Freezing Vegetables

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Most vegetables suitable for cooking are suitable for freezing. Remember that freezing cannot improve the initial quality of a vegetable but only preserves food and nutrients already present. Freezing also prevents spoilage.

Preparation for Freezing

For best results, start with high-quality vegetables. Use recommended varieties. Choose young, tender vegetables. Undermature vegetables lack flavor, and overmature vegetables taste flat and can be tough or soft and mushy.

If you grow your own vegetables, harvest early in the morning before they have absorbed heat from the sun. Process the vegetables immediately after picking. Two hours from garden to freezer is a good rule to follow. If you must keep the food a short time before processing, keep it in a cool, airy place or put it in the refrigerator. Otherwise, it will lose its fresh quality.

When you are ready to freeze, sort vegetables according to size and maturity; this helps to ensure more even cooking. Wash vegetables thoroughly, whether they are to be pared or not, because dirt contains some of the bacteria that are hardest to kill.

Wash small lots at a time under running water or through several changes of water. Do not let foods soak or they will lose flavor and nutrients. However, if you have insects in vegetables like broccoli, brussels sprouts or cauliflower, soak the vegetables in a solution of 1/4 cup of salt per gallon of water for half an hour. Rinse and drain well.

Follow closely the freezing recommendations on the preparation guide. Usually you prepare vegetables to be frozen just as you would for table use. Clean the vegetables and, if necessary, cut into desired shapes and sizes. Vegetables are then ready to blanch.

Blanching Is Necessary

There is a reason for blanching (scalding) home-frozen vegetables. Do not omit that step and expect high-quality frozen vegetables when you eat them next winter. Vegetables that are not blanched will be inferior in quality.

Blanching vegetables before freezing inactivates protein substances called enzymes that are present in food in very small quantities. During freezing and freezer storage, these enzymes cause changes in texture, flavor and odor such as those associated with ripening. The blanching process simply heats the vegetables long enough to stop the action of the enzymes but not long enough to cook the vegetables.
Freezer temperatures decrease enzyme activity but do not stop it. In some foods, enzymatic changes may not occur overnight or even be noticeable after a short period of storage. But, the changes will be evident by the time the vegetables have been stored several months if the vegetables have not been blanched.

To blanch (scald) vegetables, use a blanching kettle or use a strainer or cheesecloth to hold the vegetables in the boiling water. Check directions on Preparation Guide for Freezing Vegetables (FSHE24D24) for the blanching time of specific vegetables. Most vegetables cut into small pieces require about 3 minutes in the boiling water. For 1 pound of vegetable, use at least 1 gallon of boiling water. Start counting the blanching time immediately after the vegetables are placed in the water; do not wait for the water to return to a boil. Keep the kettle covered during the blanching process. The blanching water may be used several times.

Steam blanching is an alternative to water blanching. Only a small amount of water is used, and the vegetables are held in a basket above boiling water in a covered kettle. Some nutrients are lost during blanching because they leach out of vegetables sitting directly in the boiling water. Fewer nutrients are lost from steam blanching because the vegetables are not sitting directly in the water. Steam blanching takes a few minutes longer than blanching in water. The heat distribution often is uneven with steam blanching, especially with leafy vegetables like spinach.

Cooling Is Important

The cooling step immediately following blanching is especially important if you are to have high-quality frozen vegetables. Cool blanched vegetables as quickly as possible to prevent overprocessing. Frozen vegetables will often be of poor quality if these steps are not followed properly. They can become mushy and watery from overblanching or too little cooling and draining.

Place the vegetables in a large quantity of cold water with ice cubes added or under cold running water. Cool for the same length of time as the vegetable was blanched. When cool, drain well on paper toweling to remove water from the surface of the vegetable. Too much water causes the formation of more and larger ice crystals, which can ruin the texture of the food.

Packaging and Containers

Packaging is very important in freezing to ensure that the quality of food is maintained. Proper packaging keeps food from drying out and losing its color, flavor and texture. A vacuum seal is not necessary, but the package must be airtight. Freezer wrappings or containers must be:

- moisture and vapor proof; should not absorb moisture, let food dry out or absorb odors.
- durable; should not break or tear easily when handled.
- able to withstand temperature below freezing without cracking, breaking or becoming brittle.
- easy to seal and to label.

Since the purpose of packaging is to prevent drying out and to preserve color, flavor, texture and nutritive value of the food, it is more important that packaging be moisture and vapor proof. You cannot expect perfect results if you use ordinary foil, waxed paper, thin plastic wrap or similar materials. There is no simple way to tell if material is moisture and vapor proof or resistant, so read the manufacturer’s label to see if it says it is intended for freezer use.

Non-rigid Materials

Moisture-vapor-proof bags and sheet wrapping materials are suitable for dry packs or other irregular shapes. Use laminated freezer papers that are lined with foil, cellophane or glassine. The lining is placed against the food. Heavyweight aluminum foil, plastic, cellophane, plofilm and polyethylene are also moisture and vapor proof, pliable and durable. Plastic freezer bags may be protected with a cardboard box or stockinette to keep from tearing. Rectangular cartons will stack easier and make better use of freezer space than irregularly shaped packages.
When wrapping, use “drugstore” or “butcher” wrap to make the package airtight. Secure plastic bags by tying the end in a knot or by using a rubber-band, covered wire twist or string.

**Rigid Containers**

Moisture-vapor-proof rigid containers are best for liquids but are also good for everything except irregularly shaped objects. Rigid containers hold their shape, stand upright and stack well. Be sure they have tight-fitting lids. They may be plastic containers, which are available in square and round shapes. Heavily waxed cardboard containers, with plastic or waxed lids, are also good to use. Glass freezing jars are also acceptable; they should be tapered with no narrow shoulder and with a wide mouth. Canning-freezing jars are best because they are tempered to withstand both extreme cold and heat. Handle glass carefully because rough handling or sudden change in temperature can break the glass. Aluminum cans may also be used for freezing as long as the lids fit tight.

**Heat-in-Pouch Bags**

The heat-in-pouch bag is easy and convenient to use because the freezer container can also be used for heating the food. It is great for freezing individual servings for persons in the family who are on a special diet. One serving can be prepared especially for that person while another pouch is prepared for the rest of the family. It is also handy for freezing single servings for individuals living alone. Several bags containing a variety of foods may be cooked in one pot.

A collar or filling container keeps food off the upper sealing edge of the bag. There should be a stand to hold the bag while filling. It is important to leave a certain amount of head room at the top of the bags. Force the air out of the top with your fingers before sealing. The sealer should be mounted on a wall or stand to make it easier to use.

Heat-in-pouch bags are especially good for reheating frozen prepared foods such as stews or vegetables in sauces. Vegetables partially precooked by blanching may be frozen in the pouches. You can add butter or margarine to the pouch so the vegetables cook in it.

Some sauces with milk and flour tend to separate or get lumpy when thawed. These should be stirred while heating, which is not possible with the heat-in-pouch bag.

**Containers Not To Use**

It is false economy to skimp on wrappings and containers. You should not use thin plastic bags, sandwich bags, waxed paper, butcher paper, stretch wrap or lightly-waxed or plastic-coated cardboard cartons for storage. These are intended for refrigerator use only. Do not use lightly-waxed containers that have been used for other foods such as milk, cottage cheese or ice cream because food particles can stick to the wax finish in the seams and corners of the container. Bacteria or mold could grow in these particles, thus spoiling the food put in the container or giving it a bad odor.

**Freezer Tape**

When using freezer wraps that require tape, use “freezer tape” rather than masking tape. Freezer tape is made to stick at freezer temperatures. Other tapes get brittle and crack at cold temperatures. Use freezer tape around the edge of containers where the lid may not seal airtight.

**Packing**

Vegetables are drained and packed without any water because water will ruin the delicate tissues of the vegetables. Do not add salt until vegetables are to be cooked for serving. Rigid containers or bags may be
used for vegetables. Use containers that will hold servings for one meal.

Tray freezing can be done with vegetables. After blanching, chilling and draining, spread the vegetables in a single layer on a tray or shallow pan. Cover the tray and put it in the freezer until just the outside of the vegetable pieces is frozen. Then pack them in airtight containers. The vegetables will not stick together, and you can easily pour out as many or as few as are needed. This method is especially good for cut green beans, peas, cut corn or small mixed vegetables.

Thawing and Using

Cook frozen vegetables without thawing them. Corn on the cob is one exception. It should be thawed before cooking because of its size. If it is not at least partially thawed, the cob will still be cold when the kernels are completely cooked. Leafy greens cook more evenly if partially thawed and separated before cooking.

When cooking frozen vegetables, use a small amount of water, about 1/4 to 1/2 cup, and cook covered. As the food thaws, separate it with a fork for more even heating. Blanching partially cooks frozen vegetables, so they need much less cooking time than fresh vegetables. Do not overcook. Approximately half the normal cooking time is the usual rule. The nutrients as well as the color, flavor and texture are best preserved if vegetables are cooked until just fork tender.

Frozen vegetables may also be baked. Add salt and two tablespoons of butter or margarine to the vegetables in a casserole pan. Cover the pan and bake at 305-375°F (180-190°C) for 40 to 45 minutes or until tender.

Cook only enough frozen vegetables for one meal. If you find you have leftovers, these can be frozen after cooking for use in soups, stews and casseroles. Frozen cooked vegetables will not be as nutritious, flavorful and colorful as frozen fresh vegetables, but freezing leftovers is better than wasting them by throwing them out.

Selected References


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