

## The Best Freezing Method for Preserving the Normal Conditions of Milk

Frozen milk has very few examples of practical use because its components (fat and protein particles) are separated, making its flavor and texture inferior. Therefore, in order to prevent the separation of milk components during freezing, we studied the changes in milk components by repeating freezing and thawing milk at different times and temperatures. We found that quickly freezing milk to the lowest temperature possible prevents component separation, thereby preserving the quality of milk. Furthermore, in our other experiments using ethanol to accelerate milk's freezing rate, the separation of components was less than when milk was frozen without the aid of ethanol. In future experiments, we would like to use solutions containing less than 99.5% ethanol to see if they can also shorten milk freezing times.