Freezing Why’s and How’s

Freezing foods properly stops the growth of microorganisms and slows down changes affecting quality. A few microorganisms may die, but once the food is thawed, microorganisms will again multiply and at a faster rate.

Preparing Fruit

Wash fruits and sort before freezing. Throw away fruit that is not ripe or is poor quality. Do not soak fruit in water because nutrients and flavor will be lost. Prepare only enough fruit for a few packages at a time to prevent browning and to keep fruit at best quality.

Problems with fruit enzymes include browning and the loss of vitamin C. Use ascorbic acid (vitamin C) in either the pure form (sold in some drugstores) or in commercial mixtures (e.g. Fruit Fresh™) to control enzyme activity. Other methods (dipping in vinegar solution or lemon juice or coating with sugar) can also slow browning but are not as effective.

Freeze fruit in a syrup pack, sugar pack, or dry pack for better texture and flavor. However, sugar is not needed for preservation so you can freeze without sugar. Fruits that freeze well without sugar include gooseberries, currants, cranberries, blueberries and rhubarb.

Preparing Vegetables

If possible, harvest vegetables early in the morning and freeze within a few hours to get the best flavor and texture. Wash thoroughly and sort according to size.

If the enzyme action in vegetables is not stopped before freezing, vegetables lose nutrients and color, change flavors and become tough. Blanching vegetables in boiling water or steam inactivates enzymes. After blanching, vegetables must be cooled rapidly in ice water to prevent them from cooking. Blanching time varies with the vegetable and size. Underblanching encourages enzymes to speed up deterioration and is worse than no blanching! Overblanching causes loss of flavor, color and nutrients. For specific blanching times, see Blanching Vegetables Chart http://z.umn.edu/blanching.
Freezing Melons

Summer is not complete without melons. Add frozen melons to a favorite drink or as a cold treat on a hot day or in a summer smoothie.

To freeze melons: Wash firm-fleshed, well-colored, ripe melons. Cut in half, remove seeds and rind. Cut melons into slices, cubes or balls. Cover with syrup made by mixing 2 cups sugar to 1 quart water. Flavor with lime juice and/or add whole seedless grapes, if desired. Or, lay slices, cubes or balls on a tray and freeze for a few hours. Remove from trays and package in containers or bags. Frozen melons have a soft texture so it's best to serve partially frozen.

Choose Good Freezer Containers

Freezer containers should keep moisture in the product and keep air out. Look for easy-to-seal, durable, and easy-to-mark containers which are reasonably priced. Do not freeze foods in containers over one-half gallon because food freezes too slowly and there will be too many ice crystals.

Good freezer containers include plastic freezer containers, flexible freezer bags, or glass jars. Square or rectangular flat-sided containers make good use of freezer space because you can stack them easily. If jars are used, be sure to use wide-mouth jars because the narrow-mouth (regular) jars break easily at the neck.

Plastic sandwich bags, bread wrappers and cartons from cottage cheese, sour cream, milk or whipped toppings are not suitable for long-term freezer storage because food will develop freezer burn.

Freezer – On or Off?

Scenario: You return home from vacation, open the freezer and see frozen food. Although everything is working now, you learn the electricity had been off in your area. There is a chance everything thawed and was at unsafe temperatures for a few hours. Although the food is re-frozen, unsafe microorganisms are still there and will multiply rapidly when the food is thawed again and make people sick.

Tip: Store an ice cube or two in a sealed plastic bag or small container in the freezer. Be sure to choose a sealed container so the ice cube does not evaporate and disappear. If the ice cube has melted down from its original shape, you will know the power was off for an extended period of time.

Safe Home Canned Vegetables

Are you planning to can green beans, peas, carrots or beets? If so, know that safe home canned vegetables require processing in a pressure canner.

Low-acid vegetables and meats contain too little acidity to prevent the growth of Clostridium botulinum bacteria. It is most commonly found in improperly processed home canned vegetables. The spores of Clostridium botulinum can be destroyed by canning the food at a temperature of 240°F or above for a specific period of time. This temperature can only be reached in a pressure canner.

Freezing, pickling, or drying are safe and tasty alternative methods of preserving vegetables if you do not have a pressure canner.
Which Water?

We visit with home food preservers who will drive miles to get the “right” water for making pickles, or others who insist city water isn’t worth two hoots for canning. We tell people: use the water that works for you!

Water is an important ingredient in successful food preservation. Hard water contains larger amounts of minerals than soft water. A certain amount of calcium and magnesium salts is desirable to set the pectins in fruits and vegetables such as in canning peaches and pears. However, large amounts of minerals can toughen peas, beans and shrivel pickles. Hard water can cause cloudy liquid in canned fruits and vegetables as the high temperatures cause the minerals to settle out of the liquid, it is not harmful.

A good example of the water dilemma is green beans. When canning, very soft water can cause mushy green beans, hard water is preferred. But, when blanching green beans for freezing, hard water will toughen them – softer water is then preferred.

As a general guideline, avoid excessively soft or hard water in canning, freezing and pickling. Distilled bottled water is preferred to chemically softened water. Hard water can be made more acceptable by boiling it for 15 minutes and allowing the calcium and magnesium salts to settle out. In most cases soft water is preferred over hard water because it causes fewer problems.

Fruit Salsa

Combining fruits, onions and peppers into Fruit Salsa adds a new treat to meals and snacks. If you want to preserve fruit salsas, it’s important to follow tested recipes.

Most fruit salsas include low-acid foods such as onions and peppers combined with acid fruits. It is very important to keep proper acid levels to keep the salsa safe when canning. Never reduce the amount of acid (i.e. fruit and vinegar or lemon or lime juice) in a salsa recipe.

Choose unripe or nearly ripe fruit vs. over-ripe fruit because the acidity level decreases and may create an unsafe canned salsa. Do not increase the total amount of onions or peppers in a recipe. You can substitute one type of pepper for another or mild peppers for hot peppers. Also, you can interchange yellow and red onions but do not increase the total amount of onions called for in a recipe. You can alter the amount of herbs and spices in fruit salsa recipes.

Check out Mango or Peach Salsa, Peach-Apple Salsa, and Spicy Cranberry Salsa (http://www.uga.edu/nchfp/how/can_salsa.htm) or Pineapple Chili Salsa (http://www.freshpreserving.com/recipe.aspx?r=132).

If you cannot find a tested home-canned Fruit Salsa recipe and want to create your own concoction, it is a good idea to eat your salsa fresh, store it one week in the refrigerator or freeze it.
Altitude and Food Preservation

Altitude determines the amount of pressure (pressure canner) or time (boiling-water canner) for safe canning. Canning guidelines are written for sea level. Water boils at a lower temperature at higher altitude because there is less atmospheric pressure. If the location is higher than sea level, more time or pressure is required to raise the internal temperature of foods in order to kill bacteria.

Minnesota’s altitude varies from 602 feet above sea level (Lake Superior) to 2,301 feet above sea level (Eagle Mountain northwest of Grand Marais). The mean elevation for Minnesota is 1,200 feet above sea level. As a result, you will notice processing times in Minnesota’s food preservation materials reflect the mean elevation (i.e. 1,200 feet).

Find altitude by contacting the local zoning office or US Geological Survey http://viewer.nationalmap.gov/viewer/. If you are canning in an area significantly different from Minnesota’s mean elevation, (i.e. less than 1,000 feet or higher than 2,001 feet), check reliable canning instructions for altitude adjustments to make sure you are canning safely.

Peddling Your Pickles

Do you make crisp tangy dill pickles? Do your friends rave about your homemade salsa? Have you thought about marketing your home canned products at a Farmers’ Market?

If so, learn about Minnesota’s “Pickle Bill” guidelines at the Pickle Bill Fact Sheet http://z.umn.edu/picklebill or the Operational Guidelines for Vendors at the Farmers’ Market http://z.umn.edu/guidelines.

Frequently Asked Questions

Do we save money by preserving food at home?

You may be thinking of canning and freezing this summer to help beat rising food costs, but preserving food at home may or may not save you money. Costs to consider are the produce (garden produce is not free!), added ingredients, equipment, supplies, water, fuel, appliances such as a freezer, along with personal time and energy.

To learn more about calculating the cost of preserving and storing food for your family, view this Colorado Extension publication which includes helpful worksheets. www.ext.colostate.edu/pubs/foodnut/08704.html

Yet, some may respond how do you calculate the cost of preserving food at home when factoring in taste, freshness, family tradition, or the simple enjoyment of preserving food.

Is it necessary to exhaust a pressure canner?

Yes, it is very important to allow steam to escape for 10 minutes before closing the valve, or placing the weight on the vent. If the canner is not exhausted, the inside temperature may not correspond to the pressure on the gauge.

Salsa photo on page 3 from www.bigstockphoto.com
Freezer container photo on page 2 from The National Center for Home Food Preservation www.uga.edu/nchfp/

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For more food safety information visit our website: extension.umn.edu/foodsafety/.