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Using the Convenient Slow Cooker Safely

Susan Haws, Associate Professor, Utah State University, Summit County

What Is a Slow Cooker?

Slow cooker is a generic term used for an electric appliance with a glazed ceramic container or crock. A clear, domed lid fits over the crock on an outer metal casing covering an electric heating element on the bottom and sides. The first company to design a slow cooker (Rival) coined their product a Crock-Pot®, so the terms *slow cooker* and a *Crock-Pot* are interchangeable (Calabrese, 2009). Today slow cookers are available in a wide range of sizes from 1–12 quarts.

How a Slow Cooker Works

Slow cookers use long cooking times, low temperatures, and moisture created by a tight-fitting lid to hold in heat and cook food. Slow cookers on a low setting should reach temperatures between 180–200°F, producing a slow simmer. The high setting ranges from 280–300°F, and cooks food about 2–2½ times faster than on the low setting. Many recipes recommend cooking on the high setting for an hour and then reducing the heat to the low setting for the remaining cooking time. The tight lid in connection with the moisture creates a vacuum seal which helps cook the food. The lid needs to stay on to cook the food properly in the time given. Lifting the lid causes a loss of heat that requires 15–30 minutes to replace which lengthens the overall cooking time.

Choosing a Slow Cooker

To help users consider available options, *Consumer Reports* (2017) reviewed slow cookers, buying models that ranged in price from \$40 –\$250. The

newer models featured more electronic control options, allowing pre-programmed cooking times in 30-minute intervals. The older and more basic models featured only *high*, *low*, and *off* settings. Testers found so little difference in the overall performance of the slow cookers that *Consumer Reports* no longer tests slow cookers or provides slow cooker ratings. Therefore, consumers may spend more on a slow cooker for convenience options, but spending more will not make food taste better.

Slow Cooker Safety

Preparing Food Safely

When cooking in a slow cooker, always remember to thaw meat or poultry thoroughly to insure proper cooking, and when using a commercially frozen meal, follow the instruction for proper cooking. Slow cookers should be filled one-half to two-thirds full for the best results. Under-filled cookers can cause food to overcook and dry out, while over-filled cookers may not cook food thoroughly in the allotted time or get hot enough soon enough to inhibit bacterial growth.

Prepare food and store it in the refrigerator until placing it in the slow cooker. Follow safe food handling guidelines according to the U.S. Department of Agriculture (USDA 2012) and remember to wash, keep food chilled, and separate foods—especially if using meat. Adding ingredients to a preheated crock, or cooking on the high setting for the first hour, will provide a rapid heat start, shortening food's exposure to the temperature danger zone.

Place vegetables on the bottom or around the sides with the meat on top because vegetables take longer to cook. Use a calibrated thermometer to test for doneness. Place the thermometer in the thickest part of the meat, away from the bone. Safe internal temperatures include 165°F for poultry, 160°F for ground beef, pork, and lamb, and 145°F for whole cuts of beef, pork, and lamb with a 3 minute resting time (USDA FSIS, 2011).

Using Slow Cookers at High Altitudes

Make sure to thaw food thoroughly before using a slow cooker, especially at high altitude. Remember water boils at a lower temperature as the altitude rises. Water is a key factor when using a slow cooker at high altitude. The slow cooker simmers at a lower temperature making it more difficult to reach safe temperatures that will destroy bacteria. If your slow cooker has an adjustable temperature control, select a setting of 200°F or higher. If the slow cooker has a high and low setting, set the slow cooker on high for the first hour, and then either continue to cook on high or turn to the low setting. The low setting may also keep food warm. At high altitudes, use longer cooking times, and do not remove the lid while cooking because the reheating time will take longer. Placing aluminum foil on top will reflect the heat downward into the food. Use a thermometer to check that food has reached a safe internal temperature of 165°F. (USDA FSIS, 2013).

Dealing with Power Outages

If a power outage occurs during the cooking process, throw away the food even if it looks done. If you are home when the outage happens, finish cooking the food by some other means. However, if the food completely cooked before the power outage, it should remain safe for 2 hours in the cooker (USDA FSIS, 2012).

Saving Leftovers

Follow these recommendations to use leftovers safely. Do not leave foods in the slow cooker to cool down; instead, place foods in a shallow container and refrigerate them. In addition, avoid the risk of reheating food in a slow cooker by reheating on the stovetop or in the microwave before placing the food in a preheated slow cooker, which will keep it hot enough for serving (USDA FSIS, 2012).

Testing a Slow Cooker's Performance

A safe slow cooker will cook food slow enough for unattended cooking, and fast enough to keep food safe and out of the danger zone where bacteria grow quickly. Food in the danger zone for too long can cause foodborne illness. To test a slow cooker:

- Fill the slow cooker one-half to two-thirds full of tap water.
- Heat the slow cooker on a low setting for 8 hours with the lid on.
- Check the water temperature quickly. Lifting the lid will reduce the temperature 10–15 degrees. The temperature of the water should be 185 °F. Lower temperatures indicate that the slow cooker does not heat hot enough or fast enough to avoid food safety problems.
- Discard and replace a slow cooker that does not pass this test (Calabrese, 2009, Huth, 2017).

Take Away

A slow cooker is a convenient time saver. With some planning, preparing a meal in the morning means dinner is ready to eat when you arrive home from work. You can also save money by using a slow cooker; it uses less energy than an oven and keeps the kitchen cooler in the summer. In addition, a slow cooker allows you to use typically less expensive, less tender cuts of meat. In the slow cooker, they become tender and have less shrinkage. The use of the slow cooker can help prevent the temptation of getting short order or fast food for dinner, improving nutrition. By preparing food in a slow cooker, you can improve your diet in the following ways:

- Increase whole grains, vegetables, and fruits by including them as ingredients.
- Reduce or eliminate salt by using low sodium or sodium free broths and by substituting flavorful herbs.
- Reduce sugar by substituting 100% fruit juices or non-heat sensitive sugar substitutes for sweetener.
- Use lean cuts of meat or skinless poultry to reduce fat intake.

Slow cookers bring out the flavor in foods by allowing the flavors to blend. This cooking method creates moist, fork-tender meats. Food cooked in a slow cooker is safe if it is prepared as recommended in a properly heating cooker. The direct heat, the lengthy cooking time, and the steam created in the container combine to destroy bacteria and make the slow cooker a safe process for cooking, making delicious, healthy meals.

References

- Calabrese, J. (2009, March). The slow cooker rules. *The Weston A. Price Foundation*. Retrieved from: <https://www.westonaprice.org/health-topics/childrens-health/the-slow-cooker-rules/>
- Consumer Reports. (2017). Slow cookers slow cooker buying guide low, slow, and go. Retrieved from: <https://www.consumerreports.org/croslow-cookers/buying-guide/index.htm>
- Huth, C. (2017 November). Slow cookers: Beyond the basics. Retrieved from University of Illinois: http://web.extension.illinois.edu/dmp/eb344/entry_12960/
- U.S. Department of Agriculture, Food Safety and Inspection Service. (2011, May). *Cooking Meat? Check the New Recommended Temperatures*. Retrieved April 19, 2018, from <https://www.usda.gov/media/blog/2011/05/25/cooking-meat-check-new-recommended-temperatures>
- U.S. Department of Agriculture, Food Safety and Inspection Service. (2013, June 15). *High Altitude Cooking and Food Safety*. Retrieved April 16, 2018, from https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/high-altitude-cooking-and-food-safety/ct_index
- U.S. Department of Agriculture, Food Safety and Inspection Service. (2012, February). *Slow Cookers and Food Safety*. Retrieved April 16, 2018, from https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/appliances-and-thermometers/slow-cookers-and-food-safety/ct_index

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