

I. KINDS OF OTHER DAIRY PRODUCTS

Standards of Identity/Labeling. For a number of dairy foods the U.S. government has established standards of identity. These standards define a food's minimum quality (e.g., minimum and maximum content requirements for various constituents such as milk fat), required and permitted ingredients (e.g., vitamins A and D), and processing requirements. Most dairy foods with a standard of identity conform to the FDA standard and regulations published in the Code of Federal Regulations. A few dairy foods (e.g., nonfat dry milk, butter) are regulated by USDA's grading and inspection programs. FDA recently revoked the standards of identity for certain dairy products whose names include a nutrient content claim (e.g., cultured and acidified lowfat and nonfat milks). Dairy foods without a standard of identity must conform to regulations specified in the Nutrition Labeling and Education Act (NLEA) of 1990.

YOGURT AND OTHER CULTURED DAIRY FOODS

Cultured dairy foods are milk products that result from the fermentation of milk or its products by starter cultures (i.e., selected specific microorganisms) that produce lactic acid under controlled conditions. A wide variety of cultured dairy foods differing in flavor and consistency is available.

- **Yogurt.** Yogurt is the product resulting from the culturing of a mixture of milk and cream products with the lactic acid-producing bacteria, *Lactobacillus bulgaricus* and *Streptococcus thermophilus*. Other bacterial cultures (e.g., *Lactobacillus acidophilus*, *Bifidobacteria*) and select strains of specific bacteria may also be used. Sweeteners, flavorings, and other ingredients may be added. Yogurt contains not less than 3.25% milk fat and 8.25% solids-not-fat. The addition of vitamins A and D is optional. Yogurt can be made from milks of different fat contents. **Lowfat yogurt** is similar in composition to yogurt except that it contains either 0.5, 1, 1.5, or 2% milk fat. **Nonfat yogurt** contains less than 0.5% milk fat. **Frozen yogurt** is manufactured by freezing a pasteurized mix of milk, sweeteners, and emulsifiers that is cultured after pasteurization. Since the product may be treated with a second pasteurization (i.e., after it is cultured), frozen yogurt may or may not contain live, active

cultures. At present, there are no federal definitions or standards of identity for frozen yogurt, although many states have established standards.

- **Acidophilus Cultured Milk.** Acidophilus cultured milk is pasteurized or ultra-pasteurized milk, usually reduced fat or nonfat, cultured with *Lactobacillus acidophilus* and incubated at 38°C for at least 18 hours until a soft curd forms. Reduced fat acidophilus milk (2% or 1.5% milk fat) must have at least a 25% reduction in total fat compared to the regular product. Lowfat acidophilus cultured milk can have no more than 3 g total fat per serving, whereas nonfat acidophilus cultured milk must contain less than 0.5 g fat per serving.
- **Cultured Buttermilk.** This milk product is produced by culturing whole, lowfat, or nonfat (skim) milk with appropriate characterizing bacteria (e.g., *Streptococcus lactis* or *Lactococcus lactis*). The addition of certain characterizing ingredients and lactic acid-producing bacteria may permit the product to be labeled "cultured buttermilk," "cultured reduced fat buttermilk," or "cultured skim (nonfat or fat free) buttermilk" depending on the level of milk fat in the finished product.
- **Sour Cream or Cultured Sour Cream.** Sour cream results from the culturing of pasteurized cream with *Streptococcus lactis* until the acidity is at least 0.5%, calculated as lactic acid. Rennet extract may be added in small quantities to produce a thicker-bodied product. Cultured sour cream must contain not less than 18% milk fat (unless nutritive sweeteners are added, in which case not less than 14.4% milk fat must be present).
- **Acidified Sour Cream.** This product results from the souring of pasteurized cream with safe and suitable acidifiers, with or without the addition of lactic acid-producing bacteria. Federal standards of identity regarding milk fat concentration are the same as for cultured sour cream.
- **Sour Half-and-Half or Cultured Sour Half-and-Half.** This product results from the addition of lactic acid-producing bacteria to half-and-half. Sour half-and-half contains not less than 18%

milk fat. The product may or may not contain lactic acid-producing bacteria. Reduced-fat half-and-half must have at least 25% less fat per serving than the regular product.

- **Acidified Sour Half-and-Half.** This product results from the souring of half-and-half with safe and suitable acidifiers, with or without the addition of lactic acid-producing bacteria. Federal standards (e.g., milk fat content) for this product are the same as those for sour half-and-half. Acidified reduced-fat sour cream must have at least a 25% reduction in total fat per serving than the regular product.

CONCENTRATED, EVAPORATED, AND CONDENSED MILKS

- **Concentrated Milks.** Concentrated milks are made by the partial removal of water from fluid milk. These products are pasteurized, and may be homogenized and/or fortified with vitamin D. According to federal definitions, the milk fat and total milk solids content of concentrated milks must be not less than 7.5% and 25.5%, respectively. Variations of concentrated milks include evaporated and sweetened condensed milks. Concentrated milks are sterilized or their osmotic pressure is increased so that no microorganisms survive.
- **Evaporated Milk.** Evaporated milk is made by removing about 60% of milk's water, homogenizing, standardizing to the required percentages of components, adding vitamins (vitamin D to 25 IU/oz.; vitamin A is optional), and stabilizing. Evaporated milk is a heat-sterilized product with an extended shelf life and is available in cans. The product must contain not less than 6.5% milk fat, not less than 16.5% nonfat milk solids, and not less than 23% total milk solids. Because of its yellowish color and cooked flavor, evaporated milk has limited uses. Reduced-fat and nonfat versions of evaporated milk are available. Evaporated nonfat milk contains not less than 0.5% milk fat and 20% total milk solids.
- **Sweetened Condensed Milk.** This product results from the removal of about 60% of the water from a mixture of milk (whole and nonfat pasteurized, homogenized milks) and safe and suitable nutritive carbohydrate sweeteners such as sucrose (i.e., at levels of about 40 to 45% of the condensed milk) to prevent spoilage. This product contains not less than 8% milk fat and not less than 28% total milk solids. Reduced-fat and nonfat versions of sweetened condensed milk are available. Sweetened condensed nonfat milk must contain not less than 0.5% milk fat and not less than 24% total milk solids.

DRY MILK

- **Nonfat Dry Milk.** Nonfat dry milk is made by removing water from pasteurized skim (nonfat or fat free) milk. The product must contain 5% or less by weight of moisture, and no more than 1.5% by weight milk fat unless otherwise indicated. A number of tailor-made nonfat dry milks (as well as other dry milks) including lactose-reduced, low-sodium, and "instant" (i.e., disperses immediately in cold water) are available.
- **Nonfat Dry Milk Fortified With Vitamins A and D.** This product is the same as above except that it is fortified with 2,000 IU of vitamin A and 400 IU of vitamin D per quart when reconstituted.
- **Dry Whole Milk.** This product contains all of the components of whole milk, but in a concentrated form. Dry whole milk is typically made from pasteurized whole milk from which water has been removed by spray or, sometimes, roller drying. On a dry weight basis, dry whole milk must contain not less than 26% or more than 40% milk fat and not more than 5% moisture on a nonfat milk solids basis. The addition of vitamin A and/or D is optional.

CREAM PRODUCTS

- **Half-and-Half.** This milk product is a mixture of milk and cream containing not less than 10.5% milk fat, but less than 18% milk fat. It is pasteurized or ultrapasteurized, and may be homogenized.
- **Light Cream.** Light cream (also called coffee cream or table cream) contains not less than 18% milk fat, but less than 30% milk fat. It is pasteurized or ultra-pasteurized and may be homogenized.
- **Light Whipping Cream** (also called whipping cream). This product is cream that contains not less than 30% and no more than 36% milk fat. It is pasteurized and may be homogenized. Whipping cream is generally ultra-pasteurized to extend its shelf life.

- **Heavy Cream.** Heavy cream or heavy whipping cream must contain a minimum of 36% milk fat. The product is pasteurized or ultra-pasteurized and may be homogenized.
- **Dry Cream.** This product is obtained by the removal of water only from pasteurized milk, or cream, or a mixture thereof. Homogenization is optional. Dry cream contains not less than 40% but less than 75% milk fat and not more than 5% by weight moisture.

EGGNOG

Eggnog contains milk products, egg yolk and egg white ingredients, and nutritive carbohydrate sweeteners. In addition, eggnog may contain salt, flavoring, color additives, and stabilizers. This product must contain not less than 6% milk fat and 8.25% milk solids-not-fat. The egg yolk solids content must not be less than 1% by weight of the finished food.

BUTTER

- **Butter.** According to USDA standards, this concentrated source of milk fat made from milk or cream, or both, with or without salt, contains a minimum of 80% fat with some water and nonfat milk solids (casein, lactose, minerals). Butter is made by churning pasteurized cream using batch-process (35 to 45% fat cream) or continuous (42 to 44% fat cream) churns. Butter may be salted or unsalted. Lightly salted butter is generally referred to as “sweet cream butter” and unsalted butter as “sweet butter.” Sweet cream butter is made from pasteurized sweet cream to which no starter has been added. Ripened cream butter is made using starter-ripened cream. Natural coloring agents (annatto, carotene) may be added. Clarified butter can be obtained by melting butter and separating the nonfat ingredients (water, proteins, carbohydrates) in the upper layer of foam and the whitish bottom layer from the yellowish middle layer of fat (clarified butter). Compared to regular butter, clarified butter can be heated to a higher temperature without burning and has a longer storage life. However, clarified butter lacks the characteristic buttery flavor of butter.
- **Light or Reduced-Fat Butter.** This product typically contains nonfat milk, water, and/or gelatin and is 40% (or less) milk fat. Regulations

specify which ingredients are acceptable in a light butter formulation and the quantity. Reduced-fat butter should not be substituted for regular butter in baking or frying due to its high moisture content. The label on light or reduced-fat butter must include a statement such as “not recommended for baking” if its performance characteristics differ substantially from those of butter.

ICE CREAM AND FROZEN DESSERTS

- **Ice Cream.** Ice cream is a frozen food made from a mixture of dairy products such as milk, cream, and nonfat milk combined with sweetening agents, flavorings, fruits, nuts, stabilizers, emulsifiers, and other ingredients. Federal standards require that ice cream contain a minimum of 10% milk fat and 20% total milk solids by weight. French ice cream or frozen custard is an ice cream product containing at least 1.4% egg yolks solids.
- **Reduced-Fat, Lowfat, Light, and Fat-Free Ice Creams.** With the elimination of the standard of identity for ice milk and with passage of the 1990 Nutrition Labeling and Education Act (NLEA), a variety of ice cream products reduced in fat has entered the marketplace. Reduced-fat ice cream contains 25% less fat than the original product. Lowfat ice cream contains 3 g or less fat per serving. Light ice cream is reduced in fat by at least 50% or more. Fat-free ice cream contains less than 0.5 g fat.
- **Sherbet.** This product, with fruit or other flavors, contains not less than 1% or more than 2% milk fat and 2 to 5% total milk solids. This product has more sugar than ice cream.

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