Food Freezing Guide

Julie Garden-Robinson, Ph.D., R.D., L.R.D.
Food and Nutrition Specialist

NDSU EXTENSION
North Dakota State University, Fargo, North Dakota
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■ Introduction
Freezing is one of the easiest, quickest, most versatile and most convenient methods of preserving foods. Properly frozen foods maintain more of their original color, flavor and texture and generally more of their nutrients than foods preserved by other methods.

Good freezer management is important. The following tips will help you get the most of your freezer dollar.

• Place your freezer in a cool, dry area where the temperature is constant.
• Keep your freezer at least ¾ full for efficient operation.
• Continue to use and replace foods. Do not simply store them.
• Open the freezer door as rarely as possible.
• Make proper use of energy saving features on your freezer.
• Keep door seals clean and check for proper sealing. Replace when necessary.
• Defrost manual freezers regularly.
• Keep the condenser coils clean.

■ Factors Affecting Quality
The condition of the food at the time of freezing will determine the final quality of the frozen food. Frozen food can be no better than the food was before it was frozen. Freezing does not sterilize foods as canning does.

It simply retards the growth of microorganisms and slows down chemical changes that affect quality or cause food spoilage.

Enzymes
Freezing, heating and chemical compounds can control enzyme actions. Freezing slows enzyme activity so that many frozen foods, such as meats and many fruits, will keep satisfactorily with little or no further treatment.

Enzymes in vegetables are inactivated by heat during the recommended blanching process described on page 7. Enzymes in fruits, causing browning and loss of vitamin C, are controlled by chemical compounds (antioxidants) described on page 12.

Air
Oxygen in the air may cause flavor and color changes if the food is improperly packaged.

Microorganisms
Microorganisms do not grow at freezer temperature, but most are not destroyed and will multiply as quickly as ever when the frozen food is thawed and allowed to stand at room temperature.

Ice Crystals
The formation of small ice crystals during freezing is desirable. Fast freezing is the most practical way to form small ice crystals. Large ice crystals associated with slow freezing tend to rupture the cells, causing an undesirable texture change.

Freezer Temperature
Maintain temperature of 0 degrees Fahrenheit or less to keep frozen foods at top quality. The storage life of foods is shortened as the temperature rises. For example, the same loss of quality in frozen beans stored at 0 F for one year will occur in three months at 10 F, in three weeks at 20 F, and in five days at 30 F.

Fluctuating temperatures result in growth in the size of ice crystals, further damaging cells and creating a mushier product. Changes in temperature can also cause water to migrate from the product.

Evaporation of Moisture
Improperly protected food will lose moisture, color, flavor and texture. Ice crystal evaporation from an area at the surface results in freezer burn, which is a dry, grainy, brownish area that becomes tough. Freezer burn does not render a food unsafe, only less desirable.
Packaging Materials
The prime purpose of packaging is to keep food from drying out and to preserve nutritive value, flavor, texture and color. Labels on packages will say if the product is suitable for freezer storage. A good packaging material should have the following characteristics:

- Moisture/vapor-proof or at least moisture resistant.
- Made of food grade material, i.e. designed to be used for food products.
- Durable and leakproof.
- Doesn’t become brittle and crack at low temperatures.
- Resistant to oil, grease or water.
- Protect foods from off flavors and odors.
- Easy to fill and seal.
- Easy to mark and store.

The packaging you select will depend on the type of food to be frozen, personal preference and availability. For satisfactory results, do not freeze fruits and vegetables in containers larger than one-half gallon.

Packaging not sufficiently moisture/vapor-resistant for long-time freezer storage includes ordinary waxed paper and paper cartons from ice cream and milk.

Rigid Containers
Rigid containers are made of plastic, glass, aluminum and heavily waxed cardboard and are suitable for all packs. These are often reusable. Straight or tapered sides on rigid containers make it much easier to remove frozen foods.

Glass jars used for freezing should be made for the purpose. Regular glass jars may not withstand the extremes in temperature. Do not use regular, narrow-mouth canning jars for freezing foods packed in liquid. Expansion of the liquid could cause the jar to break at the neck.

Cans, such as shortening and coffee cans, are good for packaging delicate foods. Line the can with a food-storage material such as shortening and coffee cans, are good for freezing foods packed in liquid. Expansion of the liquid could cause the jar to break at the neck.

Flexible Bags or Wrapping
Bags and sheets of moisture/vapor-resistant materials and heavy-duty foil are suitable for dry packed vegetables and fruits, meat, fish or poultry. Bags can also be used for liquid packs. Protective cardboard cartons may be used to protect bags and sheets from tearing and to make stacking easier.

Laminated papers made of various combinations of paper, metal foil and/or cellophane are suitable for dry packed vegetables and fruits, meats, fish and poultry. Laminated papers are also used as protective overwrap.

Packaging, Sealing and Labeling

- Cool all foods and syrup before packing. This speeds up freezing and helps retain natural color, flavor and texture of food.
- Pack foods in quantities that will be used at one time.
- Most foods require head space between the packed food and the closure for expansion as the food freezes (see page 9). Loose packing vegetables, such as asparagus and broccoli, bony pieces of meat, tray-packed foods and breads, do not need head space.
- Pack foods tightly to cut down on the amount of air in the package.
- Run a nonmetal utensil, such as a rubber scraper handle, around the inside of the container to eliminate air pockets.
- When wrapping food, press out as much air as possible and mold the wrapping as close to the food as possible (see page 21).
- When packing food in bags, press the air from the bags. Beginning at the bottom of the bag, press firmly moving toward the top of the bag to prevent air from re-entering or force the air out by placing the filled bag in a bowl of cold water taking care that no water enters the bag. Seal either method by twisting and folding back the top of the bag (goose neck, see illustration page 9) and securing with string, good quality rubber band, strip of coated wire or other sealing device. Many bags may be heat sealed, and some have a tongue-in-groove seal built in.
- Keep sealing edges free from moisture or food so they’ll make a good closure.
- When using tape, it should be freezer tape, designed for use in the freezer. The adhesive remains effective at low temperature.
- Label each package with name of product, date, amount and any added ingredients. Use freezer tape, freezer marking pens or crayons, or gummed labels made especially for freezer use.

Loading the Freezer

- Freeze foods at 0 F or lower. To facilitate more rapid freezing, set the freezer at minus 10 F about 24 hours in advance of adding unfrozen foods.
- Freeze foods as soon as they are packaged and sealed.
- Do not overload the freezer with unfrozen food. Add only the amount that will freeze within 24 hours. This is usually 2 or 3 pounds of food per cubic foot of storage space. Overloading slows down the freezing rate, and foods that freeze too slowly may lose their quality.
- Place packages against freezing plates or coils. Leave space between packages so air can circulate freely. After freezing, store packages close together.
- Arrange packages so you use those that have been in the freezer the longest first.

Freezer Inventory
Keep a list of all the foods in the freezer. Update the list each time food you put food in or take it out of the freezer. Use of an inventory can prevent overstorage of foods and loss of quality. See sample. See pages 27-28 for recommended storage time.

Thawing Foods
Most of the changes that appear during thawing are a result of freezing and storage. When food is thawed the ice crystals melt, the liquid is either absorbed back into the food or leaks out from the food. Slow, well-controlled thawing usually results in better return of moisture to the food and results in a food more like the original food than rapid thawing.

Thawing in the refrigerator is the safest thawing method. Food standing at room temperature gives microorganisms the opportunity for growth and activity.

What if the Freezer Stops?
The basis for safety in refreezing foods is the temperature at which thawed foods have been held and the length of time they were held after thawing. You can safely refreeze foods that still contain ice crystals or if they are still cold, i.e. below 40 F, and have been held no longer than one or two days at this temperature after thawing. In general, if it is safe to eat it is safe to refreeze.

Unfortunately, you often don’t know the time and temperature. In these cases, you need to consider the following points:

- Do not open the door to check items; make a plan first.
- Try to determine, if possible, when the freezer may have stopped working.
- Food in a closed, fully loaded freezer will keep for two days.
- Food in a closed less than half loaded freezer won’t keep longer than one day.
- Meat, because of density, will remain frozen longer than baked goods.
- Foods in a larger, well-stocked freezer, will stay frozen longer.

If the freezer will not be operational within a day or two:
- Use dry ice if available. Twenty-five pounds of dry ice in a 10 cubic foot freezer should hold the temperature below freezing for two to three days with less than half a load and three to four days in a fully loaded cabinet if you obtain dry ice quickly following interruption of freezer operation.
- Place dry ice on boards or heavy cardboard on top of packages. Open freezer only when necessary. Don’t handle dry ice with bare hands as it will cause burns. When using dry ice be sure the room is ventilated.
Refreezing

Refreezing needs to be done quickly. Clean the freezer before refilling. If the freezer has an adjustable temperature control, turn it to the coldest position. Check each package or container of food. You often can check nonrigid containers without opening by squeezing to feel for ice crystals. If they need to be opened they should be carefully rewrapped.

Place the warmer packages against the refrigerated surface when possible, but leave space between packages for air circulation.

The quality of refrozen foods is diminished. Label and use refrozen foods as soon as possible.

Foods That Do Not Freeze Well

FLAVOR CHANGE

- Pepper, cloves, imitation vanilla, garlic (especially uncooked), sage and celery seasonings may become strong and/or bitter.
- Curry may develop a musty off-flavor.
- Onion changes flavor during freezing.
- Salt loses flavor and has the tendency to increase rancidity of any item containing fat.
- Add artificial sweeteners and salt substitutes at serving time to be on the safe side.

TEXTURE CHANGE

- Cooked egg whites become tough and rubbery.
- Soft meringues toughen and shrink.
- Mayonnaise and cooked egg or cream-based salad dressings separate when frozen alone.
- Milk sauces or wheat-flour thickened gravies may separate or curdle.
- Half-and-half, sour cream and cottage cheese separate and may become grainy and watery when frozen alone. Buttermilk and yogurt react similarly, but can be used for baking.
- Custard or cream fillings tend to separate and become lumpy and watery.
- Boiled or fluffy frostings made with egg whites become sticky and weep.
- Cooked pasta products lose texture and tend to taste rewarmed when frozen alone.
- Most gelatin dishes tend to weep when thawed.
- Cheese or crumb toppings become soggy.
- Fried foods, except french-fried potatoes and onion rings, lose crispness and become soggy.
- Lettuce, tomatoes, celery, cucumbers, parsley, radishes and similar high-water-content vegetables become limp and watery.
- Potatoes might darken and have a texture change when included in frozen soups and stews. New potatoes freeze better than older ones.
- Canned hams can become tough and watery.
- Stuffed poultry cannot be safely frozen.

Nutrient Retention

Recent studies have shown the nutrient content of frozen, fresh ready-to-eat and canned foods to be nearly comparable. Nutrient content is the highest when foods are preserved or eaten as soon after harvest as possible.

Freezing Vegetables

Fresh, tender vegetables right from the garden are best for freezing. If vegetables cannot be frozen immediately after harvesting, store them in the refrigerator to preserve freshness until they can be prepared and frozen.

See Table 1, page 8 for approximate yield of frozen vegetables from fresh.

Not all vegetables freeze well (see page 6). Be sure to contact your county extension office for information on recommended varieties of vegetables for North Dakota to ensure a good crop to fill the freezer.

Blanching

Blanching is scalding the vegetables in water or in steam for a short time. It is a very important step in freezing vegetables because it slows or stops the action of enzymes. These enzymes are essential for growth and ripening. If the enzyme action is not stopped before freezing, the vegetables may continue maturing, develop off-flavors, discolor, or toughen so they may be unappetizing in a short time.

This heating process also wilts or softens vegetables and makes them easier to pack. Some microorganisms are killed and the color is brightened.

Blanching times vary with the size and kind of vegetable.

The times recommended are just long enough to stop or destroy the enzymes. Be sure to follow the recommended blanching times.

Underblanching can stimulate the activity of some enzymes and is worse than not blanching at all. Overblanching results in loss of vitamins, minerals, flavor and color.
To Blanch in Boiling Water

Use a blancher that has a blanching basket and cover or fit a wire basket into a large kettle with a cover. A cheesecloth bag is another option. Use at least 1 gallon of water for each pound of vegetables. Put the vegetables into the basket or bag and lower the basket into the boiling water. Cover and start counting time immediately. Keep heat high and continue boiling for the time specified in the table.

When vegetables are cool, remove from water and drain thoroughly.

To Blanch in Steam

Put 1 to 2 inches of water in a kettle and bring to a rolling boil. Suspend a thin layer of vegetables in a wire basket or cheesecloth over the rapidly boiling water. Cover, keep the heat on high, and steam blanch vegetables the time recommended in the table.

Blanching in the Microwave

Microwave-blached vegetables are not as acceptable as either water- or steam-blanched vegetables. Using the microwave for vegetable blanching does not save significant time. This is because the time required when using either water or steam is so short.

If you choose to use the microwave for blanching vegetables, check the oven manufacturer’s recommendations.

Cooling

After vegetables are heated they should be cooled quickly and thoroughly to stop the cooking. After heating, plunge the basket of vegetables immediately into a large quantity of cold water. Change water frequently or use cold running water or ice water. If ice is used you’ll need about 1 pound of ice for each pound of vegetables. It takes about as long to cool the vegetables as it does to heat them. When vegetables are cool, remove from water and drain thoroughly.

Table 1. Approximate yield of frozen vegetables from fresh.

<table>
<thead>
<tr>
<th>Vegetable</th>
<th>Fresh, as Purchased or Picked</th>
<th>Approximate Pint Containers Needed</th>
<th>Approximate Pounds Needed for 1 Pint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asparagus</td>
<td>1 crate (12 1-lb bunches)</td>
<td>15 to 22</td>
<td>1 to 1½</td>
</tr>
<tr>
<td>Beans, lima (in pods)</td>
<td>1 bu (32 lb)</td>
<td>12 to 16</td>
<td>2 to 2½</td>
</tr>
<tr>
<td>Beans, snap, green, wax</td>
<td>1 bu (30 lb)</td>
<td>30 to 45</td>
<td>¾ to 1</td>
</tr>
<tr>
<td>Beet greens</td>
<td>15 lb</td>
<td>10 to 15</td>
<td>1 to 1½</td>
</tr>
<tr>
<td>Beets (without tops)</td>
<td>1 bu (52 lb)</td>
<td>35 to 42</td>
<td>¼ to 1½</td>
</tr>
<tr>
<td>Broccoli</td>
<td>1 crate (25 lb)</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>Brussels sprouts</td>
<td>4 quart boxes</td>
<td>2 to 4</td>
<td>1</td>
</tr>
<tr>
<td>Carrots (without tops)</td>
<td>1 bu (50 lb)</td>
<td>32 to 40</td>
<td>¼ to 1½</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>2 medium heads</td>
<td>3</td>
<td>1½</td>
</tr>
<tr>
<td>Chard</td>
<td>1 bu (12 lb)</td>
<td>8 to 12</td>
<td>1 to 1½</td>
</tr>
<tr>
<td>Collards</td>
<td>1 bu (12 lb)</td>
<td>8 to 12</td>
<td>1 to 1½</td>
</tr>
<tr>
<td>Corn, sweet (in husks)</td>
<td>1 bu (35 lb)</td>
<td>14 to 17</td>
<td>2 to 2½</td>
</tr>
<tr>
<td>Kale</td>
<td>1 bu (18 lb)</td>
<td>12 to 18</td>
<td>1 to 1½</td>
</tr>
<tr>
<td>Mustard greens</td>
<td>1 bu (12 lb)</td>
<td>8 to 12</td>
<td>1 to 1½</td>
</tr>
<tr>
<td>Peas</td>
<td>1 bu (30 lb)</td>
<td>12 to 15</td>
<td>2 to 2½</td>
</tr>
<tr>
<td>Peppers, sweet</td>
<td>1 bu (25 lb)</td>
<td>34 to 42</td>
<td>½</td>
</tr>
<tr>
<td>Pumpkin</td>
<td>1 bu (18 lb)</td>
<td>12 to 18</td>
<td>1 to 1½</td>
</tr>
<tr>
<td>Spinach</td>
<td>1 bu (18 lb)</td>
<td>12 to 18</td>
<td>1 to 1½</td>
</tr>
<tr>
<td>Squash, summer</td>
<td>1 bu (40 lb)</td>
<td>32 to 40</td>
<td>1 to 1½</td>
</tr>
<tr>
<td>Squash, winter</td>
<td>1 bu (50 lb)</td>
<td>32 to 50</td>
<td>1 to 1½</td>
</tr>
<tr>
<td>Sweet potatoes</td>
<td>1 bu (50 lb)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Methods of Packing Vegetables

Vegetables can be packed either solid or loose.

Solid pack: Put drained vegetables into freezer containers. Pack tightly to cut down on the amount of air in the container or bag. Seal and freeze.

Loose or tray pack: This enables you to pour out as much as you want from a large package. Spread the drained vegetables in a single layer on a tray and freeze. As soon as they are frozen, pour into rigid freezer containers or bags, seal and return to freezer. Remove as you need them.

How to Use Frozen Vegetables

Most frozen vegetables should be cooked without thawing them first. Corn on the cob is an exception — it should be partially thawed so the cob is heated through by the time the corn is cooked. This takes about 10 minutes.

Do not overcook vegetables. Cook only until tender. Most vegetables have been partially cooked when blanched, so less cooking time is required than for fresh vegetables. Cook in a small amount of water; about ½ cup is sufficient.

Note: The microwave oven does an excellent job of cooking frozen vegetables. Follow the manufacturer’s recommendations for times and power selections.


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Table 2. Types of Pack

<table>
<thead>
<tr>
<th>Type of Pack</th>
<th>Container with wide top opening</th>
<th>Container with narrow top opening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pint</td>
<td>Quart</td>
</tr>
<tr>
<td>Liquid Pack (fruit packed in juice - syrup or water; crushed or pureed fruit)</td>
<td>½ inch</td>
<td>1 inch</td>
</tr>
<tr>
<td>Juice</td>
<td>1½ inch</td>
<td>1½ inch</td>
</tr>
<tr>
<td>Dry Pack (fruit or vegetable packed without sugar or syrup)</td>
<td>½ inch</td>
<td>½ inch</td>
</tr>
</tbody>
</table>

*This is head space for tall containers either straight or slightly flared.

*Glass canning jars may be used except for a water pack.
## PREPARATION TABLE FOR FREEZING VEGETABLES

<table>
<thead>
<tr>
<th>VEGETABLE</th>
<th>PREPARATION</th>
<th>BLANCING TIME (In boiling water unless otherwise stated)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASPARAGUS</strong> (young tender stalks; compact tips)</td>
<td>Wash thoroughly, sort by size. Cut in 2-inch lengths or leave in spears. Blanch, cool and drain. Alternate tips and stems when packaging.</td>
<td>Small Stalks - 2 minutes Medium Stalks - 3 minutes Large Stalks - 4 minutes</td>
</tr>
<tr>
<td><strong>BEANS, lima</strong> (slightly rounded, bright green pods, young, tender beans)</td>
<td>Shell, wash and sort according to size. Blanch, cool and drain.</td>
<td>Small Beans - 2 minutes Medium Beans - 3 minutes Large Beans - 4 minutes</td>
</tr>
<tr>
<td><strong>BEANS, snap, green or wax</strong> (young, tender, stringless)</td>
<td>Wash and remove ends. Leave whole, slice or cut into 1- to 1½-inch lengths. Blanch, cool and drain.</td>
<td>3 minutes</td>
</tr>
<tr>
<td><strong>BEETS</strong> (1 to 2 inches in diameter)</td>
<td>Trim tops leaving ½ inch of stem. Wash and sort according to size. Cook in boiling water until tender. Cool, peel and cut into slices or cubes.</td>
<td>Cook: Small beets 25-30 minutes Medium beets 45-50 minutes</td>
</tr>
<tr>
<td><strong>BROCCOLI</strong> (compact dark green heads; tender stalks)</td>
<td>Wash and trim. If insects are present soak ½ hour in solution of 4 teaspoons salt to 1 gallon of cold water. Split lengthwise into pieces no more than 1½ inches across. Blanch, cool and drain.</td>
<td>In water - 3 minutes In steam - 5 minutes</td>
</tr>
<tr>
<td><strong>BRUSSELS SPROUTS</strong> (green, firm compact heads)</td>
<td>Make sure no insects are present. Trim, remove coarse outer leaves. Wash and sort. Blanch, cool and drain.</td>
<td>Small - 3 minutes Medium - 4 minutes Large - 5 minutes</td>
</tr>
<tr>
<td><strong>CABBAGE</strong> (for cooked dishes)</td>
<td>Remove coarse outer leaves. Cut into medium or coarse shreds, thin wedges, or separate leaves. Blanch, cool and drain.</td>
<td>½ minutes</td>
</tr>
<tr>
<td><strong>CARROTS</strong> (tender, mild-flavored carrots)</td>
<td>Remove tops. Wash and peel. Leave small carrots whole. Cut others into cubes, slices or lengthwise strips. Blanch, cool and drain.</td>
<td>Small, whole - 5 minutes OR Diced, sliced or strips - 2 minutes</td>
</tr>
<tr>
<td><strong>CAULIFLOWER</strong> (tender, firm, snow-white heads)</td>
<td>Break into pieces about 1 inch across. Wash. If insects are present, soak ½ hour in solution of 4 teaspoons salt to 1 gallon of cold water. Drain. Blanch, cool and drain.</td>
<td>3 minutes</td>
</tr>
<tr>
<td><strong>CORN, sweet</strong> (plump, tender kernels and thin sweet milk)</td>
<td>Husk ears, remove silk and wash whole kernel and creamed</td>
<td>Blanch, cool and drain. For whole kernel corn - cut corn off cob about 2/3 the depth of kernels. For cream style corn - cut at 1/2 depth of kernels and scrape cob with back of knife to remove juice. Package, seal and freeze.</td>
</tr>
<tr>
<td><strong>on the cob</strong></td>
<td>Sort ears according to size. Small ears - 1½ inches or less in diameter. Medium ears - 1½-3½ inches in diameter. Blanch, cool and drain.</td>
<td>Small ears - 7 minutes Medium ears - 9 minutes Large ears - 11 minutes</td>
</tr>
<tr>
<td><strong>GREENS, beet greens, collards, chard, kale, mustard greens, spinach, turnip greens</strong> (tender leaves)</td>
<td>Discard any infected leaves. Wash and remove tough stems. Blanch, cool and drain.</td>
<td>Collards - 3 minutes Other greens - 2 minutes Very tender leaves - 1½ minutes</td>
</tr>
<tr>
<td><strong>HERBS</strong> (basil, dill, parsley and others)</td>
<td>Wash, drain, trim or chop. Use in cooked dishes because herbs become limp when thawed. Add frozen herbs directly to food being cooked.</td>
<td>No heat treatment required.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>VEGETABLE</th>
<th>PREPARATION</th>
<th>BLANCING TIME (In boiling water unless otherwise stated)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KOHLRABI</strong> (young, tender mild-flavored)</td>
<td>Remove tops and roots. Wash, peel and leave whole or dice in ⅛-inch cubes. Blanch, cool and drain.</td>
<td>Whole - 3 minutes Cubes - 1 minute</td>
</tr>
<tr>
<td><strong>MUSHROOMS</strong> (young, firm, free from spots and decay)</td>
<td>Sort by size; wash and trim ends. Those more than 1-inch across should be sliced or cut in quarters. For better color, soak for 5 minutes in a solution of 1 teaspoon lemon juice or ½ teaspoon of citric acid and 1 pint of water prior to blanching.</td>
<td>In steam: Whole - 5 minutes Buttons or quarters - 3½ minutes Slices - 3 minutes OR Saute in butter or margarine until tender.</td>
</tr>
<tr>
<td><strong>ONIONS</strong> (fully mature onions)</td>
<td>Peel, wash and chop. Loosely pack and freeze in large freezer bags. Take out as needed. Use in 2 to 3 months. Texture may be affected.</td>
<td>No heat treatment needed</td>
</tr>
<tr>
<td><strong>PARSNIPS</strong> (tender small to medium)</td>
<td>Remove tops, wash, peel and cut into ¼-inch cubes or slices. Blanch, cool and drain.</td>
<td>2 minutes</td>
</tr>
<tr>
<td><strong>PEAS, green</strong> (sweet, tender-table-ready)</td>
<td>Wash pods. Shell a batch at a time. Delay between shelling and freezing toughens skins. Blanch, cool and drain.</td>
<td>1½ minutes</td>
</tr>
<tr>
<td><strong>PEAS, snow, sugar or Chinese</strong> (table-ready, tender pods)</td>
<td>Wash, remove blossom ends and strings. Leave whole. Blanch, cool and drain.</td>
<td>Small pods - 1½-2 minutes Medium pods - 2½-3 minutes</td>
</tr>
<tr>
<td><strong>PEPPERS, green or hot</strong> (tender, crisp)</td>
<td>Wash, cut off stems, remove seeds. Cut into rings, dice or slice as desired.</td>
<td>No heat treatment needed for unheated pepper Halves - 3 minutes Strips or rings - 2 minutes</td>
</tr>
<tr>
<td><strong>POTATOES</strong></td>
<td>Wash, peel and cut into 1-inch cubes. Blanch and cool. For hash browns: cook in jackets until nearly done. Peel, grate and form into desired shape. Freeze. For french fries: select mature potatoes that have been stored for 30 days. Peel and cut into strips. Rinse in cold water. Dry thoroughly. Fry in deep fat (360°F/182°C) until light golden brown. Drain on paper towel. Cool. Do not salt. Package and freeze. To serve, heat in 450°F oven until golden brown. Note: Potatoes may be precooked in water or steam instead of fat.</td>
<td>3-5 minutes depending on size</td>
</tr>
<tr>
<td><strong>PUMPKIN and WINTER SQUASH</strong> (firm, mature)</td>
<td>Wash, cut into small pieces and remove seeds. Cook until soft in boiling water, in steam in a pressure cooker or in 350°F oven. Remove pulp from rind. Mash, cool, package and freeze.</td>
<td>Cook until tender</td>
</tr>
<tr>
<td><strong>SUMMER SQUASH</strong> (ZUCCHINI) (young, tender)</td>
<td>Wash and cut into ½-inch slices. Blanch, cool and drain.</td>
<td>3 minutes</td>
</tr>
<tr>
<td><strong>TOMATOES, juice sections</strong></td>
<td>Wash, sort and trim tomatoes. Cut in quarters or eighths. Simmer 5-10 minutes. Press through a sieve. Cool. Package, seal and freeze.</td>
<td>No heat treatment needed for unheated pepper Halves - 3 minutes Strips or rings - 2 minutes</td>
</tr>
<tr>
<td><strong>on the cob</strong></td>
<td>Wash, scald 2 minutes to loosen skin, peel and core. Cut into pieces. Simmer until table ready. Cool. Package, seal and freeze. OR Prepare tomato as above. Cut in quarters or smaller. Put into freezer containers. Press down with wooden spoon to release juice to cover. Leave 1 inch head space. Seal and freeze.</td>
<td>No heat treatment required.</td>
</tr>
</tbody>
</table>
### Freezing Fruits

Most fruits can be frozen satisfactorily, but the quality of the frozen product will vary with the kind of fruit, stage of maturity and type of pack.

Select a variety suitable for freezing. Select fruits with a firm texture and well-developed flavor and treat them with respect. Wash small lots (2 to 3 quarts) at a time to avoid bruising. Wash through several changes of cold water, lifting produce out of the water so dirt will not settle back on the fruit. Do not let produce soak.

Fruits are prepared for freezing in about the same way as for serving. It is best to prepare enough fruit for only 2 to 3 quarts at one time.

If fruit is to be crushed, suit the method to the fruit. A wire potato masher, pastry fork or slotted spoon may be used to crush soft fruits. Firm fruits may be crushed more easily with a food chopper. A colander, food press or strainer is useful for crushing berries. Blenders and food processors tend to liquefy the fruit too much.

Do not use galvanized ware with fruit or fruit juices because the acid in fruit dissolves the zinc which is poisonous. Metallic off-flavors may result from the use of iron utensils, chipped enameled ware or tinware that is not well tinned.

See page 13, for approximate yield of frozen fruits from fresh.

### Preparing Discoloration

There are several types of fruit packs suitable for freezing: syrup pack, sugar pack, unsweetened pack, tray pack or sugar replacement pack.

Most fruits have a better texture and flavor if packed in sugar or syrup. Some can be satisfactorily packed without sweetening, but vitamin C losses are greatest when fruits are packed without sugar. The type of pack will depend on the intended use. Fruits packed in syrup are generally best for serving uncooked; those packed in dry sugar or unsweetened are best for most cooking purposes because there is less liquid in the product. Unsweetened packs and sugar replacement packs are often used by people on special diets.

This procedure is also useful for preventing stem-end discoloration in cherries and grapes. You can get ascorbic acid in several forms:

- **Pure powdered form** — seasonally available among canners’ supplies in supermarkets. One level teaspoon of pure powder weighs about three grams. One teaspoon per gallon of water as a treatment solution.

- **Vitamin C tablets** — economical and available year round in many stores. Buy 500-milligram tablets; crush and dissolve six tablets per gallon of water as a treatment solution.

Commercially prepared mixes of ascorbic and citric acid — seasonally available among canners’ supplies in supermarkets. Citric acid powder is sold in supermarkets. Citric acid powder weighs about 30 percent of the weight of the same volume of liquid. One level teaspoon of citric acid in a quart of water or juice, submerge fruit by using a small piece of crumpled water-resistant material as for syrup and sugar packs.

### Choosing a Pack

There are several types of fruit packs suitable for freezing: syrup pack, sugar pack, unsweetened pack, tray pack or sugar replacement pack.

### Syrup pack

The proportion of sugar to water used depends on the sweetness of the fruit and the taste preference of the user. A 40 percent syrup is recommended for most fruits. Lighter syrups are desirable for mild flavored fruits to prevent masking the flavor. Heavier syrups may be used for very sour fruits.

### Types of syrup

- **30 percent syrup**
  - Sugar*: 2 cups
  - Water: 4 cups
  - Yield of syrup: 5 cups

- **35 percent syrup**
  - 2%: 3 cups
  - 5%: 4 cups

- **40 percent syrup**
  - 3%: 4 cups
  - 6%: 5 cups

- **50 percent syrup**
  - 4%: 5 cups
  - 8%: 6 cups

- **60 percent syrup**
  - 7%: 6 cups
  - 8%: 7 cups

- **65 percent syrup**
  - 8%: 7 cups

**Sugar**: To make syrup, dissolve the sugar in lukewarm water until the solution is clear. Cool syrup before using.

Use just enough cold syrup to cover the prepared fruit after it has been set by jarring the container (about 1/2 to 3/4 cup of syrup per pint). To keep the fruit under the syrup, place a small piece of crumpled waxed paper or other water resistant wrapping material on the top and press the fruit down into the syrup before closing, sealing and freezing.

### Unsweetened Pack

Fruit can be packed dry. Place the clean fruit in the carton, cover and freeze, or cover with water containing ascorbic acid or packed in unsweetened juice. For fruit packed in water or juice, submerge fruit by using a small piece of crumpled water-resistant material as for syrup and sugar packs. Seal tightly and freeze.

Unsweetened packs generally yield a lower quality product than packs with sugar. However, some fruits such as raspberries, blueberries, scalded apples, gooseberries, currants, cranberries and rhubarb give a good quality without sugar. 

---

**Approximate yield of frozen fruit from fresh.**

<table>
<thead>
<tr>
<th>Fruit</th>
<th>Approximate Pint Containers Needed</th>
<th>Approximate Pounds Needed for 1 Pint</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apples</strong></td>
<td>1 bu (48 lb)</td>
<td>32 to 40</td>
</tr>
<tr>
<td></td>
<td>1 box (44 lb)</td>
<td>29 to 35</td>
</tr>
<tr>
<td><strong>Apples, for sauce</strong></td>
<td>1 bu (48 lb)</td>
<td>30 to 36</td>
</tr>
<tr>
<td></td>
<td>1 crate (22 lb)</td>
<td>60 to 72</td>
</tr>
<tr>
<td><strong>Apricots</strong></td>
<td>1 bu (48 lb)</td>
<td>28 to 33</td>
</tr>
<tr>
<td></td>
<td>1 crate (24 qt)</td>
<td>32 to 36</td>
</tr>
<tr>
<td><strong>Berries</strong></td>
<td>1 crate (24 qt)</td>
<td>¼ to ½ (1-2 pt boxes)</td>
</tr>
<tr>
<td><strong>Cantaloupe</strong></td>
<td>1 dozen (28 lb)</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>1 to 1¼</td>
<td></td>
</tr>
<tr>
<td><strong>Cherries, sweet or sour</strong></td>
<td>1 bu (56 lb)</td>
<td>36 to 44</td>
</tr>
<tr>
<td></td>
<td>1 to 1½</td>
<td></td>
</tr>
<tr>
<td><strong>Cranberries</strong></td>
<td>1 box (25 lb)</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>1 peck (8 lb)</td>
<td>16</td>
</tr>
<tr>
<td><strong>Currants</strong></td>
<td>2 qt (3 lb)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>¾ to 1½</td>
<td></td>
</tr>
<tr>
<td><strong>Grapes</strong></td>
<td>1 lug (28 lb)</td>
<td>14 to 16</td>
</tr>
<tr>
<td></td>
<td>1 to 1½</td>
<td></td>
</tr>
<tr>
<td><strong>Peaches</strong></td>
<td>1 bu (48 lb)</td>
<td>32 to 48</td>
</tr>
<tr>
<td></td>
<td>1 lug (20 lb)</td>
<td>13 to 20</td>
</tr>
<tr>
<td><strong>Pears</strong></td>
<td>1 bu (50 lb)</td>
<td>40 to 50</td>
</tr>
<tr>
<td></td>
<td>1 lug (20 lb)</td>
<td>37 to 46</td>
</tr>
<tr>
<td><strong>Pineapple</strong></td>
<td>5 lb</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td><strong>Plums and Prunes</strong></td>
<td>1 bu (56 lb)</td>
<td>38 to 56</td>
</tr>
<tr>
<td></td>
<td>1 crate (20 lb)</td>
<td>13 to 20</td>
</tr>
<tr>
<td><strong>Raspberries</strong></td>
<td>1 crate (24 pt)</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Rhubarb</strong></td>
<td>15 lb</td>
<td>15 to 22</td>
</tr>
<tr>
<td></td>
<td>½ to 1</td>
<td></td>
</tr>
<tr>
<td><strong>Strawberries</strong></td>
<td>1 crate (24 qt)</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>½</td>
<td></td>
</tr>
</tbody>
</table>

*Includes blackberries, blueberries, boysenberries, dewberries, elderberries, gooseberries, huckleberries, loganberries, youngberries.

---

**PREPARATION TABLE FOR FREEZING VEGETABLES**

<table>
<thead>
<tr>
<th>VEGETABLE</th>
<th>PREPARATION</th>
<th>BLANCHING TIME (In boiling water unless otherwise stated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZUCCHINI, grated</td>
<td>Steam in small quantities until translucent. Pack in amounts used in recipe allowing head space. Put containers in cold water to cool. Seal and freeze. Drain before using in baking.</td>
<td>In steam - 1 - 2 minutes</td>
</tr>
<tr>
<td>TURNIPS</td>
<td>Wash, peel and cut into ½-inch cubes. Blanch, cool and drain.</td>
<td>2 minutes</td>
</tr>
</tbody>
</table>

---

**PREPARATION FOR FREEZING VEGETABLES**

<table>
<thead>
<tr>
<th>Approximate Pint of Frozen Fruit from Fresh.</th>
<th>Fruit</th>
<th>Fresh, as Purchased or Picked</th>
<th>Approximate Pint Containers Needed</th>
<th>Approximate Pounds Needed for 1 Pint</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apples</strong></td>
<td>1 bu</td>
<td>32 to 40</td>
<td>1½ to 1½</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 box</td>
<td>29 to 35</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Apples, for sauce</strong></td>
<td>1 bu</td>
<td>30 to 36</td>
<td>1% to 1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 crate</td>
<td>60 to 72</td>
<td>½ to 4/5</td>
<td></td>
</tr>
<tr>
<td><strong>Apricots</strong></td>
<td>1 bu</td>
<td>28 to 33</td>
<td>¾ to 1½ (1-2 pt boxes)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 crate</td>
<td>32 to 36</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Berries</strong></td>
<td>1 crate</td>
<td>22</td>
<td>1 to 1¼</td>
<td></td>
</tr>
<tr>
<td><strong>Cantaloupe</strong></td>
<td>1 dozen</td>
<td>21</td>
<td>1 to 1½</td>
<td></td>
</tr>
<tr>
<td><strong>Cherries, sweet or sour</strong></td>
<td>1 bu</td>
<td>36 to 44</td>
<td>1% to 1½</td>
<td></td>
</tr>
<tr>
<td><strong>Cranberries</strong></td>
<td>1 box</td>
<td>50</td>
<td>½</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 peck</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Currants</strong></td>
<td>2 qt</td>
<td>4</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td><strong>Grapes</strong></td>
<td>1 lug</td>
<td>14 to 16</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Peaches</strong></td>
<td>1 bu</td>
<td>32 to 48</td>
<td>1 to 1½</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 lug</td>
<td>13 to 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pears</strong></td>
<td>1 bu</td>
<td>40 to 50</td>
<td>1 to 1½</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 lug</td>
<td>37 to 46</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pineapple</strong></td>
<td>5 lb</td>
<td>4</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td><strong>Plums and Prunes</strong></td>
<td>1 bu</td>
<td>38 to 56</td>
<td>1% to 1½</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 crate</td>
<td>13 to 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Raspberries</strong></td>
<td>1 crate</td>
<td>24</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Rhubarb</strong></td>
<td>15 lb</td>
<td>15 to 22</td>
<td>½ to 1</td>
<td></td>
</tr>
<tr>
<td><strong>Strawberries</strong></td>
<td>1 crate</td>
<td>38</td>
<td>½</td>
<td></td>
</tr>
</tbody>
</table>

*Includes blackberries, blueberries, boysenberries, dewberries, elderberries, gooseberries, huckleberries, loganberries, youngberries.
Sugar pack
Put fruit in a bowl or shallow pan. Sprinkle sugar over the fruit and mix gently until the juice is drawn out and the sugar is dissolved. Use a large spoon or pancake turner for mixing.

Soft sliced fruits, such as peaches, strawberries, plums and cherries will yield sufficient syrup for covering if the fruit is layered with sugar and allowed to stand for 15 minutes. Some whole fruits may be coated with sugar and frozen. Pack fruit and juice into container. Place a small piece of crumpled water-resistant paper on top to hold fruit down in the juice. Seal and freeze.

Tray pack
This is a good pack for the fruits mentioned above in unsweetened pack section. Spread a single layer of prepared fruit on shallow trays. Freeze and package in freezer bags promptly. The fruit pieces remain loose. Later the bag may be opened, the needed amount taken out, and the bag reclosed and returned to the freezer.

Sugar replacement pack
Sugar substitutes can be used when freezing fruits. They will give a sweet taste but do not furnish the beneficial effects of sugar like color protection and thick syrup. Fruits frozen with sugar replacements will freeze harder and thaw more slowly than those preserved with sugar.

Follow directions on the label of the sweetener to determine the amount of sweetener needed. Non-sugar sweeteners can be added at serving time instead of during the freezing process.

Packing
Use containers designed for freezer use. Allow head space between packed food and closure because most fruits expand during freezing. See page 9 for amount of head space needed.

Thawing Fruits
Allow fruit to thaw in the unopened package. Fruits packed in dry sugar thaw faster than those in syrup. Fruits packed without sugar take longer to thaw. Fruits to be served in salads, shortcakes, fruit sauce and fruit cups should be only partially thawed. Thaw fruits for pies until able to separate. Completely thawed fruit will become soft and may darken upon standing.

Preparation of Fruits for Freezing
For syrup recipe refer to page 13, for head space required see page 9.

Apples
Apples slices – Select firm, crisp full-flavored apples. Wash, peel and core. Slice medium apples into twelfths, large sizes into sixteenths. Pack in one of the following ways.

Syrup pack – Use 40 percent syrup (page 13). For a better quality frozen product add ½ teaspoon crystalline ascorbic acid to each quart of syrup. Slice apples directly into cold syrup in containers, starting with ¼ cup syrup to a pint container. Press fruit down in containers and add enough syrup to cover. Leave head space (page 9). Seal and freeze.

Sugar pack – To prevent darkening of apples during preparation, slice them into a solution of 2 tablespoons salt to a gallon of water. Hold in this solution not more than 15 to 20 minutes. Drain. To retard darkening, place slices in a single layer in steamer; steam 1½ to 2 minutes, depending on thickness of slice. Cool in cold water and drain. Over each quart (1½ pounds) of apples slices evenly sprinkle ½ cup sugar and stir. Pack apples into containers and press fruit down. Leave head space (page 9). Seal and freeze.

Unsweetened pack – Follow directions for sugar pack, omitting sugar.

Pour sugar pack – Follow directions for sugar pack, omitting sugar. Arrange steamed slices in a pie plate as for a pie. Put the filled plate into a plastic bag and freeze. Remove the solid chunk of slices from the plate as soon as frozen. Wrap it tightly and return to the freezer. At pie-making time, lay the pie-shaped chunk of slices in your pastry. Put on the sugar and seasonings, top with a crust and bake.

Applesauce – Select full-flavored apples. Wash apples, peel if desired, core and slice. To each quart of apple slices add ¼ cup water and cook until tender. Puree and add ¼ cup sugar. If desired, for each quart of hot puree, stirring until dissolved. Cool and package leaving head space (page 9). Seal and freeze.

Apple juice – Place freshly made juice in rigid containers. Leave head space (page 9). Seal and freeze.

Apricots
Halved – Select firm, ripe, uniformly yellow apricots. Sort, wash, half and pit. Peel and slice if desired. Unpeeled apricots are satisfactory for pies. If apricots are not peeled, heat them in boiling water ½ minute to keep skins from toughening during freezing. Then cool in cold water and drain. Pack into containers in one of the following ways.

Syrup pack – Use 40 percent syrup (page 13). For a better quality frozen product, add ¼ teaspoon crystalline ascorbic acid to each quart of syrup. Pack apricots directly into containers. Cover with syrup. Leave head space (page 9). Seal and freeze.

Sugar pack – Before combining apricots with sugar, treat the fruit as follows to prevent darkening: Dissolve ¼ teaspoon crystalline ascorbic acid in ¼ cup water and sprinkle over 1 quart (7/8 pound) of fruit. Mix ¼ cup sugar with each quart of fruit. Stir until sugar is dissolved. Pack apricots into containers and press down until fruit is covered with juice, leaving head space (page 9). Seal and freeze.

Crushed or puree – Select fully ripe fruit. For crushed apricots, dip in boiling water for ½ minute and cool in cold water. Peel the apricots. Pit and crush them coarsely. For puree, pit and quarter the apricots. Press through a sieve; or heat to boiling point in just enough water to prevent scorching and then press through a sieve.

With each quart (2 pounds) of prepared apricots mix with 1 cup sugar. For a better product, add to the fruit ¼ teaspoon crystalline ascorbic acid dissolved in ¼ cup of water just before adding the sugar. Pack into containers, leaving head space (page 9). Seal and freeze.

Avocados
Select avocados that yield to gentle pressure with rind free from dark blemishes. Peel fruit, cut in half and remove pit.

Puree – Mash. Add ¼ teaspoon crystalline ascorbic acid to each quart of puree or add 1 tablespoon lemon juice for each two avocados. Use the ascorbic acid if intended use is in a sweet dish. Use lemon juice if for Guacamole. Pack into containers, leaving head space (page 9). Seal and freeze.

Bananas
Select firm ripe bananas. Peel. Mash thoroughly while adding 1 teaspoon lemon juice per cup of mashed banana. Pack, leaving head space (page 9). Seal and freeze.

Berries, most firm
(blueberries, elderberries, huckleberries)
Whole – Select full-flavored, ripe berries all about the same size, preferably with tender skins. Sort, wash and drain.

If desired, steam for 1 minute and cool immediately. Preheating in steam tenderizes skin and makes a better flavored product.
Select fully ripened berries. Sort, wash and drain. Crush, or press berries through a fine sieve for puree.

To 1 quart (2 pounds) crushed berries or puree, add 1 to 1½ cups sugar, depending on tartness of the cherries. Leave head space (page 9). Seal and freeze.

Sugar pack – Pack cherries into containers and cover with cold 40 percent syrup (page 13), depending on tartness of the cherries. Leave head space (page 9). Seal and freeze.

With sour cherries, use half sweet cherries and half sour cherries. Pack as above using 50 percent syrup (page 13). Ascorbic acid may be added, but is not as essential as it is for sweet cherries alone.

Puree – Prepare cranberries as for freezing whole. Add 2 cups water to each quart (1 pound) of berries. Cook until skins have popped. Press through a sieve.

Add sugar to taste, about 2 cups for each quart (2 pounds) of puree. Pack into containers, leaving head space (page 9). Seal and freeze.

Gooseberries

Choose fully ripe berries if freezing for pie — berries a little underripe for jelly making. Sort, remove stems and blossom ends, and wash.

Unsweetened pack – Tray pack or pack berries into containers without sugar. Leave head space (page 9). Seal and freeze.


Grapefruits, Oranges

Sections or slices – Select firm tree-ripened fruit heavy for its size and free from soft spots. Wash and peel. Divide fruit into sections, removing all membranes and seeds. Sliced oranges if desired. For grapefruit with many seeds, cut fruit in half, remove seeds and cut or scoop out sections.

Pack fruit into containers. Cover with cold 40 percent syrup (page 13) made with excess fruit juice and water if more liquid is needed. For better quality, add ½ teaspoon crystalline ascorbic acid to each quart of syrup. Leave head space (page 9). Seal and freeze.

Juice – Select fruit as directed for sections. Squeeze juice from fruit, using squeezer that does not press oil from rind. Sweeten, if desired, with 2 tablespoons sugar for each quart of juice, or pack without sugar. For better quality, add ½ teaspoon crystalline ascorbic acid for each gallon of juice. Pour juice into containers immediately. To avoid development of off-flavors, pack juice in glass jars. Leave head space (page 9). Seal and freeze.

Ground cherries

Husk, Scald for 2 minutes. Pack in 40 percent syrup (page 13). Leave head space (page 9). Seal and freeze.

Melons (cantaloupe, crenshaw, honeydew, Persian, watermelon)

Syrop pack – Select firm-fleshed, well-colored, ripe melons. Cut in half, remove seeds and peel. Cut melons into slices, cubes or balls. Pack into containers and cover with cold 30 percent syrup (page 13). Leave head space (page 9). Seal and freeze.


Nectarines

Halves, quarters or slices – Choose fully ripe, well-colored, firm nectarines. Overripe fruit may take on a disagreeable flavor in frozen storage. Sort, wash and pit the fruit. Peel if desired. Cut in halves, quarters or slices.
Cut fruit directly into cold 40 percent syrup (page 13), starting with ½ cup for each pint container. For a better product add ½ teaspoon crystalline ascorbic acid to each quart of syrup. Press fruit down and add syrup to cover, leaving head space (page 9). Seal and freeze.

Puree – Prepare same as peach puree below.

To puree, press through a sieve, or heat pitted peaches 4 minutes in enough water to prevent scorching and press through a sieve.

With each quart (2 pounds) of pureed peaches mix 1 cup sugar. For better quality, add 1½ teaspoons crystalline ascorbic acid to each quart of fruit.

Pack into containers, leave head space (page 9). Seal and freeze.

Pineapple

Select firm, ripe pineapples with full flavor and aroma. Pare and remove core and eyes. Slice, dice, crush, or cut the pineapple into wedges or sticks.

Unsweetened pack – Pack fruit tightly into containers without sugar. Leave head space (page 9), Seal and freeze.

Syrup pack – Pack fruit tightly into containers. Cover with 30 percent syrup (page 13) made with pineapple juice, if available, or with water. Leave head space (page 9). Seal and freeze.

Raspberries

Whole – Select fully ripe, juicy berries. Sort, wash carefully in cold water and drain thoroughly.

Sugar pack – To 1 quart (1½ pounds) berries add ¼ cup sugar and mix carefully to avoid crushing. Put into containers, leaving head space (page 9), Seal and freeze.

Syrup pack – Put berries into containers and cover with cold 40 percent syrup (page 13), leaving head space (page 9). Seal and freeze.

Unsweetened pack – Put berries into containers, leaving head space (page 9). Seal and freeze.

Crushed or puree – Prepare as for whole raspberries then crush or press through a sieve for puree.

To 1 quart (2 pounds) crushed berries or puree add ¾ to 1 cup sugar, depending on sweetness of fruit. Mix until sugar is dissolved. Put into containers, leaving head space (page 9). Seal and freeze.

Pears

Halves or quarters – Select pears that are well ripened and firm, but not hard. Wash fruit in cold water. Peel, cut in halves or quarters and remove cores.

Heat pears in boiling 40 percent syrup (page 13) for 1 to 2 minutes, depending on size of pieces. Drain and cool.

Pack pears into containers and cover with cold syrup. For a better product, add ¾ teaspoon crystalline ascorbic acid to a quart of cold syrup. Leave head space (page 9). Seal and freeze.

Rhubarb

Stalks or pieces – Choose firm, tender, well-colored stalks with good flavor and few fibers. Wash, trim and cut into 1 or 2 inch pieces or in lengths to fit the package. Healing rhubarb in boiling water for 1 minute and cooling promptly in cold water helps retain color and flavor.

Unsweetened pack – Tray pack or pack either raw or preheated rhubarb tightly into containers without sugar. Leave head space (page 9). Seal and freeze.

Syrup pack – Pack either raw or preheated and cooled rhubarb tightly into containers, cover with cold 40 percent syrup (page 13). Leave head space (page 9). Seal and freeze.

Sugar pack – Mix either raw or preheated and cooled rhubarb with ¼ cup sugar per quart of prepared fruit. Pack, leaving head space (page 9). Seal and freeze.
Sliced or crushed – Prepare for packing as for whole strawberries, then slice, or crush partially or completely. To 1 quart (1½ pounds) berries add ¾ cup sugar; mix thoroughly. Pack into containers, leaving head space (page 9). Seal and freeze.

Puree – Prepare strawberries as for freezing whole. Then press berries through a sieve. To 1 quart (2 pounds) puree add ½ cup sugar and mix well. Put into containers, leaving head space (page 9). Seal and freeze.

Points to Remember
- Reasons for Freezing Prepared Foods
  - Waste can be avoided by freezing leftovers.
  - Time can be saved by doubling or tripling recipes and freezing the extra.
  - Foods can be prepared when the time is available.
  - Foods can be prepared when in season or on special.
  - If cooking for one or two, individual portions can be frozen for later use.
- Points to Remember
  - Expect some changes in seasoning level of frozen dishes. Season sparingly and season to taste when reheated.
  - Add crumb or cheese toppings just before reheating. These tend to get soggy or dry when frozen.
  - A general suggestion is to slightly undercook foods to allow for additional cooking when reheating. Some experimenting may be necessary.
  - Quickly cool foods to be frozen by placing container of hot food in a pan or sink of ice water.
- General Tips for Successful Freezing
  - 1. Freeze meat as soon as desirable after slaughter and as soon as possible after purchase to ensure freshness and top quality.
  - 2. Trim excess fat and remove bones if practical, or cover sharp extruding bones with folded freezer paper or foil so they will not pierce the outside wrapper.
  - 3. Freeze meat in meat-size pieces and packages. Place a double layer of freezer wrap between individual pieces.
  - 4. Do not season meat before freezing for longest freezer life.
  - 5. Meatballs, beef cubes, chops or meat patties can be tray frozen (see page 14) then packaged in freezer bags.
  - 6. Materials used for packaging meat, fish and poultry need to have the same characteristics as those used for freezing other foods (see page 3).
  - 7. Packages must be air tight to maintain quality.
  - 8. The store wrap on meats from self-service counters is not meant for freezer storage longer than two weeks. Rewrap or over wrap for longer storage.
  - 9. Wrap used by butchers may be either coated or uncoated. The coated is suitable for use in the freezer, but the uncoated is unsatisfactory.
  - 10. Vacuum-packaged meats can be frozen in the undamaged package for one to three months.

Freezing Animal Products
Meat, Poultry and Fish
Freezing is the best way to retain the good taste and texture of meat, poultry and fish.

Plans for freezing
1. Examine the household’s needs and usage. For top quality, meats should be used within recommended storage times (see page 28).
2. Consider the amount of freezing space one wishes to devote to these foods. A cubic foot of freezer space will hold 30 to 35 pounds of meat.
3. Shop for specials and take advantage of seasonal peaks.
4. Processed cured meats such as ham and bacon should be frozen for only 1 to 3 months because the high salt and fat content accelerate rancidity.

General Tips for Successful Freezing
1. Freeze meat as soon as desirable after slaughter and as soon as possible after purchase to ensure freshness and top quality.
2. Trim excess fat and remove bones if practical, or cover sharp extruding bones with folded freezer paper or foil so they will not pierce the outside wrapper.
3. Freeze meat in meat-size pieces and packages. Place a double layer of freezer wrap between individual pieces.
4. Do not season meat before freezing for longest freezer life.
5. Meatballs, beef cubes, chops or meat patties can be tray frozen (see page 14) then packaged in freezer bags.
6. Materials used for packaging meat, fish and poultry need to have the same characteristics as those used for freezing other foods (see page 3).
7. Packages must be air tight to maintain quality.
8. The store wrap on meats from self-service counters is not meant for freezer storage longer than two weeks. Rewrap or over wrap for longer storage.
9. Wrap used by butchers may be either coated or uncoated. The coated is suitable for use in the freezer, but the uncoated is unsatisfactory.
10. Vacuum-packaged meats can be frozen in the undamaged package for one to three months.

Packaging
Red Meats
Freezer bags or containers may be used for freezing ground meats, stew meats or other meats frozen into small portions.
Meats can be wrapped using either the drugstore or the butcher wrap (see pages 23-24). The drugstore wrap is preferred, except for irregular meat cuts. The butcher wrap is more appropriate for these.

Lard
Freezing helps prevent rancidity. Use glass jars or plastic containers. Make an airtight seal.
For extra protection against rancidity, obtain a commercial antioxidant from a locker plant or a drugstore. Use it according to the manufacturers directions or add fresh hydrogenated vegetable fat to the rendered lard using this proportion: 2 to 3 pounds of vegetable fat to 50 pounds lard. Mix thoroughly while still hot. Pour into small containers, filling to the top.

Methods of wrapping
Drugstore Wrap
Cut off enough wrapping material to wrap around the food about 1½ times or enough to make three 1-inch fold down when wrapping.
1. Place meat in center of wrapping.
2. Bring two opposite edges of the wrap together centered above food.
3. Fold the edges down in a series of folds ½ to 1 inch deep until the fold lies against the food.
4. Press the fold down across the food, squeezing out the air.
5. Turn package over. Press ends to remove air.
6. Fold ends snugly with a double fold.
7. Bring ends up and fasten securely with cord or freezer tape. Label.

Drugstore Wrap
**Butcher Wrap**

Best for bulky and irregular shaped foods. Cut off enough wrap to go around the food twice.

1. Place food at one corner of the wrapping.
2. Fold the food and wrap over two times in the direction of the opposite corner.
3. Fold the ends up pushing the air out as you fold.
4. With ends tucked up, continue to fold food and wrapping over.
5. Pull end tight and seal with cord or freezer tape. Label.

**Casserole Wrap**

Allows for reuse of baking dish after food is frozen.

1. Line baking dish with heavy duty foil*, leaving a 1½ inch foil collar around the edge.
2. Place food in foil-lined dish. Cover with sheet of foil the size of dish and foil collar. Press air out from center; fold edges together, sealing tightly.
3. Label and freeze. When frozen, lift from dish and return food to freezer.

*You can use a plastic-type freezer wrap can be used to line baking dishes. The wrap needs to be large enough to fold over the top for sealing.

**Bundle Wrap**

Good for odd shapes and semimoist foods. Foods may be baked or grilled in this wrap.

1. Center food on a square of heavy duty foil large enough for adequate wrapping.
2. Bring four corners of foil up together in a pyramid shape.
3. Fold open edges together in locked folds, pressing air out, until foil is tight against food. Label.

---

**POULTRY**

Chill home-slaughtered poultry in the refrigerator below 40 F, 6 hours for broiler-fryers and 24 hours for older birds. If refrigerator space is not available it can be chilled for two to three hours in a large tub of ice water.

**Packaging**

Wrap giblets separately from bird. Arrange poultry to give a compact, flat package. Tie the wings and legs closely to the body on birds frozen whole.

Poultry may be wrapped in freezer wrap or placed in freezer bags. Remove as much air as possible. Plastic freezer bags conform to the irregular shape of poultry. A good way to remove air is to place the bird in the bag and then plunge the bag in a pan of cold water. This forces air to the top. Quickly twist the top in a goose neck and secure. Dry bag thoroughly.

**Warning:** Do not stuff birds before freezing. The time the stuffing takes to cool in the bird before freezing and to thaw and reheat it may be long enough to permit growth of food spoilage and food poisoning bacteria.

---

**FISH**

Improperly frozen fish develops a bad taste and becomes dry and tough. A number of alternative methods are available for freezing fish properly.

**Packaging**

One of the best methods is to wrap fish with a cling plastic wrap and then overlap with a freezer wrap. Squeeze out as much air as possible.

Fish may be placed in freezer bags. Submerge the bag in a pan of cold water to force the air out. Do not let water flow into the bag. Seal the bag by twisting and a goose neck.(see illustration page 9).
**ALTERNATIVE FREEZING METHODS**

**Glazes**

*Ice - Freeze unwrapped fish. Then dip frozen fish in near-freezing ice water and return to freezer. Repeat this sequence until the glaze is 1/4 to 1/2 inch thick. Be careful not to break the glaze when handling the fish. Wrap glazed fish for storage.*

**Eggs**

*Separate eggs. Stir gently. To prevent graininess, add 2 tablespoons sugar or 1 teaspoon salt per cup of egg yolks, depending on intended use. Strain through a sieve. Package, allowing 1/2 inch head space. Seal and freeze. One tablespoon of the yolk mixture equals one egg yolk.*

**EGGS**

Eggs can be stored for at least one month, covered in the refrigerator. Freezing is often unnecessary.

**Whole Eggs -** Thoroughly mix yolks and whites. Do not whip in air. To prevent graininess, add 1 tablespoon sugar or 1 teaspoon salt per cup whole eggs, depending on intended use. Strain through a sieve or colander to improve uniformity. Package, allowing 1/2 inch head space. Seal and freeze.

Another method of freezing whole egg mixture is to use ice trays. Measure 3 tablespoons of egg mixture into each compartment of an ice tray. Freeze until solid. Remove frozen cubes, and package in moisture/vapor resistant containers. Seal and freeze. Three tablespoons of the egg mixture equals one whole egg.

**Cream -** Freeze only heavy cream containing 40 percent or more butter fat. Lighter cream and half and half do not freeze well. Cream that has been frozen will not whip to the usual volume. Whipped cream can be sweetened to taste and frozen in individual sized portions. Tray-freeze in mounds.

**Ice cream -** A plastic wrap laid tightly on the surface of partially used containers of ice cream helps prevent surface changes. Homemade ice cream is difficult to store for any length of time because it becomes grainy. Commercial products have added milk solids and gelatin to prevent this.

**Milk -** Pasteurized homogenized milk may be frozen, including low and non-fat. Some quality change may be noted upon thawing. Stirring or shaking may help restore smoothness.

**Sour cream, yogurt and buttermilk -** All of the cultured, soured dairy products lose their smooth texture when frozen. They become grainy and sometimes separate out their water. They can still be used for cooking. Flavored yogurts may be more stable because of the fruit and sugar. It may taste more acidic when thawed.

**FROZEN CHEESE**

Cheese - flavored or plain - usually freeze fine. If in real doubt, freeze a small quantity and check after 24 hours by thawing it. If it pleased with the results, freeze the rest. Otherwise, do not freeze.

**Crickers and chips -** stay crisp when packaged tightly and frozen.

**Dried fruits -** stay fresh and moist when frozen and they are easier to chop when frozen.

**Herbs (fresh) -** are easier to chop when frozen.

**Dried fruits -** Tips on thawing fresh vegetables.

**ADDITIONAL FOODS**

**Bread crumbs and croutons -** stay fresh in the freezer.

**Brown sugar -** can be overwrapped and frozen. It will be soft when thawed.

**Coffee (ground or beans) -** stay fresher in the freezer.

**Crackers and chips -** stay crisp when packaged tightly and frozen.

**Dried fruits -** Tips on thawing fresh vegetables.

**Herbs (fresh) -** Wash, drain and pat dry with paper towels. Wrap a few sprigs or leaves in freezer wrap and place in a freezer container. Seal and freeze. These can be used in cooked dishes, but are usually not suitable for garnishes because they become limp as they thaw.

**Jams and jellies -** Ordinary cooked jams and jellies freeze well. Those made with gelatin may break down during freezing.
Margarine - See butter.

Whipped butter and margarine - Do not freeze well because the emulsion may break, and the product may separate.

Marshmallows are easy to cut when frozen and won’t stick to the knife.

Nuts - Shell nuts keeping kernels as nearly whole as possible. Spread in a thin layer to dry for 24 hours. Package in airtight bags for freezing. Nuts keep well frozen up to 6 months. Salted or seasoned nuts keep only about half as long.

Oils - Freezing prevents rancidity. You can strain and freeze oil that has been used for deep-fat frying for reuse. Oil clouds when frozen, but clears when it thaws.

Sauerkraut - Freezing stops fermentation. Frozen sauerkraut may be stored up to 12 months.

Sprouts - A variety of seed sprouts such as alfalfa, mung beans, chick peas, soybeans, etc. may be frozen. First wash the sprouts and removed seed coats. Heat one layer at a time in steam for 3 minutes. Cool promptly in cold water and drain. Package, label and freeze.

### SUGGESTED STORAGE TIMES FOR FROZEN FOODS

Keep freezer at 0°F. Use foods within recommended time for best quality. Food stored longer than recommended should still be safe, but lower in quality.

<table>
<thead>
<tr>
<th>FOOD</th>
<th>TIME</th>
<th>SPECIAL HANDLING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HOME FROZEN FOODS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>baked</td>
<td>2-3 months</td>
<td>Use only special freezer-dough recipes</td>
</tr>
<tr>
<td>unbaked doughs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butter, margarine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lard</td>
<td>12 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10-12 months</td>
<td></td>
</tr>
<tr>
<td>Cakes, baked</td>
<td>2-4 months</td>
<td></td>
</tr>
<tr>
<td>Candy</td>
<td>3-6 months</td>
<td></td>
</tr>
<tr>
<td>Combination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stews</td>
<td>4-6 months</td>
<td></td>
</tr>
<tr>
<td>Casseroles</td>
<td>1 month</td>
<td></td>
</tr>
<tr>
<td>Cookies, baked</td>
<td>6-12 months</td>
<td></td>
</tr>
<tr>
<td>dough</td>
<td>3 months</td>
<td></td>
</tr>
<tr>
<td>Cheese</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dry-curd cottage cheese, ricotta natural, process</td>
<td>4 weeks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6-8 months</td>
<td>Creamed cottage cheese and cream cheese don’t freeze well. Cut and wrap cheese in small pieces.</td>
</tr>
<tr>
<td>Cream (all kinds) whipped</td>
<td>2 months</td>
<td>Thawed cream may not whip.</td>
</tr>
<tr>
<td></td>
<td>1 month</td>
<td></td>
</tr>
<tr>
<td>Eggs, in shell</td>
<td></td>
<td>Do not freeze.</td>
</tr>
<tr>
<td>Egg white, yolks</td>
<td>1 year</td>
<td>For sweet dishes: Mix each cup of yolks with 1 tablespoon corn syrup or sugar. For other cooking, substitute 1 teaspoon salt for sugar.</td>
</tr>
<tr>
<td>Fish, shellfish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“fatty” fish - bluefish, catfish, trout, etc.</td>
<td>6-8 months</td>
<td>Wrap tightly in heavy-duty foil or freezer wrap.</td>
</tr>
<tr>
<td>“lean” fish - cod, flounder, etc. shellfish</td>
<td>6-8 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 months</td>
<td></td>
</tr>
<tr>
<td>Fruits</td>
<td></td>
<td></td>
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<tr>
<td>citrus fruit and citrus juice packed in sugar or syrup</td>
<td>4-6 months</td>
<td></td>
</tr>
<tr>
<td>packed without sugar or liquid</td>
<td>8-12 months</td>
<td></td>
</tr>
<tr>
<td>Ice cream, sherbet</td>
<td>3-6 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 month</td>
<td></td>
</tr>
<tr>
<td>Main dishes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cooked meat fish</td>
<td>2-3 months</td>
<td>Freeze in freezer-proof and oven-proof baking dishes or freezer containers.</td>
</tr>
<tr>
<td>poultry</td>
<td>3 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-6 months</td>
<td></td>
</tr>
<tr>
<td>Meat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bacon</td>
<td>1 month</td>
<td>If meat is purchased fresh and wrapped in plastic wrap, check for holes. If none, freeze in this wrap up to 2 weeks. For longer storage, overwrap tightly with freezer wrap or heavy-duty foil. Keep frankfurters in vacuum packages.</td>
</tr>
<tr>
<td>frankfurters</td>
<td>1-2 months</td>
<td></td>
</tr>
<tr>
<td>ground, stew meat ham</td>
<td>3-4 months</td>
<td></td>
</tr>
<tr>
<td>leftover cooked roasts</td>
<td>1-2 months</td>
<td></td>
</tr>
<tr>
<td>beef, lamb pork, veal steaks, chops</td>
<td>2-3 months</td>
<td></td>
</tr>
<tr>
<td>beef</td>
<td>6-12 months</td>
<td></td>
</tr>
<tr>
<td>lamb, veal pork</td>
<td>4-8 months</td>
<td></td>
</tr>
<tr>
<td>variety meats venison</td>
<td>6-12 months</td>
<td></td>
</tr>
<tr>
<td>ground, steaks, stew meat roasts</td>
<td>6-9 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-4 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-2 months</td>
<td></td>
</tr>
</tbody>
</table>
### FOOD TIME SPECIAL HANDLING

<table>
<thead>
<tr>
<th>FOOD</th>
<th>TIME</th>
<th>SPECIAL HANDLING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk, fresh fluid</td>
<td>1-3 months</td>
<td></td>
</tr>
<tr>
<td>Nuts</td>
<td>3 months</td>
<td></td>
</tr>
<tr>
<td>Pies</td>
<td>6-8 months</td>
<td>Do not freeze. Freeze baked or unbaked.</td>
</tr>
<tr>
<td>Pies, custard</td>
<td>1 month</td>
<td></td>
</tr>
<tr>
<td>Pies, fruit</td>
<td>4-8 months</td>
<td></td>
</tr>
<tr>
<td>Potatoes, french fried</td>
<td>4-8 months</td>
<td></td>
</tr>
<tr>
<td>Poultry, cooked</td>
<td>6 months</td>
<td>Wrap in heavy-duty foil or freezer wrap as</td>
</tr>
<tr>
<td>Poultry, cooked, no gravy</td>
<td>1 month</td>
<td>air tight as possible. Thaw uncooked poultry in</td>
</tr>
<tr>
<td>Poultry, uncooked</td>
<td>1 year</td>
<td>refrigerator or under cool running water. Cook</td>
</tr>
<tr>
<td>Poultry, uncooked (parts)</td>
<td>6 months</td>
<td>within two days of thawing.</td>
</tr>
<tr>
<td>Pies, custard</td>
<td>6-8 months</td>
<td></td>
</tr>
<tr>
<td>Pies, custard</td>
<td>1 month</td>
<td></td>
</tr>
<tr>
<td>Pies, custard</td>
<td>6 months</td>
<td></td>
</tr>
<tr>
<td>Pies, custard</td>
<td>9 months</td>
<td></td>
</tr>
<tr>
<td>Pies, custard</td>
<td>6 months</td>
<td></td>
</tr>
<tr>
<td>Pies, custard</td>
<td>6 months</td>
<td></td>
</tr>
<tr>
<td>Pies, custard</td>
<td>8 months</td>
<td></td>
</tr>
<tr>
<td>Pies, custard</td>
<td>8 months</td>
<td></td>
</tr>
<tr>
<td>Pies, custard</td>
<td>8 months</td>
<td></td>
</tr>
<tr>
<td>Sandwiches</td>
<td>1-2 months</td>
<td></td>
</tr>
<tr>
<td>Soups</td>
<td>4-6 months</td>
<td></td>
</tr>
<tr>
<td>Vegetables</td>
<td>3-6 months</td>
<td></td>
</tr>
</tbody>
</table>

### COMMERCIALY FROZEN FOODS

<table>
<thead>
<tr>
<th>FOOD</th>
<th>Preparing &amp; Packaging For Freezing</th>
<th>Serving</th>
<th>Suggested Storage Time (at 0°F)</th>
</tr>
</thead>
</table>

#### APPETIZERS
- **Stuffed olives and nuts, bacon-wrapped tidbits and cheese rolls**
  - Preparing
    - Prepare as usual. Freeze in single layer and then package no more than 2-3 layers deep, separating layers with freezer paper.
  - Serving
    - Refer to the manufacturers instructions for thawing and heating foods in your microwave. Arrange on serving tray and thaw at room temperature for about 1 hour.
  - Storage
    - 2-4 weeks

- **Dips and spreads of cheese, ham, egg yolk mixtures, fish and avocado**
  - Preparing
    - Prepare using minimum salad dressing (avoid mayonnaise or sour cream). Cream cheese, milk or juice may be used as a binding agent.
  - Serving
    - Thaw in the refrigerator and use shortly after thawing.
  - Storage
    - 2-4 weeks

#### BAKED PRODUCTS AND DOUGHS
- **Baked Quick Breads**
  - Preparing & Packaging
    - If condensation is a problem during thawing, loosen the wrapping.
  - Serving
    - To serve hot, heat unthawed at 350°F for 15-20 minutes.
  - Storage
    - 2-3 months

- **Biscuits**
  - Preparing & Packaging
  - Serving
    - Thaw in wrapping at room temperature. If in aluminum foil, heat at 400°F. Slice fruit and nut breads while partially frozen to prevent crumbling.
  - Storage
    - 2-4 months

- **Gingerbread, nut and fruit bread, coffee cake**
  - Preparing & Packaging
  - Serving
    - Thaw in wrapping at room temperature. If in aluminum foil, heat at 400°F. Slice fruit and nut breads while partially frozen to prevent crumbling.
  - Storage
    - 2-4 months

- **Muffins**
  - Preparing & Packaging
    - Make as usual. Package.
  - Serving
    - Thaw in wrapping at room temperature, 1 hour or heat unthawed at 300°F for 20 minutes.
  - Storage
    - 6-12 months

- **Waffles**
  - Preparing & Packaging
    - Bake to a light brown. Wrap individually or in pairs.
  - Serving
    - Heat without thawing in a toaster, under the broiler, or on baking sheet at 400°F; 2-3 minutes.
  - Storage
    - 1 month

- **Doughnuts**
  - Preparing & Packaging
    - Make as usual. Cool. Package. Raised doughnuts freeze better than cake-type. Glazed ones lose glaze when frozen and thawed, but may be dipped in granular sugar after thawing.
  - Serving
    - Thaw at 400°F for 5-10 minutes or in wrapping
  - Storage
    - 2-4 months

- **Yeast Breads and Coffee Cakes**
  - Preparing & Packaging
  - Serving
    - Thaw at room temperature. If wrapped in aluminum foil, heat at 300°F for 15 minutes (5-10 minutes for rolls).
  - Storage
    - 2-3 months
<table>
<thead>
<tr>
<th>FOOD</th>
<th>Preparing &amp; Packaging For Freezing</th>
<th>Serving</th>
<th>Suggested Storage Time (at 0°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown'n serve rolls</td>
<td>Make as usual, but let rise slightly less after molding. Bake at 325°F for 30 minutes. Do not brown. Cool. Package. Likely to dry out more in rebaking than when completely baked first and reheated.</td>
<td>Thaw in wrapping 10 to 15 minutes. Bake at 425°F, 5-10 minutes or until light brown. If undercrust is too moist, bake on cooling rack instead of baking sheet.</td>
<td>6-8 months</td>
</tr>
<tr>
<td>Unbaked coffee cakes, bread, and rolls</td>
<td>Use only recipes especially developed for freezing the dough. Follow the recipe directions.</td>
<td></td>
<td>1 month</td>
</tr>
</tbody>
</table>

### Microwave heating of breads:
To heat to serving temperature, place bread in airtight packaging, remove wrap after one minute of warming. If a crusty outside is desired, place bread in paper toweling before heating. Nut, fruit and quick breads can be wrapped in waxed paper.

### Cakes
- **Angel food, chiffon, sponge cakes**
  - Frosted: Freeze before wrapping. Do not use egg white frosting. Unfrosted: Wrap and freeze. If freezing slices, place a double layer of freezer wrap or foil between slices if baked in tube pan, fill hole with crumbled freezer paper. Put whole cake in box to prevent crushing. See frostings.  
  - Unwrap and thaw in refrigerator. Unfrosted: Thaw in wrap on rack 1-2 hours at room temperature. If wrapped in aluminum foil, can thaw at 300°F for 15-20 minutes.
- **Shortened cakes**
  - Make as usual. Cool. For best results, freeze cake and frosting separately. Confectioners' sugar icing and fudge frosting freeze best. Do not use egg whites in frosting. Seven minute frosting will become frothy.
- **Cookies**
  - Make as usual. Package with freezer paper between layers. Thaw in wrappings for 15-20 minutes.  
  - Frosted or filled: Egg-white cakes: 6 months Whole egg cakes: 4-6 months Egg yolk cakes: 2 months

### Pies
- **Chiffon pies**
  - Make as usual except add 1 extra tablespoon flour or tapioca or ½ tablespoon cornstarch to juicy fillings to prevent boiling over when pies are baking. Do not cut vents in top crust. Steam and cool light fruits before making pies. Freeze in pan. Package. Unbaked fresh pies have a better fresh-fruit flavor than frozen baked pies, but bottom crust tends to get soggy. Fruit fillings may be thickened and cooled before adding to crust.
- **Cream puffs, eclair shells, steamed puddings**
  - Thaw in wrappings at room temperature for 10 minutes.

### Pastries
- **Unbaked pastry**
  - Regular pastry formed into balls to be rolled out after thawing, rolled flat or placed in pie pans. Fit into pie pans. Prick regular pastry if shell will be baked unfilled. Black pie pans with 2 layers of freezer paper between each pan. Put all in freezer bags or store flat rounds on lined cardboard separated with two pieces of freezer paper between each.
  - Bake as usual. Cool. Package in freezer bags. If concerned about pastry breaking, place bags in a rigid container.
  - Thaw in wrapping at room temperature, 10-20 minutes.
  - 2-3 months

### Cookies (except meringue type)
- **Cookies, baked**
  - Make as usual. Package with freezer paper between layers. Thaw in wrappings for 15-20 minutes.  
  - 6 months

### Suggestions for Freezing
- Package in airtight containers. Use waxed paper, aluminum foil, bursting bags, or freezer wrapping.
- Label containers with contents and date of freezing.
- Keep cold or frozen until ready to use.

### Storing Food
- **Bread**
  - Unbaked coffee cakes, unbaked coffee cakes:
    - Fit into pie pans. Prick regular pastry if shell will be baked unfilled. Black pie pans with 2 layers of freezer paper between each pan. Put all in freezer bags or store flat rounds on lined cardboard separated with two pieces of freezer paper between each.
  - Bake in freezer wrap.
  - Defrost in refrigerator.
- **Cookies**
  - Make as usual. Package with freezer paper between layers. Thaw in wrappings for 15-20 minutes.  
  - 6 months

### Suggested Storage
- **Cookies, unbaked**
  - Refrigerator cookies: Form dough into roll. Slice if desired. Drop on sheet or just package bulk dough.  
  - Bake refrigerator cookies without thawing according to recipe. Bake formed cookies without thawing at 400°F for about 20 minutes. Thaw bulk dough at room temperature until soft enough to drop by teaspoons. Bake as usual.
  - 3 months
- **Cream puffs, eclair shells, steamed puddings**
  - Thaw in wrappings at room temperature for 10 minutes.
  - 1-2 months
- **Fruit, mince, nut pies, unbaked**
  - Make as usual except add 1 extra tablespoon flour or tapioca or ½ tablespoon cornstarch to juicy fillings to prevent boiling over when pies are baking. Do not cut vents in top crust. Steam and cool light fruits before making pies. Freeze in pan. Package. Unbaked fresh pies have a better fresh-fruit flavor than frozen baked pies, but bottom crust tends to get soggy. Fruit fillings may be thickened and cooled before adding to crust.
  - Cut vent holes in upper crust. Put pan on cookie sheet. Bake without thawing at 450°F for 15-20 minutes. Then reduce to 375°F for 20-30 minutes or until top crust is brown.
  - Fruit pies: 2-4 months Mince pies: 6-8 months Nut pies: 3-4 months

### Time (at 0°F)
- **Bread**
  - Thaw in wrappings for 10 to 15 minutes.  
  - 6-8 months
- **Cookies, unbaked**
  - Bake as usual. Package with freezer paper between layers. Thaw in wrappings for 15-20 minutes.  
  - 6 months
- **Cookies**
  - Make as usual. Package with freezer paper between layers. Thaw in wrappings for 15-20 minutes.  
  - 6 months
- **Pies**
  - Thaw in wrappings at room temperature for 10 minutes.  
  - 2-3 months
- **Pastries**
  - Bake in freezer wrap.
  - Defrost in refrigerator.
  - Thaw at room temperature about 1 hour per pound of cake.
  - 2-4 months
- **Shortened cakes**
  - Same as above.  
  - 2-4 months
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<tr>
<td>Fruit, mince, nut pies, baked</td>
<td>Make as usual. Cool rapidly. Freeze before packaging. Pies are easier to wrap after freezing.</td>
<td>Let stand at room temperature about 15 minutes. Then heat in 350°F oven until warm, about 30 minutes.</td>
<td>6-12 months</td>
</tr>
<tr>
<td>Pumpkin pie</td>
<td>Prepare pie shell and filling as usual. Have filling cold before adding to unbaked, chilled pie shell. Package same as fruit pies.</td>
<td>Bake without thawing at 400°F for 10 minutes. Then reduce to 325°F to finish baking. Test for doneness by inserting a knife.</td>
<td>1-2 months</td>
</tr>
<tr>
<td>Fruit pie fillings</td>
<td>Make as usual. Package.</td>
<td>Thaw just enough to spread in pie crust.</td>
<td>6-8 months</td>
</tr>
<tr>
<td>Sandwiches</td>
<td>Use day old bread. Spread to edges with butter or margarine. Omit crisp vegetables, hard-cooked egg white, tomato, jellies and jams. Mayonnaise tends to separate. Use salad dressing if desired. Package individually.</td>
<td>Thaw at room temperature in wrappings, 3-4 hours. Frozen sandwiches in lunchbox will thaw in 3-4 hours and keep other foods cool.</td>
<td>1 month</td>
</tr>
<tr>
<td>Hors d’oeuvres, canapes</td>
<td>Spread thin layer of butter on bread to prevent soaking or drying. Make as usual. Before packaging, spread in single layer on metal pans and freeze. Package toast or crisp base appetizers separately. Use shallow air-tight containers that don’t hold more than two to three layers. Separate layers with moisture-resistant paper.</td>
<td>Toasted and crisp base appetizers: thaw at room temperature for 2-3 hours. Don’t unwrap. Others: Arrange on serving trays and thaw at room temperature about 1 hour.</td>
<td>3-4 weeks</td>
</tr>
</tbody>
</table>

**Problem Foods**

- Unbaked biscuits will be smaller and less tender.
- Unbaked muffins will likely have poor texture.
- Custard and cream pies soak into the crust.
- Meringue on meringue pies toughens and sticks to the wrapping.

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<tr>
<td>MAIN DISHES AND MEALS</td>
<td>Combination meat dishes: stews, spaghetti sauce with meat, ravioli, etc.</td>
<td>Make as usual. Keep fat to minimum. Omit potatoes from stew. Slightly undercook other stew vegetables. Cool all combination dishes rapidly. Use rigid wide-mouth containers. Cover meat with sauce or broth. Leave head space or freeze in foil-lined casserole dishes. After freezing, remove from dish. Package.</td>
<td>Thaw partially in package in the refrigerator or microwave to prevent overcooking. Heat partially thawed or frozen food in top of double boiler or at 400°F for 30 minutes or replace in casserole dishes and bake.</td>
</tr>
<tr>
<td></td>
<td>Creamed meats, fish, poultry</td>
<td>Use recipe with small amount of fat. Make as usual. Cool quickly. Package.</td>
<td>Heat frozen product over boiling water. Stir occasionally to make smooth. Takes about 30 minutes per pint.</td>
</tr>
<tr>
<td></td>
<td>Fried meats and poultry</td>
<td>Fry as usual until almost done. Cool quickly. Freeze on trays. Package. Fried meats and poultry may lose some fresh flavor and crispness.</td>
<td>Thaw in refrigerator. Place in shallow pan and heat without a cover at 350°F for 30-45 minutes.</td>
</tr>
<tr>
<td></td>
<td>Meals, whole (TV dinners)</td>
<td>Use foods recommended for freezing in this publication. Prepare as usual. May use leftovers. Package each food in individual servings or a meal in sectional foil trays. Separate foods in individual servings preferred. Cover with aluminum foil. Package.</td>
<td>Take off outer wrap. Do not thaw or remove foil. Heat at 400°F for 20-30 minutes. For crisp foods, uncover the last 10-15 minutes.</td>
</tr>
<tr>
<td></td>
<td>Meat loaf</td>
<td>Prepare as usual. Do not put bacon strips on top. May bake. Package.</td>
<td>Unbaked: Unwrap. Bake at 350°F for 1½ hours. Baked: To serve cold, thaw in wrappings in refrigerator. To reheat, unwrap and bake Unthawed at 350°F, about 1 hour or until all meat is hot.</td>
</tr>
<tr>
<td></td>
<td>Meat pies</td>
<td>Make as usual. Cook until nearly done. Omit potatoes. Cool quickly. Do not use bottom crust. Pour meat mixture into casserole or individual containers. Top with pastry. Do not bake. Freeze pie before wrapping. Package.</td>
<td>Cut vents in crust. Bake without thawing. 400°F for 45 minutes for individual pies, 1 hour for larger pies, or until meat mixture is piping hot and crust golden brown.</td>
</tr>
<tr>
<td></td>
<td>Pizza</td>
<td>Make as usual, but do not bake. Freeze before packaging.</td>
<td>Unwrap. Bake Unthawed at 450°F for 15-20 minutes.</td>
</tr>
</tbody>
</table>
SOUPS AND SAUCES

Soups and purees
Omit potatoes. If possible, concentrate by using less liquid. Cool quickly. Leave head space. Thaw without thawing. Heat cream soups over boiling water. Stir cream soup to keep smooth. 4-6 months

Sauces, dessert and meat
Because spices may change flavor over long storage, add just before serving. Package. Leave head space. Recipes using flour not recommended – see gravy.

Thaw in package at room temperature if it doesn’t require refrigeration or heat in top of double boiler. Stir if sauce separates. Meat, dairy or products containing eggs needs refrigeration. 2-3 months

Problem Foods
Milk sauces sometimes curdle and separate. Stirring while reheating helps retain smoothness. Using a waxy rice flour or waxy corn flour as a thickener helps. Gravy tends to separate and curdle when thawed. It is better to freeze broth and make gravy just before serving. Waxy rice flour or waxy corn flour can be used as a thickener, or add 1/4 teaspoon unflavored gelatin to each quart of gravy before freezing.

VEGETABLE DISHES

Beans, baked
Make as usual. Use a minimum of bacon, ham or salt pork cut in small pieces. Bake until barely tender to avoid too much softening when reheated. Cool quickly. Package in rigid containers. Cover all meat. Leave head space. Heat over boiling water or in saucepan with a small amount of water added. Stir frequently to prevent sticking or bake at 400°F for 45 minutes for pints, 1 hour for quarts. 6 months

Potatoes, baked and stuffed
Make as usual. Cool. Wrap individually in foil. Package. Unwrap and bake without thawing at 400°F until thoroughly heated and lightly browned (about 15-20 minutes). 2-4 weeks

Problem Foods
Cooked creamed vegetables tend to lose flavor rapidly and should only be stored a few days. To do this, cook vegetables and cool quickly. Add sauce. Package. Leave head space. Lettuce, other greens, or raw tomatoes lose crispness and become soggy.

FRUIT DISHES

Apples, baked
Bake as usual until barely done. Cool quickly. Wrap each apple individually. Pack in cartons. Seal and freeze. To serve cold, thaw in wrapping at room temperature. To serve hot, unwrap and heat at 350°F for 15-20 minutes. 2 months

Applesauce
Make as usual. Cool quickly. Pack in rigid containers. Thaw at room temperature. 8-10 months

aldis with base of cream or cottage cheese, whipped cream, or mayonnaise
Make in large or individual molds. Fit a piece of freezer paper over the top and wrap in freezer paper or line muffin tins with freezer film. Fill with mixture. Freeze. Wrap individually and store in freezer bags or pour mixture in jar with straight sides, leaving head space. Thaw in refrigerator and serve before completely thawed. 2 months

DESSERTS AND SWEETS

Candies
Make as usual or freeze commercially made candy. Package. Thaw in wrapping at room temperature. Fat “bloom,” which develops in chocolate candy during freezing, should disappear. Cracks in brittle candies, chocolate-covered nuts, and a few creams should disappear when candies are thawed. 3-6 months

FOOD
Preparing & Packaging
For Freezing
Serving
Suggested Storage Time (at 0°F)

Roast (beef, pork or poultry)
Roast as usual. Remove as much fat as possible. Keep pieces large. Turkey and other large fowl should be cut from the bone to save space. Ham and other cured meats often lose color when frozen and become rancid quicker than other meats. For short storage, roast may be packaged without sauce or gravy. To help keep meat from drying out, cover sliced meat with gravy, sauce, or broth. Package in rigid containers. Leave head space. Thaw dry meat in refrigerator. If in aluminum foil, heat at 325°F for 15-20 minutes. Thaw meat with sauce in refrigerator 5-6 hours, or heat slowly on top of range or in oven. 2-3 months uncooked - 6-12 months

SOUPS AND SAUCES

SOUPS AND SAUCES

SOUPS AND SAUCES
Problem Foods

Chocolate-covered cherries do not freeze well. Expansion during freezing causes them to break open.

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