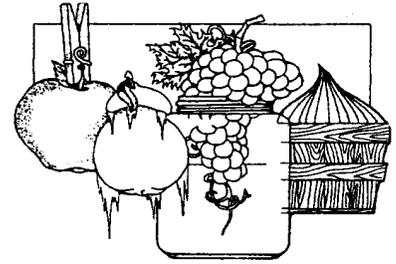


Quality for Keeps



Information for those who produce and preserve food

Tuck late apples into winter storage



Home storage of apples can provide fresh fruit for most of the winter. However, home apple storage is not as simple today as it was in grandma's day. Today's homes are too warm and usually do not have a root cellar.

Apples are best stored at 30°-32°F, with a relative humidity of 90% and some air circulation. These conditions provide the greatest delay in the normal ripening and aging process of the fruit.

Apples are alive at harvest, and continue to take in oxygen and give off carbon dioxide and ethylene gas. During storage, the sugar, starch, and acid content of the apple changes. Eventually the tissues break down (a process enhanced by ethylene gas), water is lost, and the apple withers and decays. To store apples successfully, keep apples at low temperatures, high humidity, and with proper air circulation.

Selection. Choose late ripening varieties such as Stayman, Winesap, Rome and Granny Smith for long-term storage, up to 4 or 5 months. Golden Delicious, Idared, Northern Spy, and Mutsu also store well for three to four months.

Choose fruit which have reached maturity, but are not yet fully ripe. A mature apple is full-

sized, sweet, firm, and crisp. Avoid over-ripe fruit, which will break down rapidly in storage. Avoid fruit with cuts, bruises, or decay.

Containers. Small quantities of apples are best stored in plastic bags. Make holes or perforations for air circulation to avoid excess moisture build-up and allow gas exchange.

Store large quantities of apples in clean crates or boxes at 90% relative humidity. Stackability is important for large quantity storage. Stack containers so that air circulates freely and so that the weight is borne by the container and not the fruit inside.

Storage Facilities. The most practical home storage device for apples is a refrigerator. Place apples in plastic perforated bags on shelves. Leave ¼ of the space free for air circulation. Do not over-pack the refrigerator. Relative humidity in refrigerators is quite low, particularly in "frost-free" types. Therefore, plastic bags are essential to maintain proper humidity.

The best storage temperature is 30°-32°F, but some refrigerators will get colder if not opened over a period of time. In addition, the bottom of the refrigerator will tend to be colder than the top.

Therefore, use a thermometer to regulate temperature. Apples freeze at a temperature between 27.8° and 29.4°F, and frozen fruit deteriorates rapidly.

Apples can be kept satisfactorily in cellars that are humid and cool (below 40°F). They may also be stored in unheated outbuildings if properly insulated with hay or straw to prevent freezing. During those storage periods when daytime temperatures are well above 32°F, but night temperatures fall below 32°F, ventilation of outbuildings during hours of darkness can be beneficial. Vents near the ground and on the roof of the storage building are most efficient for the escape of warm air and its replacement by cooler night air.

Source: Home Storage of apples. HO-95-W Department of Horticulture. Purdue University Cooperative Extension. 2006, www.hort.purdue.edu/ext/HO-95.pdf

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Store home-canned foods wisely

Proper storage can greatly increase the shelf life and quality of canned foods.

Storage of home-canned and purchased commercially canned foods follow the same basic rules. Home-canned foods should be canned using research-tested recipes and processes like those found in the USDA Complete Guide to Home Canning, or in Cooperative Extension publications.

Use only the best quality foods to can at home. Home canning processes can never improve the quality of foods.

When canning, use only mason-style canning jars with two-piece metal lids as recommended by the USDA Complete Guide to Home Canning. Improper processing of home-canned foods could lead to *Clostridium botulinum* food poisoning. If lids are tightly vacuum sealed on cooled jars, remove screw bands, wash the lid and jar to remove food residue; then rinse and dry jars. Label and date the jars (use a marker on the jar lid).

Temperature. For best quality, store between 50 and 70 °F. Store all canned food in cool, dark, dry space away from furnaces, pipes, and places where temperatures change like un-insulated attics. Do not store jars above 95° F, or in direct sunlight. Under these conditions, food will lose quality in a few weeks or months and may spoil. Dampness may corrode metal lids, break seals, and allow recontamination and spoilage.

Do not allow sealed cans or glass jars to freeze. Freezing changes food textures, and leads to rust, bursting cans, and broken seals that may let in harmful bacteria.

Proper storage keeps the goodness in the food. Canned foods maintain mineral content for entire shelf life. Vitamins A & C will decrease rapidly after fruits and vegetables are picked and cooked. Vitamins are lost during heating processes; however, once canned, vitamin A & C loss slows to 5- 20% per year. Other vitamins remain close to fresh food levels.

Salt or sugar are not necessary for safe canning and are only added for flavoring. **Exceptions:** salt is necessary to preserve pickles, relishes and sauerkraut. Never reduce or omit salt in pickled or brined recipes.

Shelf Life. As a general rule, unopened home-canned foods have a shelf life of one year and should be used before 2 years. Always use FIFO (first-in, first-out), meaning use oldest jars first. Discard any badly dented, bulging, rusty, or leaky cans or jars that have broken seals. Do not taste questionable food.

Source: Storing Canned Goods. Brian A. Nummer, Ph.D. USU Food Safety Extension Specialist September 2008.

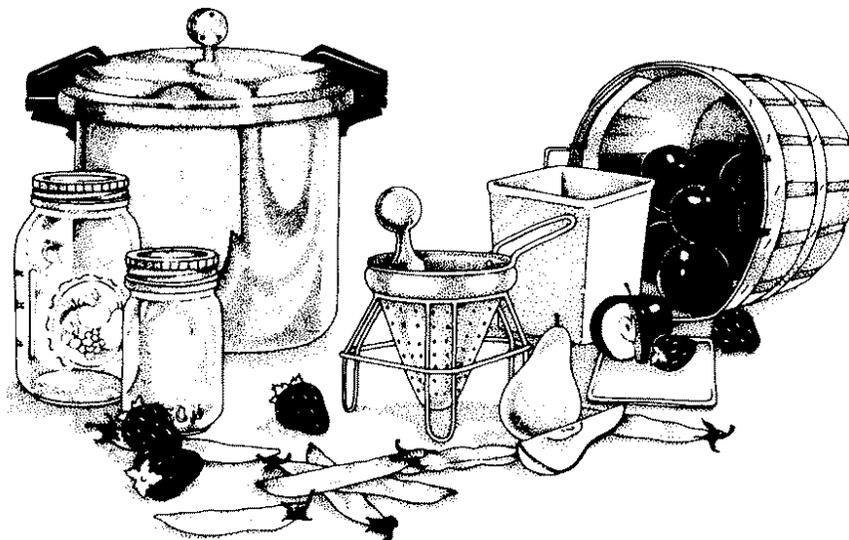
<http://extension.usu.edu/foodstorage/html/canned-goods>

USDA Complete Guide to Home Canning:

http://nchfp.uga.edu/publications/publications_usda.html

Cooperative Extension Publications:

<http://extension.missouri.edu/p/GH1452>



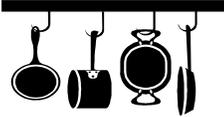
Freezing dairy foods

Dairy products do freeze safely, but expect textural changes when thawed. Place the frozen product in the refrigerator to thaw. After thawing, it can be used as fresh. If textural changes occur, use for cooking purposes.

Butter	Freeze only high quality butter made from pasteurized cream. Freeze butter in its original carton or mold into desired shapes. Overwrap in freezer wrap or heavy duty foil to keep butter from absorbing odors and to prevent freezer burn. Cut one-pound blocks into smaller portions that can be used in a short time. Wrap tightly in moisture/vapor proof wrap, label and freeze. Thaw in the refrigerator and use within a few days. Storage period: 9 months.
Cheese	Processed and natural cheeses such as Cheddar, Edam, Gouda, Swiss and brick freeze well. Blocks should be one pound or less and no more than 1-inch thick. Package in heavy-duty aluminum foil, plastic freezer paper with freezer tape, or freezer bags. Thaw in the refrigerator. Frozen cheese has a tendency to dry out and become crumbly, so use in cooking for best results. Storage period: Natural and processed cheeses—3 months.
Cream cheese and cottage cheese	Cream cheese and cottage cheese do not freeze well. Only uncreamed (dry) cottage cheese should be frozen. Creamed cottage cheese is mushy after freezing. Thaw all forms of cheese in the refrigerator and use within a few days. Storage period: Dry-curd cottage cheese, ricotta—2 weeks.
Cream and Whipped Cream	Freeze only pasteurized cream containing at least 40 percent butterfat. Cream can be frozen whipped or unwhipped; however, it often does not whip after being frozen. Freeze dollops of sweetened whipped cream on a baking sheet. When frozen, package in freezer bags. To thaw, place on dessert just before serving. Storage period: All varieties—2 months. Whipped—1 month.
Ice Cream	Store-bought ice cream keeps only 1 month in its original container, because its container is not moisture-vapor resistant. If stored longer than 1 month, it loses volume and the surface becomes waxy and sticky. The flavor may also change. If ice cream must be stored longer, over-wrap the container with freezer paper or use freezer bags. Homemade ice cream is difficult to store for any length of time because it becomes grainy (commercial producers of ice cream add extra milk solids and/or gelatin to their products to prevent this). Storage period: Ice cream or sherbet—1 month.
Milk	Only pasteurized milk should be frozen. Pour into moisture/vapor proof containers and leave adequate headspace. During the freezing process, the water in milk rises to the surface and forms ice. This affects the flavor and appearance of milk, and is difficult to remix. Use milk that has been frozen for cooking and baking. Thaw milk in the refrigerator and use within a few days. Storage period: fresh/fluid—1 to 3 months.
Sour Cream	Sour cream should not be frozen. Freezing causes the sour cream to separate, and it will not blend back together acceptably.
Yogurt	Package in freezer containers. Seal and freeze. The fruit and sugar in flavored yogurt help to preserve and stabilize the yogurt. When thawed, it may taste more acidic. Storage period: regular—1 month, flavored—5 months.

Source: *GH1504 Quality for Keeps: Freezing Meat, Poultry, Fish, Eggs and Dairy Products. University of Missouri Extension. 1997.*
<http://extension.missouri.edu/p/GH1504>

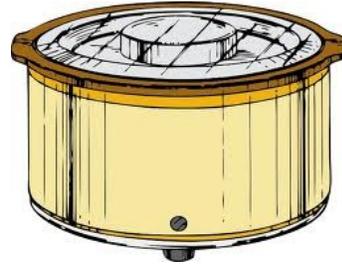
THE RECIPE BOX



Crock Pot Maple Cinnamon Apple Sauce

- 12 medium apples, peeled, cored and quartered
- Juice of 1/2 lemon
- 2 cinnamon sticks
- 1 teaspoon ground cinnamon
- 1/3 cup maple syrup
- 1/4 cup apple cider

Yield: 12 servings (1/2 cups each)



Procedure: Place apples in crock pot, then top with remaining ingredients. Cook on high 4 to 5 hours, or on low 8 to 9 hours. Mash with potato masher if needed.

To freeze or can applesauce follow standard canning or freezing directions from the University of Missouri Extension guidesheets: <http://extension.missouri.edu/p/GH1455> and <http://extension.missouri.edu/GH1502>, or from The National Center for Home Food Preservation: <http://nchfp.uga.edu/>.

Source: Jamie Nolen, Nutrition Program Associate, University of Missouri Extension, <http://missourifamilies.org/nutrition/reicipes/CrockPotAppleSauce.htm>

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