Details of Technology

Name of Technology	Freezing resistant soft cream mix	Food
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Key words	soft cream, mix, freezing-resistance, shelf life, amount of waste	

What kind of technology is this?

Outline

Soft cream mix with freezing resistance (prevention of phase separation of oil-in-water (O/W)-type emulsion during the freezing-thawing treatment)

Freezing resistance has been required for soft cream mix, an O/W-type emulsion to increase the yield rate. Freezing resistance has been given to soft cream mix by inhibiting the growth of oil and fat crystals in oil droplets of a dispersed phase and the growth of ice crystals in a continuous phase by using food materials.

Extreme extension of shelf life of soft cream mix

Ordinary soft cream mix has been distributed in a package at cold temperature after sterilization. Therefore, it is possible to store it at cold temperature for about 1 month from the microorganism-induced deterioration (putrefaction) view of point. Ordinary soft cream mix, however, becomes unusable in the storage condition below the melting point of oils and fats, because the progression of crystallization of oils and fats induces the aggregation and coalescence of oils and fats to finally result in phase separation to oil and water phases.

Decrease in the amount of waste of soft cream mix

The soft cream mix can be used after thawing (natural thawing) a required amount taken from frozen one (usually stored in a freezer), by which the amount of waste, the residue remained after use, can be reduced drastically. This helps the efficient utilization of food resources and a decrease in the environmental load. Therefore, this can be called “earth friendly” soft cream mix.

What are its applications?

The soft cream mix can be usually stored in a frozen condition and used after thawing an amount required for each production of soft cream.

Related patents	
Related materials	The 8th annual meeting of Japan Society for Food Engineering (2007) Abstract (2007), the 55th annual meeting of the Japanese Society for Food Science and Technology (2008) Abstract.

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