Home Can Vegetables Safely

Home-canned vegetables (green beans, green bean and carrot blend, and asparagus) served at family meals were confirmed as the source of botulism outbreaks according to the Centers for Disease Control—CDC from 1999-2008. In each instance, home canners did not follow canning instructions, did not use pressure canners, and were unaware of the risk of botulism from consuming improperly preserved vegetables.

Vegetables and meats contain too little acidity to prevent the growth of Clostridium botulinum bacteria, which can produce a serious nerve toxin that causes botulism.

Safe home canned vegetables require processing in a pressure canner. The spores of Clostridium botulinum can only be destroyed by canning food at a temperature of 240°F or above for a specific period of time. This temperature can only be reached in a pressure canner.

Pickling, freezing, or drying are safe alternative methods of preserving vegetables if you do not have a pressure canner or are not comfortable operating a pressure canner.

Vinegar for Pickling

The tang of vinegar gives pickled foods flavor and acts as a preservative. To insure a safe quality pickled product, pickle with distilled white vinegar or cider vinegar of 5% acidity.

Be sure to read the vinegar bottle label when purchasing vinegar for pickling. There are 4% and even 3% acetic acid vinegars on the market shelves bottled similar to 5% vinegar.

Most recipes call for distilled white vinegar. It has a mellow aroma, tart acid flavor, and does not affect the color of the light-colored vegetables or fruits.

Cider vinegar made from fermented apple juice is a good choice for many pickles. It has a mellow, fruity flavor that blends well with spices. However, it will darken most vegetables and fruits.

Do not use wine vinegars or other flavored vinegars when you make pickles, unless you are sure of their acetic acid content.

When you make pickles, do not dilute the vinegar unless the recipe specifically directs you to add water to a 5% strength vinegar.
Canning with a Propane Burner

It's tempting to move the pressure canner outside when it's hot inside or when you don't want to use your canner on the smooth-top stove. If you consider using a propane burner for canning, it is important to know that there is a safety issue.

The makers of Presto and National canners state: “Caution: Do not use pressure canner on an outdoor LP gas burner or gas range over 12,000 BTU’s.” Their customer service department also does not recommend using any (new or old) model Pressure Canners on LP gas burners over 12,000 BTU's.

The main reason is that the high heat can damage pressure canners, especially the newer and thinner aluminum versions. The damage can range from simple warping to severe warping (where the lid might detach) to fusing of the aluminum canner to the LP stove. Damage can also result from boiling out the canning water too quickly. If a canner goes dry, it probably will warp.

If you do need to use a pressure canner outside, use a high-quality camp stove, make sure the canner fits the burner, be sure the burner and range are level, pay close attention to the temperature, stay away from breezes, and make sure you have enough water in the canner.

To Sterilize or Not to Sterilize Jars

Sterilize jars that will be used for jams, jellies and pickled products when they are processed less than 10 minutes. To sterilize, place empty jars right-side-up on the rack in a boiling-water canner. Fill the canner and jars with hot (not boiling) water to one inch above the tops of the jars. Boil approximately 10-15 minutes. Remove the hot, sterilized jars one at a time and drain. Save the hot water for processing filled jars. Fill jars with food, top with lids and rings and process as directed.

Jars used for foods that will be processed in a pressure canner or in a boiling-water canner for 10 minutes or longer, should be clean but do not need to be sterilized.

Headspace Recommendations

The amount of space to leave at the top of the jar is determined by the type of food being canned. When jars are overfilled, the contents may boil out during the processing and cause solids or seeds to be caught under the sealing compound and prevent an airtight seal from forming.

When too much headspace is left at the top of the jar, the processing time may not be long enough to drive out all the extra air, thus preventing an airtight seal. Excess air inside the jar also causes food discoloration.

<table>
<thead>
<tr>
<th>Food</th>
<th>Headspace</th>
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<tbody>
<tr>
<td>Fruits</td>
<td>½ inch</td>
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<tr>
<td>Juices</td>
<td>¼ inch</td>
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<tr>
<td>Tomatoes</td>
<td>½ inch</td>
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<tr>
<td>Vegetables</td>
<td>1 inch</td>
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<tr>
<td>Jams/Jellies</td>
<td>¾ inch</td>
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<tr>
<td>Meats</td>
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<td>Poultry</td>
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“Supersweet” Sweet Corn

New varieties of sweet corn are sometimes referred to as “supersweet” corn. They contain more natural sugars than the older, traditional varieties. The natural sugars also seem to improve the keeping quality of sweet corn. As a result, some people freeze the supersweet corn without blanching and still have an acceptable product. For longer storage (more than 4 months), it is still best to blanch the corn so it will not have an off-flavor.

If you are canning supersweet sweet corn, the corn’s extra sugar makes it difficult to prevent it from turning brown. The sugars in the corn caramelize at the high temperatures at which corn is processed in the pressure canner. If you used proper canning methods, the corn is safe to eat although it may have a brown color.

When canning corn, you may end up with a better quality product if you use a less sweet variety and use the supersweet sweet corn for freezing.

Green Beans

Green beans are one of the most popular grown vegetables in the home garden and one of the most popular preserved vegetables. When canning green beans, remember it is not safe to process beans in a boiling water bath, not even for long periods of time. The only safe method of processing green beans is to process them for the recommended amount of time in a pressure canner: http://nchfp.uga.edu/how/can_04/beans_snap_italian.html.

Freezing is an easy way to preserve green beans: http://nchfp.uga.edu/how/freeze/bean_green.html. We also like to use the individual quick freezing method of placing blanched beans on a tray to freeze before packing them in packages. This makes it easier to take the amount needed from the package and the beans cook more quickly.

Pickled Dill Beans adds an interesting addition to a meal: http://nchfp.uga.edu/how/can_06/dilled_beans.html.

Dried green beans are handy to have available when making soups and hot dishes: http://nchfp.uga.edu/publications/uga/uga_dry_fruit.pdf.

Using and Preserving Kohlrabi

Another name for Kohlrabi is “turnip cabbage”. The flavor is similar to a turnip. Because of the sprouts coming out of the bulb, it appears to be a creature from outer space. Kohlrabi can be cut into strips and eaten raw, tossed into salads, stir-fried, or steamed and served with a cheese sauce. It's also used in soups, added to coleslaw or potato hot dishes.

For short term use, remove the leaves and store in a perforated plastic bag in the refrigerator crisper for approximately a week. To freeze kohlrabi, blanch slices or 1/2-inch cubes for 1 minute, cool, drain and freeze. Another idea: after blanching, spread on trays for quick-freezing and package in freezer bags or containers to add to soups or hot dishes.

Canning kohlrabi is not recommended because it develops a strong flavor and usually discolors when canned.
A Blue Ribbon Winner

When visiting a county fair, the colorful jars of home canned fruits and vegetables with a proud blue, red or white ribbon displayed may have caught your eye.

Have you ever thought about entering your salsa, dill pickles or strawberry jam in the fair? If so, contact your local fair board secretary to receive a fair book or premium list. This listing gives the requirements you will need to know and follow to exhibit. For county fair and state fair exhibitor information view: www.mfcf.com/members.htm and http://z.umn.edu/statefair.

You may have a blue ribbon winner!

Frequently Asked Questions

Why does a jar break?
Jars break because of stress created by bumping or hitting jars with an object or from temperature extremes. Use a plastic utensil instead of a metal table knife to remove air bubbles from jars. The tapping of the metal knife can stress the bottom of the jar causing the bottom to fall out. Other reasons for breakage include using commercial food jars rather than jars manufactured for home canning; using jars that have hairline cracks; placing jars directly on the bottom of the canner instead of on a rack; putting hot food in cold jars; or putting jars of raw or unheated food directly into boiling water in the canner.

Are there any safe methods for making herb flavored oils?
Herbs and oils are both low-acid and together could support the growth of disease-causing Clostridium botulinum bacteria. Oils may be flavored with fresh or dried herbs if they are made up for fresh use or stored in the refrigerator and used within 4 days. There are no canning recommendations.

How long will food remain frozen if the power goes off?
Food in a full freezer will usually stay frozen 2 to 4 days. A half-filled freezer will keep food frozen only about 24 hours.

Peddling Your Pickles

Do you make crisp tangy dill pickles? Do your friends rave about your homemade salsa? Have you thought about marketing your home canned products at a Farmers' Market?

If so, learn about the guidelines for Minnesota's “Pickle Bill” and Operational Guidelines for Vendors at the Farmers' Market at http://z.umn.edu/mda.