

## BUTTER MAKING

Educational handout created by the Pioneer Museum of Flagstaff, Arizona

The process of making butter began centuries ago when Nomads first separated cream from milk and found that mixing the cream created butter. There are records of its use from 2000 B.C. on. The word butter is from the Greek word *boutyron*, meaning *bours* for cow + *tyros* for cheese. Traditionally a farm product, the mass productions of butter began with the invention of the mechanical cream separator in the late 19<sup>th</sup> century. In the 1860s creameries opened in America, mass producing and selling butter and cheese. Prior to the 1860s butter was made by in smaller batches by farmers and sold or traded locally.

Early traders imported and exported butter in Asia and Europe. During the 13<sup>th</sup> century, butter was shipped and traded from India to the Red Sea, from Scandinavia to Germany, and Belgium. In Ireland archaeologist frequently find barrels of butter buried in peat bogs. The cool, antiseptic, anaerobic, acidic peat bogs made an excellent storage place for the butter which when found in modern times is not edible, but also not putrefied. Similarly buried butter deposits have also been found in Finland. It's not clear exactly why the butter was buried but storage against lean times, and protection from invaders are thought to be the main reasons.

Early butter was made by leaving a covered bucket of fresh milk in a cool place like a barn or cellar. The cream naturally separates from the milk rising to the top and is then skimmed off and stored. After a few days enough cream is on hand to make a batch of butter. Butter is made by placing the cream in churn and agitating it for around 15 minutes or more, to separate the fat in the cream from the butter milk. Salt was added as a preservative. The earliest butter churns were animal skin bags used by ancient Asian nomads to make butter.

Making butter was considered women's work. A gifted butter maker was said to have a "cool hand." Each family's butter would taste slightly differently depending upon what their cows were eating (alfalfa, sweet clover, onion grass, dandelions, etc.) Since men often sold larger crops for credit, women were able to sell butter earning a regular, if meager supply of cash for their families. When creameries began taking over the production of butter, women then sold pails of cream to them for "pin money" or pocket money as we might call it today.

Scientifically, butter is a highly concentrated form of fluid milk. Separating the butter fat from the liquid leaves the byproduct of buttermilk or skim milk. Once used to feed animals, today skim milk and butter milk are popular for their own qualities. As you make butter, you will watch it pass through several stages: sloshy, frothy, soft whipped cream, firm whipped cream, coarse whipped cream and finally a ball of yellow butter will fully separate from the buttermilk. The milk is then drained, the butter washed and pressed to rid it of all the liquid buttermilk and salted. On a chemical level, butter making is the process of smashing fat globules into each other to cause the hydrophobic regions of the phospholipids in triglycerides to clump together and separate from the hydrophilic regions. The hydrophobic triglycerides align with neutral air pockets creating the stable, semi-solid structure we call whipped cream. When pushed further passed this point, the globules of fat gather densely, releasing the air and becoming a solid mass of butterfat.

Sources:

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