



Home Canning: Ensuring High-Quality Canned Foods¹

United States Department Of Agriculture, Extension Service²

Begin with good-quality fresh foods suitable for canning. Quality varies among varieties of fruits and vegetables. Many county Extension offices can recommend varieties best suited for canning. Examine food carefully for freshness and wholesomeness. Discard diseased and moldy food. Trim small diseased lesions or spots from food.

Can fruits and vegetables picked from your garden or purchased from nearby producers when the products are at their peak of quality-within 6 to 12 hours after harvest for most vegetables. For best quality, apricots, nectarines, peaches, pears, and plums should be ripened 1 or more days between harvest and canning. If you must delay the canning of other fresh produce, keep it in a shady, cool place.

Fresh home-slaughtered red meats and poultry should be chilled and canned without delay. Do not can meat from sickly or diseased animals. Ice fish and seafoods after harvest, eviscerate immediately and can them within 2 days.

MAINTAINING COLOR AND FLAVOR IN CANNED FOOD

To maintain good natural color and flavor in stored canned food, you must:

- Remove oxygen from food tissues and jars,

- Quickly destroy the food enzymes,
- Obtain high jar vacuums and airtight jar seals.

Follow these guidelines to ensure that your canned foods retain optimum colors and flavors during processing and storage:

- Use only high-quality foods which are at the proper maturity and are free of diseases and bruises.
- Use the hot-pack method, especially with acid foods to be processed in boiling water
- Don't unnecessarily expose prepared foods to air. Can them as soon as possible.
- While preparing a canner load of jars, keep peeled, halved, quartered, sliced, or diced apples, apricots, nectarines, peaches, and pears in a solution of 3 grams (3,000 milligrams) ascorbic acid to 1 gallon of cold water. This procedure is also useful in maintaining the natural color of mushrooms and potatoes, and 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

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about 3 grams. Use 1 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. Sometimes citric acid powder is sold in supermarkets, but it is less effective in controlling discoloration. If you choose to use these products, follow the manufacturer's directions.
 - ▶ Fill hot foods into jars and adjust headspace as specified in recipes.
 - ▶ Tighten screw bands securely, but if you are especially strong, not as tightly as possible.
 - ▶ Process and cool jars.
 - ▶ Store the jars in a relatively cool, dark place, preferably between 50 degrees and 70 degrees F.
 - ▶ Can no more food than you will use within a year.

ADVANTAGES OF HOT-PACKING

Many fresh foods contain from 10 percent to more than 30 percent air. How long canned food retains high quality depends on how much air is removed from food before jars are sealed.

Raw-packing is the practice of filling jars tightly with freshly prepared, but unheated food. Such

foods, especially fruit, will float in the jars. The entrapped air in and around the food may cause discoloration within 2 to 3 months of storage. Raw-packing is more suitable for vegetables processed in a pressure canner.

Hot-packing is the practice of heating freshly prepared food to boiling, simmering it 2 to 5 minutes, and promptly filling jars loosely with the boiled food.

Whether food has been hot-packed or raw-packed, the juice, syrup, or water to be added to the foods should also be heated to boiling before adding it to the jars. This practice helps to remove air from food tissues, shrinks food, helps keep the food from floating in the jars, increases vacuum in sealed jars, and improves shelf life. Preshrinking food permits filling more food into each jar.

Hot-packing is the best way to remove air and is the preferred pack style for foods processed in a boiling-water canner. At first, the color of hot-packed foods may appear no better than that of raw-packed foods, but within a short storage period, both color and flavor of hot-packed foods will be superior.

CONTROLLING HEADSPACE

The unfilled space above the food in a jar and below its lid is termed headspace. Directions for canning specify leaving 1/4-inch for jams and jellies, 1/2-inch for fruits and tomatoes to be processed in boiling water and from 1- to 1-1/4-inches in low-acid foods to be processed in a pressure canner. This space is needed for expansion of food as jars are processed, and for forming vacuums in cooled jars. The extent of expansion is determined by the air content in the food and by the processing temperature. Air expands greatly when heated to high temperatures; the higher the temperature, the greater the expansion. Foods expand less than air when heated.