

## Well-Preserved

**Pressure Canning Safety**  
The *Well-Preserved* news column is prepared by Lancaster County Cooperative Extension. It includes food preservation information and questions.

A question we often hear at the cooperative extension office: "Is it safe to use a pressure canner?"

If you have never used a pressure canner, using it for the first time can be an intimidating experience. One senses that the questioner visualizes the canner blowing up as the pressure in the canner increases or that she/he has had the experience of seeing a pressure plug blow.

Today's pressure canners are designed for safety. They are lightweight, thin-wall kettles. Most of them have turn-on lids fitted with gaskets that expand during heating to give an airtight seal. However one style is made of a heavier metal and has screw-down knobs around the canner but does not have a gasket. All the canners have removable racks, an automatic vent/cover lock, a steam vent, and a safety fuse or plug. This metal or rubber plug acts as a safety release.

If the canner gets above 25 pounds of pressure, the metal plug melts or the rubber plug pops out to release excess pressure. The pressure canner may have a dial gauge for indicating

the pressure or a weighted gauge for indicating and regulating the pressure. Newer model canners have a lid lock that prevents you from opening the canner while there is still pressure in it. These added safety features should give you extra confidence when using a pressure canner. Also look for the UL (Underwriter's Laboratory) Seal of Approval.

Pressure canners come in various sizes. Some hold only one layer of quart or smaller jars, while others are deep enough for two layers of pint or smaller size jars. A pressure canner should be large enough to hold at least four quart jars. Smaller kettles are referred to as pressure cookers and are not recommended for canning because they cool down too quickly to maintain the higher temperatures needed to destroy harmful bacteria.

A pressure canner should not be confused with a steam canner. A steam canner does not operate under pressure and cannot heat foods above 212F. The use of a steam canner is not recommended as a safe canning procedure even for high acid foods by the USDA because process times for use with current models have not been adequately tested, heat distribution inside a steam canner is uneven, and pockets of air trapped between jars or under the dome can



cause cold spots where temperatures are below 212F.

Learning to use a pressure canner properly will ensure its safety for both the user and the food canned. Watch the pressure dial or weighted gauge to avoid excess pressure. Adjust burner temperature to maintain a constant temperature. This is not the time to get distracted.

Two important procedures are adjusting pressure canner temperatures for altitude and venting the canner. The internal canner pressures and temperatures are lower at higher altitudes. Canners must be operated at increased pressures to adjust for these temperature changes. Check a USDA canning guide for adjustments needed for altitudes above 1000 feet. Air trapped in a pressure canner lowers the temperature obtained for a given pressure which results in under processing. All pressure canners must be vented 10 minutes before the petcock is closed or the weighted gauge is placed over the vent port. To vent a canner heat the sealed canner on high with the vent port uncovered until the water boils causing a visible funnel of steam that is continuously escaping the canner. After 10 minutes of continuous steam,

the petcock or vent port can be closed to begin pressuring the canner. The canner will pressurize in the next 3 to 5 minutes.

Have the dial gauge checked yearly at your local Cooperative Extension office. If the gauge reads high or low by more than one pound, it should be replaced. If the gauge reads low by one pound or less, add that amount to the recommended pressure.

Processing procedures also affects safety. Constantly monitor the pressure during the processing. Loss of pressure at any time can result in under-processed and unsafe food. If at any time the pressure goes below the recommended amount, bring the canner back to the correct pressure and begin the timing process over. Start from the beginning and use the total original process time. Quick and large pressure variations may cause unnecessary liquid losses from jars. This may occur during processing because of burner adjustments or cooling the canner too quickly.

When the processing is completed, the canner should be removed from the heat set it off an electric burner. The heat in the canner at this point is part of the processing needed to destroy bacterial spores. Let the canner cool down naturally. The canner is de-pressurizing while it is cooling. Do not cool the canner under cold running water or open the vent port before the canner is fully depressurized. These are forms of forced cooling and will cause loss of liquid from jars and seal failures.

These procedures may also warp the canner lid. Older heavy-walled canners require about 30 minutes to depressurize when loaded with pints and about 45 minutes when loaded with quarts. The newer thin-walled canners cool more quickly and are equipped with vent locks that are designed to open when the pressure is gone. At this point the vent lock drops to a normal position. Then remove the weight from the vent port or open the petcock and wait 2 minutes as a safety precaution before unfastening the lid. Always lift the lid with the underside away from you to direct any steam coming out of the canner away from your face. Jars will be extremely hot when removed from the pressure canner. Avoid placing these hot jars on a cold surface or in a cold draft as the temperature extremes may cause the jars to break.

By following canner and processing directions exactly, you can have safely canned foods and be safe while you are doing it. Remember, pressure canning is the only safe method to process low acid vegetables such as corn and green beans, meats, and combination foods such as soups and tomato sauces with meat.

If you have food preservation questions, a home economist is available to answer questions on Wednesdays 10 a.m. to 1 p.m., call (717) 394-6851 or write Penn State Cooperative Extension, Lancaster County, 1383 Arcadia Rd., Rm. 1, Lancaster, PA, 17601.

## 122nd Maryland State Fair To Run Aug. 22- Sept. 1

TIMONIUM, Md. — The 2003 Maryland State Fair is a sure bet for summer food, fun, and celebration. In its 122nd year, the 11-day festival will feature thousands of home arts and agricultural exhibits, daily livestock and horse shows, a wide variety of midway rides and games, and thoroughbred horse racing.

The Maryland State Fair opens Friday, August 22 and runs through Monday, September 1, 10 a.m.-10 p.m. at the Timonium Fairgrounds in Baltimore County.

Early risers are welcome to attend livestock and horse shows at 9 a.m., exhibit halls are open

from 10 a.m.-10 p.m., and the Midway opens at 10 a.m. on weekends and 12 noon on weekdays.

Admission is \$5 for adults and children under 12 are admitted free. Rides are individually priced.

The 4-H Livestock Show will begin Friday, August 22 and run through Sunday, August 24. The 4-H Livestock Sale is on Sunday, August 24 at 7 p.m. A variety of Open Class livestock shows will begin Monday, August 25 and run through Labor Day.

Thoroughbred Horse Racing begins Saturday, August 23 and runs throughout the Fair with

live and/or simulcast races from a variety of other tracks around the country. Admission to the racetrack is included in the admission price of the Fair.

The Maryland State Fair features daily exhibits and presentations for visitors of all ages. New this year: University of Maryland Agriculture Fair Tours; The Toyota Concert Series featuring three concerts free with paid admission to the Fair by national artists Jars of Clay; The Rock and Roll Army (including Rare Earth, Mitch Ryder, Spencer Davis, and Mark Lindsey) and Brad Paisley. Seating is on a first-come, first-served basis.

Back by popular demand: the XTREME Air Ultimate Stunt Show; The Birthing Center where fairgoers have the opportunity to witness the birth of calves and piglets under the supervision of veterinarians and veterinarian students; the NASA/FIRST High School Robotics Display and Stack Attack Robotics Competition; and more.

Fairgoers are invited to explore the Farm and Garden, 4-H/Home Arts Buildings, the Cow Palace, Horse Show Ring, and other agricultural buildings and displays as well as the Exhibition Hall. For nature lovers, join the Department of Natural Resources in the

State Fair Park for a chance to see native animals (such as owls, snakes, and turtles) at the "Scales and Tales" exhibit and learn about conservation, recreation, stewardship, and the protection of Maryland's natural resources.

Parking on the Fairgrounds for a minimal fee and free parking at the Park and Ride location on Deereco Road are available on a first-come, first-served basis. The Fairgrounds encourages use of the Light Rail with an easily accessible Light Rail stop at the Fairgrounds' Cow Palace Gate.

For general information, call (410) 252-0200, ext. 227; or visit the Maryland State Fair Website at marylandstatefair.com.

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