

Home Freezing of Foods



Lunch & Learn
12 noon to 1 pm
June 2, 2014



^{LW}Extension
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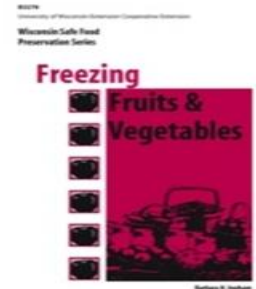
Freeze with a Breeze

- Freezing **preserves nutrients** in fruits and vegetables better than canning or dehydrating
- Frozen fruits and vegetables **retain quality** better than canned or dried items
- But, freezing, and keeping food cold, **requires more energy** (\$) than canning or drying **but if you keep the freezer full, the overall cost is comparable**
- For best quality, always follow tested recipes



Resources for Today

- B3278–Freezing Fruits & Vegetables (UWEX)
- National Center for Home Food Preservation
 - How do I....Freeze www.uga.edu/nchfp
 - Apples to Zucchini and everything in between
- University of Georgia
 - Freezing Fruit, Freezing Vegetables, Freezing Animal Products, Freezing Prepared Foods
 - nchfp.uga.edu/publications/publications_uga.html
- So Easy to Preserve www.setp.uga.edu
 - Book and Video



Freezing Fruits & Vegetables

- A quick and easy way to preserve the bounty of your garden or orchard
 - Done soon after harvest, it preserves nutrients
 - Retains that peak of harvest taste, color, and texture
- Tips for high quality frozen products:
 - Pre-treat for best quality
 - Freeze in small amounts
 - Use proper packaging - **Air out, moisture in!**
 - Keep frozen at 0°F or below



Pre-Treating Fruits & Vegetables

- **Enzymes** can destroy nutrients and change color, texture and flavor
 - Enzymes cause browning of light-colored fruits
 - Enzyme-action changes color and texture of vegetables
- **Pre-treat fruits** with an antioxidant (vitamin C) to prevent browning
- **Blanch** most vegetables
 - A quick heating (and cooling) treatment to destroy enzymes



Freezing Fruits



- Sort, wash and drain fruits
- Pit, peel, slice or leave whole
- For light-colored fruit, treat with vitamin C or dip in a sugar syrup to prevent browning
- Pack in syrup or sugar to help retain color, taste, and texture but don't add sugar if you are going to use frozen fruit to prepare fruit spreads
- Or, individually freeze on cookie sheets and then package for storage
 - Label package with the amount of fresh fruit



Freezing Vegetables



- Sort, prepare, rinse and drain
- Blanch (most) vegetables for best keeping quality. A blanch is a short pre-cook in boiling water or steam.
 - Boiling water blanch
 - Steam blanch
- Chill rapidly in ice-water, drain (well!) and package
 - Hint: Blanch time = cooling time
- Microwave blanching is recommended only for small quantities

About blanching....

- Blanching is a **quality** step, not a safety step
- Water blanch: 1 gal. water /lb. of veggies
- Steam blanch: blanch in a single layer, timing as soon as the lid is reapplied. Takes 1-½ times as long as boiling.
- Rapid cooling is key
- Store un-blanching vegetables for less than 3 months to avoid deterioration



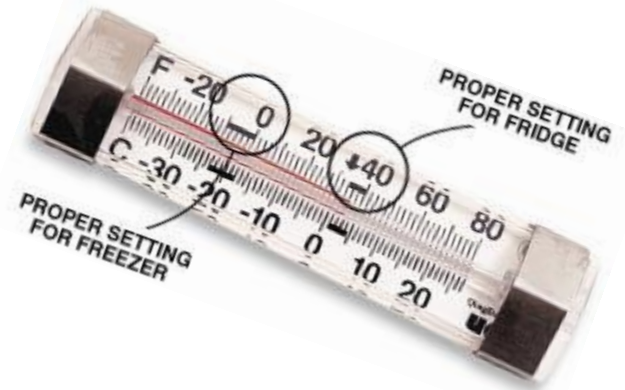
Packaging : Key to Retained Quality

- Packaging material should be:
 - Moisture resistant
 - Durable
 - Leak proof
 - Provide odor protection
 - Easy to seal
- Durable plastic, glass, and aluminum (foil) are good packaging choices.
 - Foil is great for keeping air out, moisture in!
 - Freezer burn – safe but unpalatable.
- Allow headspace. Label each container.

Key to retaining quality on frozen storage:
Keep moisture IN
Keep air OUT

Freeze in Small Amounts

- Freeze foods at 0°F or lower.
- Freeze foods once packaged; or freeze on trays and package.
- Don't overload the freezer!
 - 2-3 lbs/cubic foot is generally all that will freeze quickly
- Allow air to circulate freely around packages during the freezing process.
 - Tip: Once frozen, store close together
- Slow freezing → large ice crystals!



Aim for a well-managed freezer



Tip: A well-organized and FULL freezer operates more efficiently than one just $\frac{1}{2}$ -full.

Foods that Don't Freeze Well

- Greens, celery, cukes* → water-logged
- White potatoes → crumbly
- Egg whites → rubbery
- Meringues and icings → deteriorate
- Milk sauces, custards → soggy, separate
- Fried foods → soggy

*Try freezer slaw or freezer pickles for a cool and tasty summer-time treat. See pp.54-56 in UWEX **Homemade Pickles & Relishes** (B2267). For a full list of foods that don't freeze well, see http://nchfp.uga.edu/how/gen_freeze.html

Cooking Frozen Vegetables

- Most vegetables should be **kept frozen** until cooked (except for corn-on-the cob)
- **Heat water** to boiling and add frozen vegetables, cook until tender
- Thawing allows enzymes to start altering texture, color, and flavor
- **Cook** before eating, especially when serving at-risk populations



Creamy pasta salad with peas

Food Safety Tip: Freezing **does not** kill all microbes in a food; they are just hibernating.

Freezing Meat, Seafood & Eggs

- Freeze only high quality meat and poultry.
- Cut meat into meal-size portions, removing as many bones as possible.
 - Repackage meat from the grocery to preserve quality.
- Package to preserve quality. Keep moisture in with thick film or Al foil; keep oxygen out with Al foil.
- Freeze cured meat no more than 1-3 months.
- Always gut fish before freezing. See *So Easy to Preserve* for hints on preserving fish quality in the freezer.
- Freeze beaten whole eggs with added stabilizer.

Freezing Prepared Foods

Many prepared foods freeze well. Follow these tips for some often-frozen foods:

- Freeze unbaked pie. To prepare, bake (without thawing) at 450°F, 15-20 min; reduce heat to 375°F until done.
- Freeze casseroles in oven-proof containers. To prepare, uncover, and bake without thawing at 400°F for 1 hour or until internal temperature reaches 165°F.
- Freeze baked or stuffed potatoes. Unwrap and bake without thawing at 400°F until lightly browned (15-20 min).

How long can I store frozen food?

Food	# Months at 0°F*
Fruits and vegetables	8-12
Poultry	6-9
Fish	3-6
Ground meat	3-4
Cured or processed meat	1-2
Baked goods	2-3
Casseroles	3-4
Dairy products	1-6
Eggs (in shell)	Do not freeze.

*Suggested food storage times. <http://nchfp.uga.edu/how/store.html>

Thawing Frozen Food



- Cook vegetables without thawing
- Thaw fruits in the refrigerator, or eat partially frozen for a cool treat
- Cook meats from frozen, or thaw
 - In a refrigerator for 1-2 days
 - In cool running water (cook immediately)
 - In the microwave (cook immediately)
- Thaw baked goods on the counter, or in the oven

What to do if the freezer stops?

- Resist opening the freezer door!
 - Non-perishable can be readily salvaged – most cakes, cookies, fruits → use or refreeze
 - Meat, poultry, seafood* → keep below 40°F
 - Vegetables* → keep below 40°F
 - Creamed foods* → keep below 40°F
- If you don't know the history of the product, throw it out.
- *Discard if above 40°F or signs of spoilage. May be refrozen if kept cold.

Tips for Freezing

- Freeze chopped herbs in ice cube trays, once frozen, package for later use
- Freeze fruit fillings for pie – add the crust later
 - Line a pie pan with plastic wrap, foil, or parchment paper
 - Fill with ingredients for pie (fruit, sugar..)
 - Freeze
 - Once frozen, remove filling from pan, package well and return to the freezer
- Morel mushrooms can not be safely canned but preserve well if sautéed and frozen



Fast Facts: Freezing

- Set the temperature of you home freezer to 0°F – do not set higher to ‘save’ energy; quality will be compromised
- Invited out to dinner at the last minute? Meat that has been thawed and kept in the refrigerator for 1-2 days can be safely refrozen for another night.
- Food that has **freezer burn** is safe to eat. Freezer burn is an area where the food has dried out.
- Is a chest or upright freezer better? It depends. An upright freezer is easier to organize and takes up less floor space. Chest freezer, however, are more economical to operate.

More Fast Facts

- The kind of **packaging material** is critical to the quality of frozen foods. Use containers designed for frozen-food storage. Glass is an excellent oxygen and moisture barrier. Heavy duty Al foil works great too, especially in combination with heavy plastic.
- Can milk or cottage cheese cartons be used to package foods for the freezer? Resist the urge to use this type of container. The food will not be protected and the container may break.
- Mushy frozen food is generally a sign of too-slow freezing. Freeze in small quantities for rapid freezing and higher quality products later.

