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# Freezing FRUITS and VEGETABLES

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# Freezing Fruits and Vegetables

*Freezing* is a time and labour-saving method of preserving fruits and vegetables for out-of-season use.

*Freezing* retains good colour, flavour and texture in foods.

*Freezing* retains much of the original food value.

*Freezing* results in highly attractive products, resembling the fresh foods.

*Freezing* reduces the cooking time of vegetables by about one-half.

## WHAT TO FREEZE

### Vegetables

Some vegetables freeze better than others. Asparagus, beans, peas, spinach and whole kernel corn, for example, are particularly good when frozen. Corn on the cob, while a special treat during the winter, has a tendency to develop off-flavours during storage and is therefore not always palatable when frozen. Those vegetables usually eaten raw, such as celery, tomatoes, lettuce and cucumbers, should not be frozen. Root vegetables are easily stored and should not take up valuable locker space.

### Fruits

Berries, sour cherries and rhubarb are particularly good frozen. Peaches require special treatment to prevent discoloration. Pears do not freeze well.

## FREEZE HIGH QUALITY FOODS

**Quality**—Freeze only high quality fruits and vegetables. The quality of the frozen food depends on the quality of the food frozen. Always use garden-fresh vegetables and freeze within a few hours of gathering.

**Varieties**—Choose varieties of fruits and vegetables that are recommended for freezing. All varieties do not freeze well. Check with your Provincial Department of Agriculture for suitable varieties that grow well in your district.

**Maturity**—Select fruits and vegetables which are at the ideal stage of maturity for immediate table use. Fruits should be ripe but firm. Do not freeze any fruit that is green, over-ripe, bruised or beginning to spoil. Vegetables should be young and tender. Do not freeze any vegetable that is tough, starchy or woody.

# How to Freeze Successfully

## Preparation

*Prepare* fruits and vegetables as for canning or for table use. (See pages 6-10.) Do not prepare too much at one time. If done in too large quantities, fruits and vegetables are apt to lose their original flavour, appearance and texture.

*Handle* and pack fruits and vegetables quickly and carefully.

## Blanching (pre-cooking)

All vegetables must be blanched before freezing. This pre-cooking helps to preserve their natural colour and flavour. If vegetables are not blanched, enzymes present will cause deterioration making the frozen vegetable quite unpalatable. Although some loss in food value occurs in blanching, the frozen vegetable, when cooked, should compare favourably with the cooked fresh vegetable.

### To Blanch Vegetables:

Use two kettles of vigorously boiling water—at least two gallons in each. Place the vegetable in a wire basket, colander or cheesecloth bag and immerse in first kettle of boiling water for 30 seconds. Immediately transfer to second kettle. Start counting time of blanching when water in second kettle returns to boil after vegetable is added. (See pages 6 and 7 for individual blanching times.) Time the blanching of all vegetables accurately. Under or over-blanching by a minute or two may make quite a difference in the frozen product.

Do not blanch too much at a time—about one pound is best.

Chill vegetable immediately after blanching by placing under cold running water or by plunging into cold water, preferably ice water. As soon as vegetable is cooled, drain thoroughly.

**NOTE:** Steam blanching is used commercially, but this method is not practical for household use.

# How to Freeze Successfully

## Packing Fruits

**Syrup Pack:** Most fruits can be cut or sliced directly into the container.

Berries may be frozen whole, if desired. The strength of the syrup used depends on the tartness of the fruit or individual taste. When packing in syrup, be sure liquid covers fruit. To keep peaches under syrup and to help prevent surface discoloration, place a crumpled piece of waxed paper on top of fruit.

**To prevent discoloration in peaches:** Peaches discolour readily and require quick, careful handling and special treatment to prevent darkening. The following method has been found effective: Use 200 mg. ascorbic acid per cup of syrup. Crush tablets and dissolve in syrup. While the use of ascorbic acid will prevent discoloration in peaches, it adds considerably to the cost.

**Dry Sugar Pack:** When dry sugar is used, it should be thoroughly mixed with the fruit. This may be done by placing a layer of prepared fruit in a bowl, then a layer of sugar, continuing in this manner until all sugar and fruit is used. Stir or very slightly crush to mix fruit and sugar evenly.

**No Syrup or Sugar:** Some fruits, such as blueberries, gooseberries, saskatoons and cranberries, may be packed without syrup or sugar.

## Packing Vegetables

Vegetables are best packed dry but may be packed in cold 2% brine. (See pages 6 and 7.)

## Headspace

When using syrup or brine, leave at least  $\frac{1}{4}$  inch headspace at top of cardboard containers to allow for expansion during freezing. For types of containers to use see page 11.

## Labelling

Mark containers giving description of contents and date when frozen. It is a good idea to keep an inventory of contents of locker or freezer.

## Freezing and Storing

Freeze foods immediately after packing. If food is to be frozen and stored in a locker plant, place each container, as it is packed, in refrigerator or very cold place until all are prepared, then take to locker plant without delay.

# Preparing Vegetables for Freezing

<i>Vegetable</i>	<i>Preparation</i>	<i>Blanching Time</i>	<i>Method of Packing</i>	<i>Cooking Times (See Note page 7)</i>
Asparagus	Select young tender stalks with tightly closed tips. Remove tough butts and scales. Wash thoroughly to remove sand. Cut stalks in uniform lengths to fit containers. Pack tender butts separately. Blanch.	Medium stalks— 3 mins.  Large stalks— 4 mins.	Cool quickly, drain. Pack dry or Pack in 2% brine to cover.	3 to 5 mins.
Beans (green or wax)	Select young tender beans. Wash, trim ends and string, if necessary. Leave whole, slice crosswise or cut lengthwise in thin strips. Blanch.	3 mins.	Cool quickly, drain. Pack dry or Pack in 2% brine to cover.	green beans— 5 to 7 mins.  wax beans— 4 to 6 mins.
Broccoli	Select dark green, compact heads. Use only heads and tender portion of stalks. Trim and remove woody stems. Cut through stalks so that pieces of heads are not more than 1-inch across. Examine for worms and wash carefully. Blanch.	2 mins.	Cool quickly, drain. Pack dry or Pack in 2% brine to cover.	3 to 5 mins.
Brussels Sprouts	Select compact heads of deep green colour, not wilted. Wash thoroughly, watching for worms. Blanch.	3 mins.	Cool quickly, drain. Pack dry or Pack in 2% brine to cover.	4 to 6 mins.
Cauliflower	Select compact, white tender heads. Break heads into small flowerettes, about 1-inch in diameter. Wash thoroughly, watching for worms. Blanch.	3 mins.	Cool quickly, drain. Pack dry or Pack in 2% brine to cover.	3 to 5 mins.

**NOTE:** To make 2% brine: Dissolve 1 tablespoon salt in 1 quart (5 cups) cold water. Chill before using. This is sufficient for 5 to 6 pint containers.

# Preparing Vegetables for Freezing

<i>Vegetable</i>	<i>Preparation</i>	<i>Blanching Times</i>	<i>Method of Packing</i>	<i>Cooking Times (See note Below)</i>
Corn (off cob)	Harvest early in morning. Select ears with rounded kernels, milky juice and sweet flavour. Avoid cobs with hard or immature kernels. Prepare immediately. Remove husks and silk. Wash in cold water. Blanch.	3 mins.	Cool and cut kernels from cob. Pack dry.  or  Pack in 2% brine	4 to 5 mins.
Corn (on cob)	Select corn as for "Corn (off cob)". After husking, trim cobs to even lengths to fit containers. Blanch.	Large 11 mins.  Medium 9 mins.  Small 7 mins.	Cool quickly, drain. Pack dry  or Wrap each cob in moisture-vapour-proof paper, sealing or tying ends securely.	3 to 5 mins.
Peas	Harvest in early morning. Handle quickly. Select only young and tender peas, avoiding over-ripe ones. Blanch.	2 mins.	Cool quickly, drain. Pack dry  or Pack in 2% brine to cover.	3 to 5 mins.
Spinach, Chard	Select only tender, green leaves. Remove all discoloured or bruised leaves and tough stems. Wash thoroughly in cold water to remove sand and grit. Blanch.	2 mins.	Cool quickly, avoiding matting of the leaves during cooling. Drain. Pack dry  or Pack in 2% brine to cover.	3 to 4 mins.
Squash, Pumpkin	Use only well-matured squash or pumpkin with dry pulp. Cut or break apart, remove seeds and pithy portion. Cut in small pieces and steam, boil or bake until tender. Cool quickly and remove rind. Mash or sieve.	None	Pack dry.	For use as vegetable—reheat. For use in pies—thaw, then use as canned or fresh-cooked pumpkin.

**NOTE:** The cooking times given in these tables are approximate and are counted from the moment the water returns to the boil after the vegetable is added. The exact cooking time varies to some extent with the variety, maturity and method of preparation, size of pieces, etc.

# How to Cook Frozen Vegetables

All frozen vegetables require some cooking whether they are to be served hot as a vegetable or cold as in salad. Cooking methods are the same for frozen vegetables as for fresh vegetables except that the frozen require a much shorter cooking period— $\frac{1}{3}$  to  $\frac{1}{2}$  the time. Since frozen vegetables have been pre-cooked in the blanching process and freezing softens the tissues still further, care must be taken not to over-cook them.

If more than one package of frozen vegetables is to be cooked at one time, the saucepan used should be large enough in diameter to allow them to rest on the bottom of the pan, that is, one frozen block should not be placed on another.

Dry Pack frozen vegetables, except spinach and corn on the cob, do not require thawing before cooking. Brine Pack vegetables and Dry Pack spinach should be thawed sufficiently to break the frozen block apart before cooking. Corn on the cob should be almost completely thawed, otherwise the kernels will be over-cooked before the cob is hot.

## Method of Cooking

1. Use a tightly covered saucepan.
2. With Dry Pack vegetables, use  $\frac{3}{4}$  cup of boiling water and  $\frac{1}{2}$  teaspoon salt to one pint container. With corn on the cob use sufficient boiling, salted water to cover.

With Brine Pack vegetables, no additional salt or water is required.

3. To ensure uniform cooking, break the melting mass apart with a fork.
4. Bring vegetable to the boil as quickly as possible. Then reduce heat and boil gently, covered, until vegetable is tender.

# Preparing Fruits for Freezing

<i>Fruit</i>	<i>Preparation</i>	<i>Method of Packing</i>
Strawberries	Choose firm, fully ripe berries. Wash, sort and hull.	Pack in cold, medium syrup to cover OR Pack in dry sugar, using 4 pounds prepared fruit (about 12 cups) to 1 pound sugar (2 cups).
Raspberries	Choose firm, fully ripe berries. Pick over and wash only if necessary.	Pack whole in cold, moderately thin syrup to cover OR Pack in dry sugar, using 5 pounds prepared fruit (about 16 cups) to 1 pound sugar (2 cups).
Blueberries	Choose well-ripened berries and wash.	Pack without sugar or syrup OR Pack in dry sugar, using 5 pounds prepared fruit (about 13 cups) to 1 pound sugar (2 cups).
Gooseberries	Stem and wash gooseberries.	Pack without sugar or syrup OR Pack in dry sugar, using 3 pounds prepared fruit (about 9 cups) to 1 pound sugar (2 cups) OR Pack in cold, medium or heavy syrup to cover.
Cherries (sour)	Choose firm, ripe cherries. Wash, stem and pit.	Pack in cold, heavy syrup to cover OR Pack in dry sugar, using 3½ pounds prepared fruit (about 8 cups) to one pound sugar (2 cups).
Peaches	Choose firm, ripe peaches. Dip in boiling water ½ to 1 minute, then in cold water, remove skins and pits. Slice fruit directly into syrup in containers.	Use cold, moderately thin syrup to cover. See page 5 for special treatment.
Plums	Choose firm, mature fruit. Wash, halve and pit, if desired.	Pack in cold, thin syrup to cover OR Pack in dry sugar, using 5 pounds prepared fruit (about 13 cups) to 1 pound sugar (2 cups).



# Preparing Fruits for Freezing

<i>Fruit</i>	<i>Preparation</i>	<i>Method of Packing</i>
Rhubarb	<p>Choose early spring rhubarb of good colour.</p> <p>(1) Wash and cut stalks in 1-inch lengths.</p> <p>(2) Remove leaves and root ends, cut stalks to uniform size, about 8 to 10 inches.</p> <p>(3) Make into sauce.</p>	<p>Pack in cold, medium (1:1) syrup to cover.      OR</p> <p>Pack in dry sugar, using 4 pounds prepared fruit (about 11 cups) to 1 pound sugar (2 cups).</p> <p>Tie in small bundles, carefully wrap in moisture-vapour-proof paper* and tie or seal securely.</p> <p>Sweeten to taste and pack cold.</p> <p>*For types of wrappings see page 11.</p>

## Syrups to Use

<i>Type of Syrup</i>	<i>Sugar</i>	<i>Water</i>	<i>Yield</i>
Very Thin	1 cup	3 cups	about 3½ cups
Thin	1 cup	2 cups	about 2½ cups
Moderately Thin	1 cup	1½ cups	about 2 cups
Medium	1 cup	1 cup	about 1½ cups
Heavy	1 cup	¾ cup	about 1¼ cups

*To make syrup:* Add sugar to water, stir to dissolve and chill.

## Amount of Syrup to Use

Pint containers . . . . . ⅔ to 1 cup.

Quart containers. 1 to 1½ cups.

# Using Frozen Fruit

Fruit to be served raw should not be thawed until needed for serving. Fruit should be served immediately after thawing since, if allowed to stand for any length of time at room temperature, the flavour, appearance and texture of the fruit will deteriorate.

Fruit should be thawed slowly in the unopened container, either in the refrigerator or at room temperature, inverting the container occasionally to distribute the syrup evenly. A pint container usually requires about 3 hours to thaw at room temperature and from 6 to 8 hours in a refrigerator.

Fruit to be cooked does not need to be completely thawed. If it is to be used for pies or baked puddings, the fruit should be thawed sufficiently to spread.

# Containers - Wrapping Materials

For frozen foods, containers should not only be water-proof but also moisture-vapour-proof which allows little or no loss of moisture from the product during storage. Since the freezer room is usually very dry, food not protected by a moisture-vapour-proof container will deteriorate because of desiccation. Wrapping material and containers should not only prevent the drying out of food but should also protect it from absorbing flavours. In addition, they should not crack or become brittle at low temperature.

## Cardboard Containers

Cylindrical and rectangular-shaped cartons are the types most commonly used for packing fruits and vegetables. They are usually available in pint and quart sizes.

The heavily-waxed, cylindrical cartons with slip-over or slip-in lids are suitable for products packed either dry or in syrup or brine.

The rectangular cartons with moisture-vapour-proof bag linings are more suitable for vegetables and fruits packed dry than for those packed in liquid since the filled bags must be heat-sealed with a warm iron or curling tongs after packing. The rectangular cartons stack well and allow the storing of more food in a given space than other types of containers.

## Glass Jars

Glass jars may be used for packing vegetables or fruits, but they are wasteful of locker space. There is also danger of jars breaking, especially if used for fruits packed in syrup or vegetables packed in brine. As a precaution against breakage, at least 1-inch head space should be allowed. In some provinces, the use of glass jars as frozen food containers is prohibited by law.

## Wrappings

Transparent or heavily-waxed papers and other moisture-vapour-proof wrappings may be used for corn on the cob or rhubarb. All wrappings should be sealed securely to exclude as much air as possible. This may be done either by heat sealing, taping or tying tightly with string. Lightly-waxed paper is not sufficient protection for the food since it is not moisture-vapour-proof.

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