

The Big FREEZE



AGENT NAME
AND TITLE

Outline

- What freezing is and how it affects the safety and quality of food
- Basic freezing processes and proper technique for year-round preservation
- Compare food and container selection for optimal freshness and quality
- Learn how to thaw safely when meal planning or during a power outage



What is freezing?

- Reducing the temperature of food below 0 so the water inside the food turns to ice.
 - Small ice crystals form when the temperature is lowered rapidly.
 - Large ice crystals form when the temperature is lowered slowly.
- Rapid freezing improves overall quality when thawed.
- Slow freezing reduces overall quality when thawed.



The left picture is small – better quality.
The right picture is large – lesser quality, more destruction of food



Small ice crystals form when the temperature is lowered rapidly.



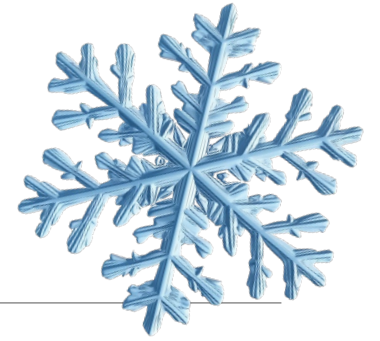
Large ice crystals form when the temperature is lowered slowly.

Food Safety

- Slows down bacterial growth
- Slows down enzymes that affect quality
- Slows down chemical reactions that cause spoilage



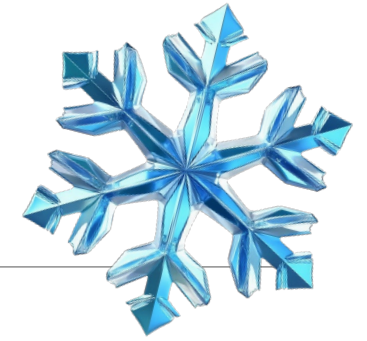
Food Safety



- Food is safe as long as it stays frozen, but quality will lessen over time.
- Freezer burn is not a food safety issue.
- Botulism is not a concern with freezing.



Basic Freezing Process



- Cool food before freezing.
- Remove as much air as possible when packaging.
- Freeze food immediately after packaging.
- Quickly freeze by allowing space around the package; stack after it's frozen.
- Freezer should be 0 degrees F or below.
- Label and date everything.
- Rotate items – FIFO (first in, first out).
- Don't let frost build up.

Proper Freezing Techniques



Pretreatment for fruits

- Acid treatment (ascorbic acid, lemon juice)
- See FCS3-336 Freezing Fresh Fruits

Pretreatment for vegetables

- Blanching
- See FCS3-335 Freezing Vegetables



Container Selection for Freezing

Use appropriate packaging

- Rigid and leakproof
- Resistant to cracking
- Resistant to oil and grease
- Labeled “for freezer”
- Freezer paper and freezer tape



Container Selection for Freezing

Use appropriate packaging

- Glass canning jars
- Use a vacuum sealer
 - Countertop
 - Handheld



Tips for best quality



- Use a vacuum sealer.
- Remove as much air as possible.
- Wrap food tightly in plastic wrap before placing in container.
- Surround fish in water.
- Wrap tightly in freezer paper and secure with freezer tape.
- Leave headspace when filling containers.
- Use straight-sided glass canning jars.
- Freeze small amounts in ice trays then transfer to freezer bags.

Foods that don't freeze well



- Some produce
 - Cabbage, celery, cucumbers, salad greens, radishes
- Fruits with a high-water content
 - Watermelon, citrus fruits
- Tomatoes
- Soft or creamy foods
 - Mayonnaise, puddings, cooked eggs and egg dishes, casseroles with noodles
- Fried foods

Thawing safely



- In the refrigerator
 - Best method
 - Slowest method, plan ahead
- Cool water
 - Running water or changed every 30 minutes
 - Faster than the fridge
- In the microwave
 - Use defrost or lowest setting
 - Food must be cooked immediately after thawing

Thank you!

References

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<https://www.fda.gov/consumers/consumer-updates/are-you-storing-food-safely>

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