shrimp (fill-of-container standard only), canned oysters, raw oysters, and Pacific oysters. No frozen seafoods are defined by the FDA. In contrast,
all of the marine items standardized (for grades) by the Department of the Interior concern frozen seafoods. Still other standards for foods of marine origin are defined by other federal agencies (see Index).

**Title 21 CFR Part 37: Fish**

FDA has promulgated one definition and standard of identity for a fish product. It relates exclusively to canned tuna. Like other food standards by the FDA this was published first in the Federal Register and methodically by the National Archives in the Code of Federal Regulations. Canned tuna appears in 21 CFR Part 37 §§ 37.1 and 37.3. Eleven species of tuna are designated by their scientific as well as their common names. The reference guidance, product names, authority, and source are shown in the Appendix [A-19]. Since color is an important feature, the FDA definition and standard of identity for canned tuna describes in detail a method for that measurement based on the widely used Munsell value system. A later order was published September 7, 1962 (27 F.R. 8918–8920); it explains circumstances and views relating to color of the tuna meat. That order became effective 90 days following publication of the order.

**Title 21 CFR Part 42: Eggs and Egg Products**

The FDA definitions of eggs and egg products are reproduced in full in the Appendix [A-20]. Products listed are “eggs; liquid eggs, mixed eggs, liquid whole eggs, mixed whole eggs; frozen eggs, frozen whole eggs, frozen mixed eggs; dried eggs, dried whole eggs; egg yolks, liquid egg yolks, yolks, liquid yolks; frozen yolks, frozen egg yolks; and dried egg yolks, dried yolks.”

A very high compliment is paid our domestic chickens. In § 42.1, the composition of eggs is at the discretion of chicken hens, which might have been more exactly identified as *Phasianidae Gallus domesticus*. Although the regulation in 21 CFR Part 42 does not explicitly state the fact, eggs of turkeys, ducks, geese and guinea fowls were intended to be excluded from it.

**Title 21 CFR Part 45: Oleomargarine, Margarine; Definitions and Standards of Identity**

The oleomargarine or margarine definition and standard, 21 CFR § 45.1, is reproduced in full in the Appendix [A-21]. This is a standard formulated and promulgated, with the full force of law, entirely at the regulatory level of government. Unlike the standard for butter which was created legislatively by the Congress, the standard for margarine was promulgated by administrative procedure under authority legislatively given by the Congress to the Food and Drug Administration.
The margarine standard is more amenable to adjustment as technological and other circumstances suggest changes, than is the legislated standard for butter (see Chapter 3).

**Title 21 CFR Part 46: Nut Products**

For the first time, 21 CFR in its Cumulative Pocket Supplement as of January 1, 1962, included at §46.1 a standard of identity for peanut butter. The Order was to have become effective 60 days following its publication in the Federal Register of November 28, 1961 (26 F.R. 11209). However, within the 30 days permitted for the public to submit objections to the FDA, so many objections were filed that the Order was stayed (postponed) in its entirety by FDA announcement in 27 F.R., 943, February 1, 1962. During the stay, it is not effective and has been omitted from the Appendix of this book. It is not known if or when a public hearing will be held by FDA on this matter.

If no new action is taken by December 31, 1962, the FDA proposed standard for peanut butter will remain stayed in the next revision of 21 CFR, which goes to press as of January 1, 1963. The CFR notice stated in §46.1 "(26 F.R. 11209, Nov. 28, 1961, effective 60 days from Nov. 28, 1961)." That notice should prompt the user to refer to the Codification Guide and to the Index of the Federal Register right up to the most recent issue. (The USDA Standards for Peanut Butter are reproduced in the Appendix [A-63]).

**Title 21 CFR Parts 51 and 53: Canned Vegetables**

Title 21, Parts 51 and 53 contain definitions and standards of identity for canned peas, green and wax beans, sweet corn and field corn, mushrooms, and tomato products [see A-23]. In addition, §51.990 gives the identity and statement of optional ingredients for canned vegetables other than those specifically regulated. The list of canned vegetables included in this section follows:

- Artichokes
- Asparagus
- Bean sprouts
- Shelled beans
- Lima beans or butter beans
- Beets
- Beet greens
- Broccoli
- Brussels sprouts
- Cabbage
- Carrots
- Cauliflower
- Celery
- Collards
- Dandelion greens
- Kale
- Mushrooms
- Mustard greens
- Okra
- Onions
- Parsnips
- Black-eye peas or black-eyed peas
- Field peas
- Green sweet peppers
The Tea, Milk Import, and Filled Milk Acts

In addition to the preceding Definitions and Standards of Identity, there are three other Acts relating to food standards which are administered by the FDA. They are the Tea Importation Act (7), the Federal Import Milk Act (8), and the Filled Milk Act (9). None of these are identity standards. Description of these follows.

Title 21 CFR Part 281: Tea Standards

The Tea Importation Act (7) is a law, separate and distinct from the Food, Drug, and Cosmetic Act. The fact that it is administered by the FDA dictates that it should be described here. As indicated above, the official operating regulations are published in detail in Part 281 of 21 CFR [see A-28]. This Part is so far removed from the last preceding Part on FDA food standards, both in number and by intervening pages, that it easily might be overlooked in 21 CFR.

As in the case of food standards under the Food, Drug, and Cosmetic Act, so too in the case of tea, one needs to look to both the latest book of 21 CFR and to its Cumulative Pocket Supplement for all regulations to the end of the preceding calendar year.

In Part 281, § 281.19 is particularly important here because it concerns “Tea standards.” Using both the latest book, 21 CFR as of January 1, 1956, and the Cumulative Pocket Supplement as of January 1, 1962, the following teas are listed:

1. Formosa Oolong
2. Ceylon Black (all black tea except Formosa and Japan Black and Congou type).
3. Formosa Black (Formosa Black and Congou type).
4. Japan Black
5. Japan Green
6. Canton type (all Canton-type teas including scented Canton and Canton Oolong types).

In contrast with most (if not all) foods regulated by the FDA, standard samples are made up and distributed annually (for a fee) to persons
needing them. Selected sections of the regulations, § 281.20, § 281.21, and § 281.22 are here quoted because they are unique, interesting, and within the purpose of this book:

§ 281.20 Effective date of tea standards. The standards prepared and submitted to the Secretary of Health, Education, and Welfare by the Board of Tea Experts, appointed by him on or before February 15 of each year, shall be fixed and established as standards under the act and shall be in effect from the 1st day of May of each year until April 30, inclusive, of the following year, except that tea shipped from abroad prior to May 1 of any year shall be governed by the standards in effect at the time of shipment. Such standards for each year will be published in the Federal Register.

§ 281.21 To whom standards will be furnished:
(a) A quantity of tea of the approved standards will be repacked in half-pound tin containers by competent tea packers under the constant supervision of an officer of the Food and Drug Administration and full sets will be furnished the Board of Tea Appeals, the supervising tea examiner, and the examiners of tea at all the tea examining stations.
(b) Standards will be furnished to actual importers and regular tea brokers on application to the supervising tea examiner, at the actual cost of the same.

§ 281.22 Disposition of obsolete standards. After standard samples have served their purpose and new season samples have been submitted, the old samples may be included in quarterly sales of unclaimed goods, and the proceeds paid into the Treasury, after deducting expenses of advertisement and sale, the designation on the packages showing such teas to have been used as Government standards to be obliterated before delivery to purchaser.

**TITLE 21 CFR PART 290: FEDERAL IMPORT MILK ACT**

If certain dairy products are imported into the United States, the provisions of the Federal Import Milk Act (8) are applicable. The act is at 44 Stat. 1101; 21 U.S.C. 141-149. Its purpose is:

To regulate the importation of milk and cream into the United States for the purpose of promoting the dairy industry of the United States and protecting the public health.

The regulations are in 21 CFR Part 290.

**FILLED MILK ACT**

Filled milk is prohibited by an Act of the Congress [21 U.S.C.A. § 61(c)]. The law is administered by the Food and Drug Administration. The essence of the law is given in Chapter 3.
Spices

Solely as an advisory guide as to identity of food spice products, but not as promulgated standards, the FDA some years ago listed and described food spice products, as follows:

No standards of identity for food spice products have been promulgated under the Food, Drug, and Cosmetic Act. Solely as an advisory guide as to identity of food spice products, the Food and Drug Administration uses the following definitions:

**SPICES.** Aromatic vegetable substances used for the seasoning of food. They are true to name, and from them no portion of any volatile oil or other flavoring principle has been removed.

**ALLSPICE, PIMENTO.** The dried, nearly ripe fruit of *Pimenta officinalis* Lindl.

**ANISE, ANISEED.** The dried fruit of *Pimpinella anisum* L.

**BAY LEAVES.** The dried leaves of *Laurus nobilis* L.

**CAPERS.** The flower buds of *Capparis spinosa* L.

**CARAWAY, CARAWAY SEED.** The dried fruit of *Carum carvi* L.

**CARDAMON.** The dried, nearly ripe fruit of *Elettaria cardamomum* Maton.

**CARDAMON SEED.** The dried seed of cardamon.

**CINNAMON.** The dried bark of cultivated varieties of *Cinnamomum zeylanicum* Nees or of *C. cassia* (L.) Blume, from which the outer layers may or may not have been removed.

**CEYLON CINNAMON.** The dried inner bark of cultivated varieties of *Cinnamomum zeylanicum* Nees.

**SAIGON CINNAMON, CASSIA.** The dried bark of cultivated varieties of *Cinnamomum cassia* (L.) Blume.

**CLOVES.** The dried flower buds of *Caryophyllus aromaticus* L.

**CORIANDER SEED.** The dried fruit of *Coriandrum sativum* L.

**CUMIN SEED.** The dried fruit of *Cuminum cyminum* L.

**GINGER.** The washed and dried, or decorated and dried, rhizome of *Zingiber officinale* Roscoe.

**MACE.** The dried arillus of *Myristica fragrans* Houtt.

**MACASSAR MACE, PAPUA MACE.** The dried arillus of *Myristica argentea* Warb.

**MARJORAM, LEAF MARJORAM.** The dried leaves, with or without a small proportion of the flowering tops, of *Marjorana hortensis* Moench.

**NUTMEG.** The dried seed of *Myristica fragrans* Houtt, deprived of its testa, with or without a thin coating of lime (CaO).

**MACASSAR NUTMEG, PAPUA NUTMEG, MALE NUTMEG, LONG NUTMEG.** The dried seed of *Myristica argentea* Warb, deprived of its testa.

**PAPRIKA.** The dried, ripe fruit of *Capsicum annum* L.

**BLACK PEPPER.** The dried, immature berry of *Piper nigrum* L.

**WHITE PEPPER.** The dried mature berry of *Piper nigrum* L. from which the outer coating or the outer and inner coatings have been removed.

**SAFFRON.** The dried stigma of *Crocus sativus* L.

**SAGE.** The dried leaf of *Salvia officinalis* L.
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TARRAGON. The dried leaves and flowering tops of *Artemisia dracunculus* L.

THYME. The dried leaves and flowering tops of *Thymus vulgaris* L.

This list is reported out-of-print. Useful sources of information on spices and related substances, such as flavorings, are the U.S. Pharmacopeia, the National Formulary, and the U.S. Dispensatory. The older editions, rather than the recent revisions, provide the more extensive information on this subject.

**FDA Standards-Listing Concluded**

All foods for which there were FDA definitions and standards of identity as of the end of 1961, are mentioned on the preceding pages. Revision and additions (possibly, also, the termination of a standard) are expected in the future. It is apparent from preceding pages that FDA food standards under three distinct laws are all codified systematically in 21 CFR and we can expect that any additional standards under the Food, Drug, and Cosmetic Act, the Tea Importation Act, and the Federal Import Milk Act, likewise, will be codified in 21 CFR.

**Annual Report by the Food and Drug Administration**

The Food and Drug Administration’s Annual Report, as transmitted to the Congress (10), includes several paragraphs which relate to food standards. Those parts are here quoted in full:

Final definitions and standards of identity were published for ice cream, french ice cream, ice milk, fruit sherbets, and water ices. Some parts of the order were appealed for judicial review, but most of the provisions became effective. The standards were later amended to permit the addition of an emulsifying agent and small amounts of edible oil to enhance smoothness. This established minimum requirements for milk fat and total milk solids and maximum limits on air and water content.

As a result of objections filed to the order setting standards for orange juice and orange juice products, hearings were held and the standards were stayed until interested parties have time to file briefs stating their objections.

Food standards were amended to permit the use of corn sirup, glucose, and dried forms of these sirups in canned sweetpotatoes; the addition of traces of specified calcium salts to canned lima beans, and of stannous chloride to canned asparagus; the use of oxystearin in salad oil to inhibit crystallization, and of hydroxypropyl methyl-cellulose as an emulsifying ingredient in french and salad dressings; the addition of acetone-peroxides
as bleaching and maturing agents in flour and of sodium aluminum phosphate, an acid-reacting ingredient, in self-rising flours; the use of an oxidizing ingredient, calcium iodate, and of calcium stearyl-2-lactylate in bread; and the addition of propylene glycol alginate in cream and neufchatel cheeses.

Temporary Permits

The FDA recognizes the need occasionally for “Temporary permits for interstate shipment of experimental packs of food varying from the requirements of definitions and standards of identity.” When many safeguarding requirements—including the filing of extensive information with the FDA—have been met, a temporary permit may be issued. Granting of such a permit is given public notice and the product-label must show the temporarily permitted deviation from the official standard. The procedure is defined in 21 CFR § 3.12.

Food Additives

Supplementary to the preceding FDA definitions and standards of identity for foods, it should be helpful to show here the principal references to food adjuncts, which appear in 21 CFR 121—Food Additives. Subparts are:

A. Definitions and Procedural and Interpretive Regulations
B. Exemption of Certain Food Additives from the Requirements of Tolerances (Generally Recognized As Safe, GRAS)
C. Food Additives Permitted in Animal Feed or Animal Feed Supplements
D. Food Additives Permitted in Food for Human Consumption
E. Substances for Which Prior Sanctions Have Been Granted
F. Food Additives Resulting from Contact with Containers or Equipment and Food Additives Otherwise Affecting Food
G. Radiation and Radiation Sources Intended for Use in the Production, Processing, and Handling of Food

Food “additive,” according to Webster’s Third New International Dictionary (p. 24), is defined as follows: “c: a substance added to a food-stuff to improve color, flavor, texture, or keeping qualities [as] gelatin is an [additive] in the manufacture of ice cream.”

As indicated, the Federal Food, Drug, and Cosmetic Act as Amended appears in the United States Code under Title 21. The statutory part therein relating to “food additive” appears in Sec. 201(s) as follows:
The term 'food additive' means any substance the intended use of which results or may reasonably be expected to result, directly or indirectly, in its becoming a component or otherwise affecting the characteristics of any food (including any substance intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding food; and including any source of radiation intended for any such use), if such substance is not generally recognized, among experts qualified by scientific training and experience to evaluate its safety, as having been adequately shown through scientific procedures (or, in the case of a substance used in food prior to January 1, 1958, through either scientific procedures or experience based on common use in food) to be safe under the conditions of its intended use; except that such term does not include—

1. a pesticide chemical in or on a raw agricultural commodity; or
2. a pesticide chemical to the extent that it is intended for use or is used in the production, storage, or transportation of any raw agricultural commodity; or
3. a color additive; or
4. any substance used in accordance with a sanction or approval granted prior to the enactment of this paragraph pursuant to this Act, the Poultry Products Inspection Act (21 U.S.C. 451 and the following) or the Meat Inspection Act of March 4, 1907 (34 Stat. 1260), as amended and extended (21 U.S.C. 71 and the following).

Colorants

Substances with colorant properties which are certified by FDA for use in foods are listed here. Principal references are given because in a general sense they, too, are a part of food standards. Descriptions of "Straight Colors" and specifications for their certification for use in food are published in 21 CFR Part 9 Subpart B as follows:

<table>
<thead>
<tr>
<th>Sec.</th>
<th>General</th>
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<tr>
<td>9.20</td>
<td>General</td>
<td>9.61</td>
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<tr>
<td>9.21</td>
<td>FD&amp;C* Green No. 1</td>
<td>9.62</td>
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<tr>
<td>9.22</td>
<td>FD&amp;C Green No. 2</td>
<td>9.63</td>
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<tr>
<td>9.23</td>
<td>FD&amp;C Green No. 3</td>
<td>9.80</td>
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<tr>
<td>9.40</td>
<td>FD&amp;C Yellow No. 5</td>
<td>9.81</td>
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<tr>
<td>9.41</td>
<td>FD&amp;C Yellow No. 6</td>
<td>9.90</td>
</tr>
<tr>
<td></td>
<td>Lakes** (FD&amp;C)</td>
<td>9.100</td>
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* FD&C—approved for foods, drugs and cosmetics.
** "Lakes"—colored, insoluble metallic (usually aluminum) compounds of approved dyes.

Note that FD&C Red No. 1, although it appears in the list in the Cumulative Pocket Supplement to 21 CFR as of January 1, 1962, was in fact removed from the list, November 26, 1960.
Food "color additive" as defined by law is described in the Federal Food, Drug, and Cosmetic Act as Amended, as stated in the United States Code under Title 21, Sec. 201 (t) (1), as follows:

(t) (1) The term 'color additive' means a material which—

(A) is a dye, pigment, or other substance made by a process of synthesis or similar artifice, or extracted, isolated, or otherwise derived, with or without intermediate or final change of identity, from a vegetable, mineral, or other source, and
(B) when added or applied to a food, drug, or cosmetic, is capable (alone or through reaction with other substance) of imparting color thereto;

except that such term does not include any material which the Secretary, by regulation, determines is used (or intended to be used) solely for a purpose other than coloring.

(2) The term 'color' includes black, white, and intermediate grays.

(3) Nothing in subparagraph (1) of this paragraph shall be construed to apply to any pesticide chemical, soil or plant nutrient, or other agricultural chemical solely because of its effect in aiding, retarding, or otherwise affecting, directly or indirectly, the growth or other natural physiological processes of produce of the soil and thereby affecting its color, whether before or after harvest.

(u) The term 'safe,' as used in paragraph (s) of this section and in sections 409 and 706, has reference to the health of man or animal.

Certain additional substances are safe and useful for coloring foods. Because the food-additive law became effective several years earlier than did the food-color law, those substances were regulated administratively at first as food additives. The Federal Register publication of July 10, 1962, Vol. 27, p. 6496 carries an FDA announcement showing time-extensions for seven naturally-occurring substances previously administered as additives which are henceforth to be classified as Colorants. Of these, carotene is a widely known example. Since these substances were continued on a temporary time-extension basis to January 1, 1963, the full list is not reproduced here. It may suffice to say that carotene, for example, has a long and favorable history of safety and one may expect it will receive permanent clearance for continuing use in foods. The provitamin-A properties, as well as the colorant aspect, of carotene provides additional value for its use in foods.

Also on the subject of colorants for foods, 21 CFR Part 8, provides a "Listing of Color Additives for Food Use Exempt from Certification." Section 8.301 lists and describes Dried Algae Meal, a dried mixture of algae cells (genus Spongiococcum). Section 8.501 lists the substances listed below:
(e) Color additives provisionally listed for food use on the basis of prior commercial sale but which have not been subject to certification.

- Alkanet (alkanna)
- Annatto
- Beet juice
- Beet powder
- Bixin and norbixin
- Calcium carbonate
- Caramel
- Carbon black (prepared by the 'impingement' or 'channel' process)
- Carmine
- Carminic acid
- Carotene, natural and synthetic
- Carrot oil
- Charcoal (NF XI)
- Chlorophyll
- Chlorophyll copper complex and chlorophyllin copper complex

(Paragraph (e), as amended at 26 F. R. 7679 Aug. 16, 1961.)

The following additional substances have been added: Cudbear, Grape Skin extract, Logwood chips and extract, and Saffron.

**Pesticide Chemicals in or on Raw Agricultural Commodities**

Tolerances and exemptions from tolerances for pesticide chemicals in or on raw agricultural commodities are described in Part 120 of 21 CFR:


Source: §§ 120.1 to 120.189 appear at 23 F.R. 6403, Aug. 21, 1958, except as otherwise noted.

**Foods for Special Dietary Uses**

Part 125 of 21 CFR relates to "Label Statements Concerning Dietary Properties of Food Purporting To Be or Represented for Special Dietary Uses." According to § 408(j) of the FD&C Act, a food is a food for "Special Dietary Uses" if it purports to be or is represented for special dietary uses. Regulations thereon were first established by an order published November 22, 1941. They were amended in 1954 and 1957.

In the Federal Register, Vol. 27, 5815–5818, June 20, 1962, the FDA has proposed some major revisions. These elicited many written re-
sponses, and a public hearing to adduce views and evidence seems probable.

**Accessibility of FDA Standards**

Information on food standards of the FDA is available from a broad variety of sources. The FDA office at Washington 25, D.C., is the central source of information. Title 21 CFR and its latest Cumulative Pocket Supplement, issues of the Federal Register, and reprints as FDA may be able to provide them, are all useful. Title 21 CFR Revised 1955 is out of print and a new printing of all FDA regulations (superceding the 1955 issue and at the same time obviating a Cumulative Pocket Supplement as of January 1, 1963) is expected to be available through the Superintendent of Documents early in 1963.

Primarily because of the extensive inspection and regulation responsibilities of FDA, its Washington, D.C. headquarters is supplemented by 18 Field District Offices as follows:

- Atlanta 9, Ga.; 60 Eighth Street, N.E., TRinity 6-3311
- Baltimore 2, Md.; Room 800, U.S. Appraiser's Stores, 103 S. Gay St., PLaza 2-8460
- Boston 10, Mass.; Room 805, U.S. Appraiser's Stores, 408 Atlantic Avenue, CApitol 3-7781
- Buffalo 3, N.Y.; Room 415, Post Office Bldg., South Division & Ellicott Sts., TL 3-6332
- Chicago 7, Ill.; Room 1222, Main Post Office Bldg., Van Buren & Canal Sts., WAbash 2-9200
- Cincinnati 2, Ohio; 1141 Central Parkway, DUnbar 1-2200
- Dallas 4, Texas; 3032 Bryan St., RIVerside 8-5611
- Denver 2, Colo.; Room 573, New Customhouse Bldg., KEystone 4-4151
- Detroit 7, Mich.; 1560 E. Jefferson Ave., 962-7495
- Kansas City 6, Mo.; 1009 Cherry St., BAltimore 1-7000
- Los Angeles 15, Calif.; 1521 West Pier Blvd., RIchmond 9-4711
- Minneapolis 1, Minn.; Room 201, Federal Bldg., Washington & Third Avenues, South, FEederal 2-3211
- New Orleans 16, La.; Room 222, U.S. Customhouse, 423 Canal St., 529-2411
- New York 14, N.Y.; Room 1200, U.S. Appraiser's Stores, 201 Varick St., WAtkins 4-9353
- Philadelphia 6, Pa.; Room 1204, U.S. Customhouse, Second & Chestnut Streets, MArket 7-6000
- St. Louis 1, Mo.; Room 1007, New Federal Bldg., 114 Market St., MAin 1-8100
- San Francisco 2, Calif.; Room 518, Federal Office Bldg., Fulton & LEavenworth Sts., KLondike 2-2350
- Seattle 4, Wash.; Room 501, Federal Office Bldg., First and Madison Streets, MUtual 2-3300
Summary

The Food and Drug Administration’s definitions and standards of identity of foods encourage, require, and help greatly to assure good safe wholesome foods.

Since 1938 when Congress legislated that FDA shall make and enforce food standards, some 200 definitions and standards of identity for foods have been so promulgated.

At any given time, thirty or more different food standards may be in initial or revisionary stages. In addition to the more conventional steps of promulgating standards, litigation occasionally takes place in Courts of Law on highly controversial standards for foods.

It is gratifying that the procedures of both standards making and standards revision have been simplified during the last decade. If a proposed standard is substantially agreeable to all parties who are notified by public announcement in the Federal Register, then a standard can be adopted without necessity of a public hearing. The revised system is working quite well.

In the foreseeable future, FDA food standards are expected to increase substantially in number. Now that other separately legislated parts of the Food, Drug, and Cosmetic Act as Amended regulate food additives, food colorants, and pesticides, it may be possible that food standards can permit greater variety of optional ingredients and at the same time continue to assure utmost safety.

Absence of a food from this Part B of Chapter 4 does not necessarily indicate the absence of a federal standard for that food. Other federal departments or agencies may have published an advisory standard for the food or one pertaining to government purchase. If so, the Index in this book is provided to show it. For the very latest word on FDA food standards, one should contact that division at FDA headquarters at Washington 25, D.C.

Part C

Food Standards by the U.S. Public Health Service

The role of the Public Health Service in making food standards is broad and is based on the Public Health Service Act (11). It stresses restriction of infectious diseases through quarantine and surveillance procedures. The PHS in its standards has defined only a few foods, as to either permissive or required ingredient formulas. The safety to health, particularly from the standpoint of protection against harmful bacteria
and other microorganisms, always has been a prominent feature of Public Health Service responsibilities.

Food standards by the Public Health Service are here presented in these main sections: the Authorizing Legislation; Drinking Water Standards; Milk Ordinance and Code; Miscellaneous Foods; Microbiological Standards; and Radiological Health Data.

Legislative Authorization

The authorization and the requirement that the Public Health Service exercise certain far-reaching advisory and regulatory responsibilities over foods is based on the Public Health Service Act by the 78th Congress (1943–44). The law in its entirety concerns many features important to human health, but for the purposes of this book, attention is directed particularly to those features which are quite literally in the category of food standards.

The Public Health Service Act authorizes PHS to make and enforce food standards with emphasis on safety. The language thereof may seem both vague and meager. However that may be, it is clear the PHS has an excellent record and continues effectively to help safeguard the population in general from unsafe foods and from epidemics of food poisoning.

The following parts seem to constitute the legislative background relating most closely to PHS activities in food standards. These selected direct quotations are from the Public Health Service Act.

Part B—Federal-State Cooperation

Sec. 311. The Surgeon General is authorized to accept from state and local authorities any assistance in the enforcement of quarantine regulations made pursuant to this Act which such authorities may be able and willing to provide. The Surgeon General shall also assist States and their political subdivisions in the prevention and suppression of communicable diseases, shall cooperate with and aid State and local authorities in the enforcement of their quarantine and other health regulations and in carrying out the purposes specified in section 314, and shall advise the several states on matters relating to the preservation and improvement of the public health.

Part G—Quarantine and Inspection

Control of Communicable Diseases 42 USC 264

Sec. 361. (a) The Surgeon General with the approval of The Administrator, is authorized to make and enforce such regulations as in his judgment are necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the States or
possessions, or from one State or possession into any other State or possession. For the purpose of carrying out and enforcing such regulations, the Surgeon General may provide for such inspection, fumigation, disinfection, sanitation, pest extermination, destruction of animals or articles found to be so infected or contaminated as to be sources of dangerous infection to human beings, and other measures, as in his judgment may be necessary.

Suspension of Entries and Imports from Designated Places

Sec. 362. Whenever the Surgeon General determines that by reason of the existence of any communicable disease in a foreign country there is serious danger of the introduction of such disease into the United States, and that this danger is so increased by the introduction of persons or property from such country that a suspension of the right to introduce such persons and property is required in the interest of the public health, the Surgeon General, in accordance with regulations approved by the President, shall have the power to prohibit, in whole or in part, the introduction of persons and property from such countries or places as he shall designate in order to avert such danger, and for such period of time as he may deem necessary for such purpose.

Sec. 365. Bills of Health

(c) The Surgeon General shall from time to time prescribe regulations applicable to vessels referred to in subsection (a) of this section for the purpose of preventing the introduction into the States or possessions of the United States of any communicable disease by securing the best sanitary condition of such vessels, their cargoes, passengers, and crews. Such regulations shall be observed by such vessels prior to departure, during the course of the voyage, and also during inspection, disinfection, or other quarantine procedure upon arrival at any United States quarantine station.

Civil Air Navigation and Civil Aircraft

Sec. 367. The Surgeon General is authorized to provide by regulations for the application to air navigation and aircraft of any of the provisions of sections 364, 365, and 366 and regulations prescribed thereunder (including penalties and forfeitures for violations of such sections and regulations) to such extent and upon such conditions as he deems necessary for the safeguarding of the public health.

Drinking Water Standards

Drinking water is consumed more universally than any food. Nationally, the safety and suitability of drinking water result in large part from the constructive advisory and regulatory actions of the Public
Health Service. Most of its provisions are adopted with or without revision by the individual states, counties, cities, water districts, or other local authorities, as the case may be. The PHS technical, scientific, and administrative people themselves are among the first to emphasize that the Drinking Water Standards were developed after mutual consideration in committees and conferences of experts from many states and municipalities along with the PHS as the central coordinating agency. After many years of nationwide experience and upwards of two years of active review, the PHS published new Drinking Water Standards (12) in 1962. These Drinking Water Standards are reproduced in full in the Appendix [A-24–A-30].

New features of these standards include a limit on detergents expressed as alkyl benzene sulfonate (ABS); limitation of the carbon chloroform extract (CCE) and inclusion for the first time of standards on radioactivity.

**Milk Ordinance and Code**

The Milk Ordinance and Code (13) is the principal publication providing the recommendations by the U.S. Public Health Service which serve as the pattern for state, county, municipal or milk-district laws or ordinances. Widely used throughout this country, it has been progressively revised since its initial publication in 1924. The Milk Ordinance and Code has the approval and endorsement also of the U.S. Department of Agriculture, and results from collaborative efforts of many federal, state, and municipal health authorities.

Definitions provided by the PHS concern Nonfat Dry Milk (Skim-Milk Solids), Flavored Milk, Flavored Drink or Flavored Dairy Drink, Flavored Reconstituted Milk, Flavored Reconstituted Drink or Flavored Reconstituted Dairy Drink, Buttermilk, Cultured Buttermilk, Cultured Milk, Vitamin D Milk, Reconstituted or Recombined Milk, Reconstituted or Recombined Cream, Reconstituted or Recombined Skim Milk, Cottage Cheese, Creamed Cottage Cheese, Homogenized Milk, Milk Products, Pasteurization, and Adulterated and Misbranded Milk and Milk Products.

Grade A Certified Milk—Raw, Grade A Milk for Pasteurization, and Vitamin D Milk, also Grade B Raw Milk for Pasteurization, Grade C Raw Milk for Pasteurization, Certified Milk—Pasteurized, Grade A Pasteurized Milk, Grade B Pasteurized Milk, and Grade C Pasteurized Milk are defined. PHS has also a pamphlet entitled “Grade A Dry Milk Products, Recommended Sanitation Ordinance and Code for Dry Milk Products used in Grade A Pasteurized Milk Products,” and another one
on ice cream, sherbets, and ices, which are referred to collectively as "Frozen Desserts." These are the subject of mandatory standards by the FDA (see above) wherein some portions are presently effective while other parts are undergoing litigation.

**Miscellaneous Food Standards by PHS**

Sanitation advisory services are cited here to show miscellaneous functions relating to foods fulfilled by the PHS. Its objective is to safeguard food supply and distribution to the public. In 1943 the PHS issued a recommended Ordinance and Code Regulating Eating and Drinking Establishments. A newer edition is planned for publication about 1963. In 1957 the PHS published recommendations on the Vending of Foods and Beverages, A Sanitation Ordinance and Code. The PHS also has done considerable work toward assuring proper sanitation and safety of poultry products. That activity was especially needed and helpful before the responsibility was placed in 1958 with a new branch of the U.S. Department of Agriculture under authority of the 1957 Poultry Products Inspection Act described in Part C of Chapter 5. And finally in this connection, reference should be made to PHS in relation to shellfish foods. Latest editions of Manuals of Recommended Practice on Sanitary Control of the Shellfish Industry are:

- Part I. Growing Areas (1959)
- Part II. Harvesting and Processing

These titles indicate the breadth of subjects discussed in the loose-leaf publications which are available from the Superintendent of Documents.

**Microbiological Standards**

The Conference Report on Microbiological Standards for Foods (14) is one of the most authoritative recent statements on the broad aspects of preventing microbial food poisoning. Well-known experts agreed that

Microbiological standards for food, be they official, voluntary, or administrative, have been effective in promoting sanitation in many phases of the food industry. Nevertheless, there is a need for research, aimed at especially suspect foods, directed to specific organisms, processes, and stages of production, so as to develop defensible, attainable, and desirable standards, testing methods, and tolerances under authoritative auspices, as a guide to industry and as a protection for the consumer.

It was noted also that "a single standard test for all foods had no champions." The experts seemed unanimously favorable to directing
attention toward specific (rather than general) situations where microbiological standards seem most likely to improve the safety and quality of mass-market foods.

**Radiation Protection Standards**

Interest in radiation has been widespread for many years. Some natural radioactivity has been present in the air and possibly in drinking water and foods over an indeterminate period. In 1928 under the auspices of the International Congress of Radiology an International Commission on Radiological Protection was formed. Another group established about that time is the U.S. National Committee on Radiation Protection and Measurements. Initially, these groups were interested primarily in persons exposed occupationally, but recently they have been concerned also with persons who are exposed in other ways.

**Federal Radiation Council**

Pursuant to Executive Order 10831 and Public Law 86-373 the Federal Radiation Council was formed in 1959 to provide a federal policy on human radiation exposure. "A major function of the Council is to advise the President with respect to radiation matters, directly or indirectly affecting health, including guidance for all Federal agencies in the formulation of radiation standards. . . ." These and other important points are set forth in a booklet entitled "Background Material for the Development of Radiation Protection Standards" (15). At the same time the President signed, and a few days later, the Federal Register published a White House announcement on Radiation Protection Guidance for Federal Agencies (16).

The second Staff Report of the Federal Radiation Council on "... Radiation Protection Standards" (17) was issued in September 1961, and additional reports may be expected in the future.

A related booklet, but concerned with occupational exposure to radio-nuclides, is by the National Bureau of Standards (18).

For those who wish to continue to be apprised, the monthly periodical entitled Radiological Health Data (19) is very useful. It is published by the Public Health Service. Data are provided to the Division of Radiological Health, of the Public Health Service, by a number of federal agencies, state health departments, and foreign governments. Except where material is directly quoted or otherwise credited, summaries and abstracts are prepared by the Radiological Health Data and Reports Staff, Division of Radiological Health. The reports are reviewed by a
Board of Editorial Advisors with representatives from the following Federal agencies:

- Department of Health, Education, and Welfare
- Atomic Energy Commission
- Department of Defense
- Department of Agriculture
- Department of Commerce

**Summary**

The Public Health Service of the Department of Health, Education, and Welfare has many vital responsibilities to help assure safety of foods. The Public Health Service Act is not highly specific concerning food standards. The primary objectives are to safeguard the drinking water and the more perishable foods.

The PHS has mandatory responsibilities for safety of foods and drinking water aboard all interstate carriers such as trains, airplanes, automobiles, and ships licensed under this country's flag.

PHS exercises many of its widespread safeguards to human health and welfare through its advisory collaboration with public health officials and professional staff members of states, counties, municipalities, villages, and milk and water districts. Epidemiology and sanitary engineering are fields in which PHS leaders are especially qualified and most active.

Surveillance of the radiological properties of foods is a relatively new activity. Several departments of the government work on the measurement of radioactivity in air, water, and other foods. The monitoring of radioactivity in our environment and the interdepartmental liaison on this subject involve five important branches of the federal government. The President has directed that the central leadership in this program be in the Public Health Service.

**References**

REFERENCES


