

Make Ice Cream Your Family Fun

Ice cream is a delicious frozen food that is a real treat when it's homemade. Making ice cream at home can be a fun family project with a job for everyone. If you have a hand cranked or electric ice cream freezer, everyone can enjoy a tasty dessert right from the freezer.

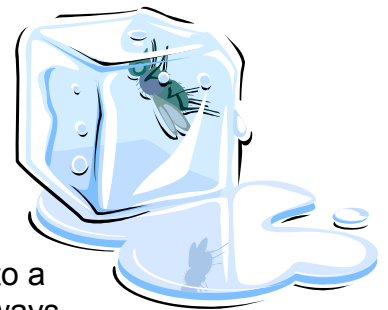
The most important ingredients in ice cream are:

- *Milk* solids, often added as nonfat dry milk, give body to the mixture and allow better whipping.
- *Cream*, with its higher butterfat content, gives richness and smoothness.
- *Eggs*, acting as a stabilizing ingredient, provide good texture as well as flavor and the whites are a good whipping agent. Because of the risk of harmful bacteria in raw eggs, you must use pasteurized eggs in uncooked ice cream mix.
- *Sugar* gives sweetness and minimizes crystallization by lowering the freezing point temperature.
- *Gelatin* is a stabilizer that binds water to keep ice crystals small.
- *Flavorings* are added in small amounts and have no effect on the freezing process.
- *Fruits* are sugared and retard the freezing process, and thus should not be added until the mixture is about half frozen.

Equipment and Supplies

To make homemade ice cream, you need a variety of equipment, including ice, rock salt and a freezer. Metal freezers are preferred, but must be kept clean to prevent rusting. The capacity of the ice bucket should be about two gallons. The mix container will hold about one gallon.

You will need at least 20 pounds of ice for each gallon of ice cream and about five pounds of rock salt.



Preparing the Mix

Pour liquid ingredients such as milk, cream or evaporated milk into a large mixing bowl. Whip eggs in separate bowl before adding. Always dissolve gelatin tablet in small amount of hot water. This helps assure dispersion throughout the mix. Dry sugar should be added to the liquid mix while stirring constantly.

Unless you purchase all pasteurized ingredients, cook the mix. Use a double boiler to reduce cooking down caused by evaporation and stir continually. Heat to

155° F and hold for 30 minutes. Cool to 45° F or below by placing cold water, then ice water, in the lower part of the double boiler. Keep the ice cream mix covered to prevent bacterial contamination. Have the mix as cold as possible prior to freezing. This reduces time required to freeze and gives you a smoother textured product with fewer large ice crystals.

Use only clean utensils for handling mix. They should be sanitized with heat in the dishwasher or sanitized to destroy all bacteria. A dilute chlorine solution at 100 ppm (1/2 teaspoon bleach per quart of water) can be used for sanitizing.

Stabilizers and emulsifiers other than gelatin and eggs can be used. If so, mix with a little hot water in a cup. Then add to the mix, stirring thoroughly. Otherwise it settles, giving you a thick gummy ice cream at the bottom of the container.



Serving and Storing

Serve ice cream within a few hours of freezing for best results. If held for more than a few hours, keep product at temperatures well below 0° F. Freezing compartments in home refrigerators are seldom cold enough to harden ice cream properly. Temperatures approaching -20° F are ideal. If you plan to hold ice cream, keep it at -10° F or lower. It can be held for months at this temperature.

Vanilla Ice Milk (cooked, with eggs)

- 2 cups sugar
- 1 tablespoon unflavored gelatin
- 1 ½ cups nonfat dry milk
- 2 quarts whole milk
- 3 eggs, beaten (use only clean, uncracked eggs)
- 1 ½ tablespoons vanilla

1. Mix sugar, gelatin, nonfat dry milk and milk in the top of a double boiler. Cook over hot water to a temperature of 175° F.
2. Stir a little of the hot mixture into the beaten eggs, then stir the eggs into the remaining hot mixture.
3. Cook the entire mixture over hot water, while stirring constantly, for 1 minute.
4. Chill immediately by placing the top of the double boiler in ice water. Temperature of the ice milk mix should be 50° F before removing the mix. Add vanilla.

Alternately, use pasteurized eggs, omitting steps 1-4 and simply mix dry ingredients (sugar and dry milk) with milk, cream and vanilla. Dissolve gelatin in ¼ cup of hot water. Add to mix and continue with step 5.

5. Pour into a 1-gallon ice cream canister; fill no more than two-thirds full. Refrigerate.
6. Freeze in a handcranked or electric ice cream freezer, packed with a mixture of 1 part rock salt and 6 parts crushed ice. Continue to freeze until the motor starts to labor or resistance is met when cranking.
7. Remove dasher and serve immediately.

This recipe makes 20 half-cup servings (about 2 ½ quarts).
Calories per serving: Approx. 150

Vanilla Ice Cream (cooked, with eggs)

2 cups sugar
2 teaspoons unflavored gelatin
¾ cup nonfat dry milk
1 quart pasteurized whole milk
3 cups whipping cream
4 eggs, beaten (use only clean, uncracked eggs)
2 tablespoons vanilla

1. Mix sugar, gelatin, nonfat dry milk, milk and cream in the top of a double boiler. Blend and heat over hot water until the temperature reaches 175°F.
2. Stir a small amount of the hot mixture into the beaten eggs, then stir the eggs into the remaining hot mixture.
3. Cook the entire mixture, while stirring constantly, 1 minute longer.
4. Chill immediately by placing the top of the double boiler in ice water. Temperature should be 50°F before removing from the ice water.

Alternately, use pasteurized eggs, omitting steps 1-4 and simply mix dry ingredients (sugar and dry milk) with milk, cream and vanilla. Dissolve gelatin in ¼ cup of hot water. Add to mix and continue with step 5.

5. Pour into a clean ice cream freezer; fill no more than two-thirds full. Refrigerate 3-4 hours or overnight.
6. Freeze in a handcranked or electric ice cream freezer. Pack the outer shell with a mixture of 1 part rock salt and 6 parts crushed ice. Continue the freezing process until the motor labor or stiff resistance is met while cranking.
7. Remove dasher and serve immediately.

This recipe makes 20 half-cup servings (about 2 ½ quarts).
Calories per serving: Approx. 230

Vanilla Ice Cream (uncooked, no eggs)

3 cups pasteurized heavy cream
4 cups pasteurized whole milk

1 ½ cups instant nonfat dry milk
1 ½ cups sugar
1 tablespoon gelatin dissolved in ½ cup of hot water
1 tablespoon vanilla

1. Mix cream, milk, dissolved gelatin and vanilla into a large mixing bowl. Add dry milk and sugar.
2. Pour into a clean ice cream freezer; fill no more than two-thirds full. Refrigerate 3-4 hours or overnight.
3. Freeze in a handcranked or electric ice cream freezer. Pack the outer shell with a mixture of 1 part rock salt and 6 parts crushed ice. Continue the freezing process until the motor labor or stiff resistance is met while cranking.
4. Remove dasher and serve immediately.

Yield: 1 gallon

This publication replaces B2766 **Homemade Ice Cream and Ice Milk** (1984) by Robert Bradley (retired) and Mary Mennes (retired). Revisions by Steve Ingham.

Information included from **Making Ice Cream at Home** (A76) Circular 566. Pennsylvania State University (out of print).

Designer and Editor: Christine Morris, Outreach Specialist, July 2003.