



Overviews of the dairy products: The processing of dry milk products and its importance

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DESCRIPTION

By-products of milk and dairy products are often dried to reduce weight, facilitate transportation, extend shelf life, and provide more useful forms as raw materials for other foods. In addition to skim milk and whole milk, various useful dairy products such as buttermilk, malt milk, instant breakfast, sweet cream, sour cream, butter powder, ice cream mix, cheese whey, coffee creamer, dehydrated cheese products, Lactose and caseinates. Many drying plants are built in connection with butter processing plants. These plants utilize skim milk from the separated cream and buttermilk from agitation. Most produce is dried to less than 4% moisture to prevent bacterial growth and spoilage. However, due to the oxidation of fatty acids, fat products quickly lose their freshness and become rancid (Elza, et al., 2022).

Two types of dryers are used to manufacture milk powder, a drum dryer and a spray dryer. Each dryer has certain advantages (Jose, et al., 2022).

Drum dryers: The simplest and cheapest are drum dryers or roller dryers. It consists of two large steel cylinders that rotate towards each other and are heated from the inside by steam. The concentrated product dries in less than one revolution and is applied in a thin layer to a hot drum that is scraped off the drum by a steel blade. Flake-like powder is difficult to dissolve in water, but it is often used in certain baked goods. Rotating dryers are also used in the production of animal feeds where texture, flavor and solubility are not key considerations. **Spray dryer:** Spray dryers are used more often because they produce products that are less heat damaged and more soluble. Concentrated liquid dairy products are sprayed into a stream of hot air in the form of a fine spray. Air can be heated directly by steam-heated "radiators" or by sulphur-free natural gas. The drying room can be rectangular (living room size), conical, or silo (up to 5 stories). The powder passes through a series of cyclone

separators from the drying chamber and is usually placed in a sturdy paper bag lined with plastic. Milk powder sprays are also difficult to reconstitute and mix with water. Therefore, a process called agglomeration was developed to "instantiate" or makes the powder more soluble. In this process, the spray-dried fine powder is re-wetted with water until it has a moisture content of about 8-15%, followed by a second drying cycle. The powder becomes granular and dissolves very well in water. Virtually all non-fat milk powder retail packaging is instantiated this way. Butter is one of the most concentrated forms of liquid milk. To make 1 kilogram of butter, you need 20 liters of whole milk. This process leaves about 18 liters of skim milk and buttermilk that were discarded as animal feed or waste. Today, the value of the lean part has increased significantly and is fully utilized in other products. Over-the-counter butter is 80-82 percent milk fat, 16-17 percent water, and 1-2 percent non-fat milk solids (sometimes called curds). It may contain salt, added directly to the butter in concentrations of 1 to 2 percent. Unsalted butter is often referred to as "sweet" butter. This should not be confused with "sweet cream" butter, which may or may not be salted. Reduced fat, or "light," butter usually contains about 40 percent milk fat (Priya, et al., 2022).

A dairy product made by spray-drying fresh milk from a farm that has been modified by partially removing milk solids from dairy products, fat-free and dextrose. A long-standing reputation in the dairy industry allows these dairy products to be processed with all hygiene and purity factors in mind, increasing the nutritional value and purity of the processed dairy products. Instant Cream Milk Powder: Indian Dairy Products Instant milk powder was created with the importance of milk taste and dairy milk freshness in dairy plant. Indian Dairy Instant Milk Powder is quick and easy to use and is widely used in corporate offices, laboratories, railroads and airports. Our convenience Milk Powder is an ideal dairy product with a smooth, creamy texture and abundant fat full of milk and dairy products. Available in a variety of dairy products, it

conveys the natural dairy process used to make instant milk powder for Indian dairy products. Most people think that buttermilk is high in fat. In fact, the name comes from the fact that buttermilk was once an aqueous final product for butter production. Modern buttermilk is made from low-fat or skim milk, with less than 2% fat and may be completely fat-free. Its correct name in many jurisdictions is "cultured low-fat milk" or "cultured skim milk" (Hubbard, et al., 1989). Sour cream is made using the same temperature and culture method as buttermilk. The main difference is the starting ingredient – sour cream starts with a cream (Singh, 2022).

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