



Light Side

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Home canning – for garden goodies year-round

With the availability of fresh veggies this time of year, home canning is an inexpensive way to preserve your garden goodies.

Safety concerns

A deadly form of food poisoning known as botulism can occur when low-acid foods are improperly processed. The higher temperatures of the pressure canner are necessary to ensure that any *Clostridium botulinum* spores are killed. If the organism is present in canned low-acid vegetables, botulism toxin can be produced. Even sealed containers without any visible sign of spoilage can contain botulism toxin.

- To avoid the risk of botulism, make sure your pressure canner is in good working order; check the gauge yearly for accuracy; follow all canning recommendations exactly.
- Since the rate of heat penetration and acidity is affected by the combination of foods used, do not can vegetable mixtures such as vegetable soup or chili sauce unless you have a laboratory-tested recipe (see Complete Guide to Home Canning, AB-539, available at www.foodsafety.ufl.edu/cmnu/preserve.htm).
- Never thicken vegetables prior to canning. For mixed vegetables look up the processing time for each vegetable in the mixture. Use the processing time for the vegetable that requires the

longest processing time.

- Always check home canned vegetables carefully for signs of spoilage before and after opening. When opening, watch for spurting liquid, an off odor or mold.

If there is any doubt in your mind whether home canned food is spoiled, don't use it. Dispose of it so that it will not be eaten by humans or animals. Also, be sure to boil low-acid vegetables for 10 minutes before tasting or serving.

Select and prepare vegetables carefully

Choose only fresh, young, tender vegetables. Wash thoroughly, small amounts at a time, under running water or through several changes of water. Lift the vegetables gently out of the water so dirt washed off will not settle back on the food. Rinse the pan or sink between washings. The number of quarts of canned food from a given amount of fresh vegetables depends on quality, condition, maturity and variety of the vegetable; the size of pieces packed; and the way the vegetable is packed – raw or hot pack.

Use standard jars and lids

Use only jars and two-piece lids made especially for canning. Check jars and lids for cracks, chips, dents and rust; these defects cause sealing failures. Commercial jars such as those for mayonnaise are not recommended for home canning because they are not designed for use with two-piece lids and because the glass is more likely to break during processing. Wash jars in hot, soapy water and rinse well. Prepare lids and bands according to manufacturer's directions. Mineral deposits or hard water film on jars can be removed by soaking the empty jars for several hours in a solution of one cup vinegar per gallon of water. To avoid mineral deposits on jars during processing, add one-quarter cup vinegar per



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*On the Light Side is written by
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gallon of water used in the pressure canner. Slide a non-metallic spatula between food and side of jar to remove any air bubbles. Wipe jar rims to remove food particles that might interfere with sealing. Adjust lids.

Process in a pressure canner

Partially fill canner with two to three inches of water. Place jar rack and sealed jars in canner. Fasten lid. Heat on high. After steam exhausts for 10 minutes, add weighted gauge or close petcock. Allow canner to reach designated pressure. Start timing when designated pressure is reached. Regulate heat to maintain a constant pressure. Process for the time recommended. Do not reduce the processing time. When processing is complete, remove canner from the burner. Allow the canner to cool at room temperature until it is fully depressurized. This will take 30 to 60 minutes, depending on the type of canner. Do not rush the cooling by setting the canner in water or by running cold water over the canner. Do not open the vent or lift the weight to quicken the reduction of pressure. When the pressure has dropped to zero, carefully open the petcock or remove the

weighted gauge. Wait two minutes, then slowly release and remove the canner lid.

Remove and store jars

Take jars from canner and set upright on a rack or folded cloth away from drafts. Do not tighten the screw bands. Allow jars to cool undisturbed for 12 to 24 hours, then check for sealing failures. To test jar, press center of lid. If lid is down and will not move, jar is sealed. Remove screw bands carefully. Wash, dry, label and store jars in a cool, dark place. If any jars have not sealed, place in refrigerator and use within two days.

Fill jars and adjust lids

Vegetables can be packed raw, or preheated and packed hot. Most raw vegetables should be packed closely because they shrink during processing. Corn, lima beans and peas absorb liquid and expand when processed so should be loosely packed. To ensure proper heat penetration, do not pack vegetables too tightly. Vegetables packed hot should be at or near boiling temperature and should be packed loosely. Use the hot cooking liquid and add boiling water, if needed, to fill the jar and cover the food

for both raw and hot packed vegetables. If the vegetables at the top of the jar are not covered they may darken. Salt is NOT needed for preservation in canned products but can be added for flavor. The standard is one teaspoon per quart or one-half teaspoon per pint. The space between the packed food and liquid and the top of jar is called headspace. The amount of headspace required is different for each vegetable. Too much or too little headspace will affect jar seals.

For more information

- Call Iowa State University Extension's toll-free answer line at (800) 262-3804
- ISU Extension county office publications on canning and freezing.
- Check the Internet
- The Penn State Food Preservation Database World Wide Web Site offers recommended procedures and recipes in an easy to find (and search) format at <http://foodsafety.cas.psu.edu/Presqueryform.htm>
- The U.S. Department of Agriculture's Complete Guide to Home Canning is available at <http://extension.usu.edu/utah/hcm/fcs/food-preservation-canning/>

Exercise in the heat ... play it safe this summer!

Whether you're running, playing a pickup game of basketball or going for a power walk, take care when the temperatures rise. If you exercise outdoors in hot weather, use these common-sense precautions to prevent heat-related illnesses.

How heat affects your body

Exercising in hot weather puts extra stress on your body. If you don't take care when exercising in the heat, you risk serious illness. Both the exercise itself and the air temperature increase your core body temperature. To help cool itself, your body sends more blood to circulate through your skin. This leaves less blood for your muscles, which in turn increases your heart rate. If the humidity also is high, your body faces added stress because sweat doesn't readily evaporate from your skin. That pushes your body temperature even higher.

Heat-related illness

Under normal conditions, your skin, blood vessels and perspiration level adjust to the heat. But these natural cooling systems may fail if you're exposed to high temperatures and humidity for too long, you sweat heavily and you don't drink enough fluids. The result may be a heat-related illness. Heat-related illnesses occur along a spectrum, starting out mild but worsening if left untreated. Heat illnesses include heat cramps, heat exhaustion and heat stroke.

During hot-weather exercise, watch for signs and symptoms of heat-related illness. If you ignore these symptoms, your condition can worsen, resulting in a medical emergency.

Signs and symptoms include:

- Muscle cramps
- Nausea or vomiting
- Weakness
- Headache
- Dizziness
- Confusion

If you develop any of these symptoms, you must lower your body temperature and get hydrated. Stop exercising immediately and get out of the heat. If possible, have someone stay with you who can help monitor your condition. Remove extra clothing or sports equipment. Drink fluids – water or a sports drink. If possible, fan your body or wet down your body with cool water. If you don't feel better within 30 minutes, contact your doctor. If you have signs of heat stroke, seek immediate medical help.

