# **Frequently Asked questions**

#### 1. What is Buttermilk?

**Ans:** Buttermilk is a kind of tart-tasting dairy drink, basically a by-product of the process making butter from the milk cream.

# 2. What is the starter culture used in the preparation of buttermilk?

**Ans:** The starter cultures of desirable bacteria, such as *Streptococcus lactis, S. cremoris, Leuconostoc citrovorum*, and *L. dextranicum*, are added to develop buttermilk's acidity and unique flavour. These organisms may be used singly or in combination to obtain the desired flavour.

# 3. What is a Traditional buttermilk?

**Ans:** The liquid left over from home made making butter is known as traditional <u>buttermilk</u>. Traditional <u>buttermilk</u> is very low in fat (since most of the fat went to making the butter).

# 4. What is a cultured buttermilk?

**Ans:** Cultured buttermilk is prepared using a specific buttermilk starter cultures which are live beneficial bacteria. The buttermilk sold in supermarkets is cultured, created by fermenting pasteurized low-fat or nonfat milk so the milk sugars turn into lactic acid. It is thick and tart, a result of its increased acidity, which keeps the milk protein casein from being soluble and results in clabbering or curdling.

# 5. What is an acidified buttermilk?

**Ans:** *Acidified buttermilk* is a related product made by adding a food-grade acid (such as lemon juice) to milk. It can be produced by mixing 1 tablespoon of vinegar or lemon juice per 1 cup of milk and letting it sit until it curdles, about 10 minutes. Any level of fat content for the milk ingredient may be used, but whole milk is usually used for baking.

#### 6. What is the biological importance of Buttermilk?

**Ans:** Buttermilk is a superb food product. If drinking buttermilk isn't enough to stave off hunger, mixed it with kama (a traditional Estonian meal containing milled rye, wheat, barley and peas) to get a versatile, useful and easy meal. Fermented buttermilk is perfect as the main component in the cold soups that are very popular during the warm season. Due to the interaction of the organic acids in buttermilk and raising agents the separating gases make the pastry fluffy. Buttermilk can be used at home as a high quality starter for fermenting milk. Consumers have only to add about 5-10% of fermented buttermilk to milk, mix them well and let it ferment at room temperature. The bacteria in the starter of the fermented buttermilk ensure a high quality result both in terms of texture and taste. The organic acids (mainly lactic acid) in buttermilk are used for various culinary and cosmetic applications. The mild acid environment of buttermilk is very good for marinating meat and as a base of mild marinades. Lactic acid has also a skin peeling effect so buttermilk can be used in cosmetic skin care products. Buttermilk powder is often used in whipped creams, mainly due to its lecithin and protein content. Specifically, lecithin has twin characteristics – part of its molecule binds well with water, the other part with fats, so it is a good emulsifier, binding the two phases in creams into one whole, and building bridges between them on the molecular level.

# 7. Explain the traditional method of preparing buttermilk?

**Ans:** Home made buttermilk can be prepared using traditional methods involving the series of steps. Initially, add a bacterial starter of 6 to 8 ounces/180-235ml of active fresh cultured buttermilk to a clean quart jar. Fill the rest of the jar with fresh milk. In the next step, screw the lid on securely. Shake thoroughly to mix. Allow it to settle out in a warm part of the room until it get thickened, which should take about 24 hours. Check to make sure the thickened buttermilk coats the glass. This is because the bacteria have fermented the milk, and the lactic acid is causing the milk proteins to thicken. Later, beat the curd in a blender for 15 - 20 seconds, add water to the above and mix thoroughly. In the final step, add salt, stir well and buttermilk is ready to serve.

#### 8. Briefly describe the process of preparing cultured buttermilk?

**Ans:** Cultured buttermilk is prepared using a specific buttermilk starter cultures which are live beneficial bacteria. The starting ingredient for buttermilk is skim or low-fat milk. The milk is pasteurized at  $82^{\circ}$  to  $88^{\circ}$  C ( $180^{\circ}$  to  $190^{\circ}$  F) for 30 minutes, or at  $90^{\circ}$  C ( $195^{\circ}$  F) for two to three minutes. This heating process is done to destroy all naturally occurring bacteria and to denature the protein in order to minimize wheying off (separation of liquid from solids).

The milk is then cooled to  $22^{\circ}$  C ( $72^{\circ}$  F), and starter cultures of desirable bacteria, such as *Streptococcus lactis, S. cremoris, Leuconostoc citrovorum,* and *L. dextranicum*, are added to develop buttermilk's acidity and unique flavour. These organisms may be used singly or in combination to obtain the desired flavour.

The ripening process takes about 12 to 14 hours (overnight). At the correct stage of acid and flavour, the product is gently stirred to break the curd, and it is cooled to  $7.2^{\circ}$  C (45° F) in order to halt fermentation. It is then packaged and refrigerated.

#### 9. What is the nutritional composition of buttermilk?

**Ans:** Water content in buttermilk at its highest is 91–92%. The dry matter in buttermilk (8–9%) contains macronutrients (milk proteins, carbohydrates, lipids) and micronutrients (mineral substances, vitamins). The carbohydrate content of buttermilk on sale in our stores is between 4.3–4.5%. The majority of it comprises lactose or milk sugar, and to some extent glycose and lactose that are generated during the cleavage of lactose.

# 10. What are the health benefits of buttermilk?

**Ans:** Buttermilk is highly recommended as one the best home remedies for certain ailments like piles, diarrhea, jaundice and dysfunctions of liver and spleen. Some of the other health benefits of buttermilk are listed below.

- 1. Fights acidity
- 2. Soothes the stomach after a spicy meal
- 3. Improves digestion
- 4. Boosts your calcium intake
- 5. Washes down fats

- 6. Contains several other nutrients, apart from calcium
- 7. Prevents vitamin deficiency
- 8. Lowers cholesterol and reduces blood pressure
- 9. Prevents dehydration
- 10. Best for lactose intolerant people

# 11. What are the regional names of buttermilk?

**Ans:** Buttermilk can be called by several regional names *viz.*, *Chhachh* in North India, *Mor* in Tamil, *Majjiga* in Telugu, and *Taak* in Marathi.

# **12. What are Butter flakes?**

**Ans:** Butter flakes are the small, thin piece of butter prepared by adding 0.18% of salt and as by-products during the preparation of cultured buttermilk.

# 13. What are the advantages of cultured buttermilk?

Ans: The following are the benefits of cultured butter milk over traditional buttermilk

- Cultured buttermilk is a milk product with a shelf life (at ambient temperature) of about 4 days compared to 24 hours for flesh pasteurized milk.
- Cultured butter milk is highly digestible making it to have, on a volume to volume basis, better nutritional quality than liquid milk.
- Certain individuals who do not consume milk regularly experience stomach upsets if they try to consume a glass or two of fresh milk. This is because they are unable to digest the milk sugar (lactose) which is then fermented in the lower gut thereby causing gas production and flatulence. Experience has shown that such, so called "lactose intolerant" people can consume cultured butter milk without problems because a large part of the milk sugar has already been digested for them by the lactic acid bacteria
- The regular consumption of cultured butter milk has been shown to have therapeutic properties due partly to the presence of natural antibiotics such as nisin and

acidophilin which is produced by specific lactic acid bacteria. This gives certain cultured products such as Acidophilus milk, yoghurt (Bioghurts) special "Health" status and may be recommended by medics for restoration of normal gut flora following oral therapy.

# 14. What is powdered buttermilk?

**Ans:** It is prepared as, the dried form actually made from the liquid that's left after churning butter. This liquid is cultured and the water is evaporated, leaving a dried powder called powdered buttermilk.

# **15.** What are the basic practical requirements for production of good quality cultured butter milk?

Ans: The following are the basic requirements

- a. Use high quality milk.
- b. Use colostrum and mastitis free milk.
- c. Use milk free of starter culture inhibition (chemical and drug residues). Conduct the inhibitor test regularly on milk destined for production of cultured milk
- d. Use clean equipment.
- e. Pasteurise the milk to recommended temperatures.
- f. Use flesh starter cultures.
- g. Package the products in attractive, well-labelled containers.