A Primer on Home Freezing for the Beginner

by Charlotte M. Dunn

Every homemaker knows that meals must be planned to get the most out of the food dollar and to provide the family with a well-balanced diet. The freezer, more than any other household appliance, can help secure these results. The more you learn how to use it in relation to your own family, the greater the returns.

Freezing is a quick, convenient and easy way to preserve foods in the home. Plan ahead to manage your time and energy for preserving food directly from harvest. Freeze limited amounts at one time so the work is spread over several days of picking, rather than squeezed into one long tiring period of time. Be practical about what you attempt.

Your own observation has taught you that some foods "spoil" more quickly than others, so the rate of speed at which they must be frozen varies with their individual temperaments. A good rule for home freezing is: two hours from garden or orchard to container, and the faster the better!

Most food that is highly perishable at normal temperatures can be quick frozen. Even delicate fruits and vegetables can be frozen, with only a few exceptions such as tomatoes (stewed tomatoes *can* be frozen) and those vegetables that lose crispness such as radishes, celery, cucumbers and salad greens.

Decide what you will freeze on the basis of availability of foods, family needs and taste, freezer space, cost of freezer storage, and availability of alternate methods of storage.

It is essential to start with high quality raw material. As garden foods mature, process without delay. Quality of the frozen food will be only as good as the quality of the food before freezing. Freeze foods at their peak of eating quality to preserve flavor, texture, and appearance as near those of the fresh product as possible.

Do not ignore details of the recommended procedures for preparing foods for freezing. Seemingly unimportant steps can make the difference between a low quality and a superior frozen product.

Before you begin freezing foods at home it's important to know exactly which process to use and what the process is doing to the food.

Micro-organisms grow on food, causing it to spoil. The common growths are simple yeasts, molds, and bacteria. Because these micro-organisms are everywhere—in the air, water, soil and on all surfaces they contact—they naturally occur on all foods. Storing and preserving foods properly controls or inhibits the growth of micro-organisms, thus maintaining both quality and safety of the food.

Cleanliness and sanitary methods are as important in handling foods for freezing as in preparing them for immediate use.

All foods contain chemical substances called enzymes. They are essential to life, and continue their chemical activity after the fruits and vegetables mature or are harvested.

If allowed to work after a food reaches its peak of maturity, enzymes destroy the food's physical properties, thus changing its color, flavor and texture.

When perishable food is not preserved by one of the recommended ways, enzymes within the cells of the food continue to live and cause spoilage.

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What Freezing Does

Freezing and storage even at very low temperatures will not inactivate any of the common enzymes. At 0° F, the recommended temperature for storing frozen foods, enzymes are not inactivated but only slowed down. In two to three months they will produce off-odors and bad taste. This temperature only checks the growth and reproduction of destructive bacteria. The faster a food is properly prepared frozen, the sooner both enzymes and bacteria are rendered harmless.

Just about every kind of food you or I will freeze contains moisture or water, and the process of freezing food involves the freezing point of water. As temperature of the surrounding air goes below the freezing point of water, the water progressively crystallizes out in the form of pure ice. Size of the crystals which form is determined by the span of time during which freezing takes place. When the temperature is lowered slowly, the crystals expand considerably. If the freezing is sharp and sudden, the crystals retain approximately the same size as the original water molecules.

In case you have doubts about how well a food will freeze, test it before freezing large quantities. To test, freeze three or four packages and sample the food a couple of weeks later. This will show the effect of freezing but not the effect of storage. Some varieties of the same kind of food freeze well, others do not.

Much of the success you have with your home freezer will depend on how you prepare, package, wrap and seal foods. Protecting frozen food is as important as freezing food of high quality.

You will need general kitchen utensils plus a steel, aluminum or enamel kettle large enough to hold at least one gallon of boiling water, with a tight fitting cover. Use a mesh basket, a strainer, or large squares of cheesecloth to hold one pound of vegetables in the boiling water.

Steaming of cut, sliced or green leafy vegetables is recommended and will preserve more nutrients than water does.

You will need a container to hold ice water for quick chilling of vegetables to stop cooking action. Drain thoroughly in a colander and turn out on absorbent towels.

It is false economy to skimp on wrappings and containers. They should protect the food from cold air, which is dry, so as to retain the moisture in foods and prevent freeze burn and dehydration. Select them according to the use they will be put to.

Most freezer containers on the market today are easy to seal, waterproof, and give satisfactory results. Rigid plastic containers, bags, and jars with wide tops are favorites.

Moisture- and vapor-resistant wraps, which are exceptionally effective at excluding oxygen, include heavyweight aluminum foil, coated and laminated papers, polyethlene films, saran, and polyester films. They should be strong and pliable so the wrap will adhere readily to irregularly shaped objects, and eliminate as much air as possible to avoid frost accumulation inside. Careful wrapping is of no avail if the package breaks. It should be easily sealed, either by heatsealing or freezer tape.

Freezer bags are available, and freeze-and-cook bags that withstand temperatures from below 0° F. to above the boiling point. The freeze-and-cook bags are suitable for freezing and reheating food. Points to consider include the size convenient for your use and the cost.

Materials not moisture-proof and vapor-proof, and thus not suitable for packaging foods to be frozen, are ordinary waxed papers, cartons from ice cream or milk, and plastic cartons

from cottage cheese or gelatin products because they crack easily.

Compare price, durability, shape and reusability in selecting containers, keeping in mind their convenience and the economical use of freezer space.

Retaining the vitamins and other nutrients depends on how fruits and vegetables are handled before freezing, on storage temperature in the freezer, and on how you cook them. Always follow up-to-date recommendations available from the U.S. Department of Agriculture or county Extension office.

Select foods of top quality. A freezer is not magic—it does not improve food. Its function is to preserve quality and food values and to prevent spoilage.

Choose vegetables and fruits suitable for freezing, and the best varieties for freezing. Because growing conditions and varieties vary greatly across the country, check with your county Extension office to find out which varieties are best for freezing.

Freeze fruits and vegetables when they are at their best for table use. If possible, freeze those that are ripened on the tree, vine or bush. Fruits should be ripe but firm.

Enzymatic changes continue after harvest, lowering quality and nutritive value. If stored at too warm temperatures, fruits can lose vitamin C, turn brown, lose flavor and color, and toughen.

Don't delay in harvesting vegetables since asparagus, corn, peas, snap beans, and lima beans all deteriorate rapidly in the garden after reaching their peak.

Observe cleanliness while you work, to avoid contaminating foods.

Prepare vegetables for freezing by blanching them in boiling water for recommended times. County Extension offices will have information on specific times for various foods.

Blanching vegetables is absolutely necessary to inactivate enzymes that cause undesirable changes in flavor and texture. This brief heat treatment reduces the number of micro-organisms on the food, enhances the green color in vegetables such as peas, broccoli and spinach, and displaces air trapped in the tissues.

Pack food in containers as solidly as possible to avoid air pockets, leaving the necessary head space for expansion. Press out as much air as possible, with your hands or by using a freezer pump. Then seal the plastic bags by twisting the open end, folding it over. Freezer rubber bands, twist-seals, or freezer tape are satisfactory for sealing bags.

Label packages clearly and carefully with name of product, date when frozen, number of servings or poundage, and any information that will help you. Special pens are made for marking frozen food products. Or you can use a wax pencil or crayon.

Speed is important in preparing food and getting it into the freezer, so as to maintain quality. Put only the amount of unfrozen foods into the freezer at one time that will sharp freeze within 24 hours.

Allow at least one inch between packages of unfrozen food in the freezer for circulation of cold air. Leave packages in freezing position for 24 hours before stacking them close together.

Uniform freezing temperature and keeping frozen products at 0° F or lower will maintain quality. Different foods have varying storage periods, so keep your frozen food inventory changing.

Use a freezer thermometer in your freezer. Check your freezer door and wall plug daily to avoid any catastrophe.

A freezer can pay wonderful dividends with considerable thought and planning by the homemaker.