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Electric Slow Cookers: Selection and Safe Use

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Issued

4 pages

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Household Equipment

ELECTRIC SLOW COOKERS: Selection and Safe Use

The phenomenal sales of slow cookers in recent years reflect at least three trends: more women working (the idea of cooking all day while away), the economy (a way to prepare less expensive cuts of meat) and the do-it-yourself trend (away from convenience foods).

The slow-cooking concept is far from new. Our grandmothers used a cast iron kettle or dutch oven for slow, economical cooking on the back of the coal stove. More recently, electric ranges were equipped with the deep well cooker. A variety of foods from soup to one-pot meals could be cooked by these long-used methods.

In 1971, a small portable electric appliance, designed specifically to cook foods slowly, was introduced. Today, there are more than 20 different brands on the market, and slow cookers are one of the top two in sales of food-preparation appliances, second only to coffeemakers.

For best results, slow cooking is not automatic. In fact, unless carefully chosen and properly used, the appliance can be more of a nuisance than a help. So, whether you are considering a slow cooker or a slow cooking oven, for yourself or as a gift, ask yourself these important questions.

What Can It Do That Another Appliance Doesn't Do Better?

A slow cooker may help ease the task of meal preparation in that:

1. Constant watching during cooking is not required.
2. Amounts for a large family or entertaining can be prepared easily.
3. Food can be held hot without over-cooking.

Multipurpose cookers or slow cooking ovens not only slow-cook but may also roast, bake, broil, or even deep-fry.

Shape

Many cookers are *round* and approximately 9 inches in diameter. Other models available are *oval* or *oblong* and accommodate larger cuts of meat. Frypans can create problems if liquid doesn't cover food. Food may not get done or be cooked evenly unless turned during cooking.

Do You Need It?

Are you considering the purchase of a slow cooker because everyone else has one? Will the appliance really be used? Weigh its advantages for your own situation. If you use the slow cooker just once or twice a year, you will not get effective or efficient use of it. Slow cooking may not be for you, your friend or relative if the user is:

Curious. Once the food goes into the cooker, the lid should be removed *only* for adding ingredients or checking temperature.

Nervous. A person who would not leave an oven, dishwasher or clothes dryer going unless she is at home to check it probably would not feel safe leaving the cooker to "cook" either.

The Non-morning Person. If it's all a person can do to get going before leaving home in the morning, the meal probably won't get into the cooker.

Steak Eater Only. If pot roasts, stews and one-pot meals aren't favorites, the user will probably get little use from a cooker.

Crowded for Space. A slow cooker must be stored in a safe and convenient place, or it won't be used much.

One Person. Persons living alone will not have much use for a slow cooker, unless for entertainment purposes.

Selection Guidelines For Design Features

Size

The slow cooker should be chosen for the person or family using it. Capacities range from about 2 to 8 quarts for slow cookers. Slow cooking ovens can hold a whole meal in separate dishes, a 10 to 12 pound turkey, or a whole ham. Think about types of foods and appropriate quantities for which the cooker would be used. For example, a family of two which seldom entertains would have little use for the larger models.

Location of Heating Element

Some models have a detachable base containing the heating element. This allows the pot to be removed and immersed in water for cleaning or placed in the dishwasher. Other models are one piece with the heating element in the bottom. They may or may not be immersible. Heat is concentrated at the bottom of the pot, and scorching can occur.

Other models have the heating elements wrapped around the walls of the cooker. These models cannot be immersed in water and must be filled with soap and water, and washed. But wrap-around elements heat larger quantities more evenly.

If you don't know which type is on display, ask the salesperson to plug in the slow cooker. Place your hands on the bottom and sides while the cooker heats, and see what parts start to heat.

Energy Use

Not all slow cookers use the same amount of electricity and not all consumers use these appliances for the same length of time or as often as others use theirs. For these reasons, any energy use figures are averages. Results of recent tests showed that thermostatic control models used *more* energy than the *continuous heat* models.

The continuous-heat cookers or slow-cooking ovens have low wattage ratings — 75 to 150 watts — and are limited to slow cooking exclusively. On the other hand, the multi-purpose cookers are units with higher wattages and a wide temperature range to achieve slow cooking as well as other types of cooking by means of a thermostatic control. Don't be deceived by the low wattage; remember the long-cooking time and the energy used equals watts × time. Energy may be saved by using a slow cooker rather than the oven, but studies indicate that the slow cooker does not necessarily use less energy than a conventional range unit or burner for the same meal. So *convenience*, rather than energy consumption, is the more appropriate consideration.

Controls

Check the appliance control for durability and convenience in use. Are they easy to read? Many slow-cooker controls are limited to rigid settings such as "On-Off," "High-Low-Off," "High-Automatic Shift-Low-Off." The automatic shift feature switches from high to low temperature settings during cooking without your assistance. If a probe-type temperature control is detachable, check for ease of inserting and removing. With this type of control, accurate setting is important.

Materials and Finishes

Several materials and finishes are being used on slow cookers. Here are some material characteristics and tips on cleaning and care:

Stoneware or earthenware gives even heat distribution; however, this material can be broken by a sharp blow. Do not expose to sudden temperature changes. Wash soon after use. If crockery liner is removable from the heating unit, it is dishwasher safe. Use plastic scouring pads to remove stubborn residue. Do not use abrasives or steel wool soap pads. If the glaze should crack, get a new liner or crock.

Glass ceramic absorbs and holds heat well. Can withstand extremes in temperatures and sudden temperature changes. Easy to clean; however, metal scouring pads can scratch the glaze.

Porcelain-clad aluminum or steel comes in a variety of colors, is easy to clean, resists acids, may craze with sudden temperature changes, chips on hard impact and does not heat as evenly as stoneware. Do not use harsh abrasives in cleaning.

Stainless steel gives shiny appearance. It is easy to clean, and soapy scouring pad may be used on interior. Do not use scouring pad on polished exterior, or it will scratch. Dry thoroughly to prevent water spotting.

Aluminum may be discolored by alkaline foods and minerals in water, may be coated with a non-stick finish. More even heating than similar gauge stainless steel. It is easy to clean and can be scoured with a scouring pad.

Teflon and other non-stick finishes may stain and scratch with continued use; however, these do not affect performance. Follow manufacturer's direction for pretreatment, removal of stains and use of utensils.

Lids

Lids are glass, plastic or metal. A transparent glass or clear plastic cover permits checking the beginning progress of the cooking without need to take off the cover. Steam may obstruct clear view. The handle on a glass or metal lid often gets very hot, so a pot holder is recommended. Metal lids will not break.

Other Design Features

Signal light is a light indicator to show when the desired temperature has been reached.

Detachable cord is convenient when using cooker as serving dish. However, remember that a detachable cord usually adds to the total cost.

Removable liners may be used alone as serving dishes in some models. Handles on liners tend to get hotter than outer shell handles.

Lid should fit tightly. Glass or plastic lids permit some viewing of contents.

Handle is near top and large enough to hold comfortably and carry safely when filled with food.

Legs of heat-resistant material and tall enough to allow for air circulation.

Stability means the appliance is well balanced, both when empty and when in use.

Accessories such as baking/cooling rack or basket may be included.

Other Considerations

Consider the reputation of the manufacturer and the dealer. Look for clear and easy-to-follow operating and care instructions, and a recipe book. Check the permanent identification for manufacturer's name, model, serial number, electrical information and information for safe use. Talk with other consumers who have purchased appliances from this manufacturer or dealer to find out if performance and service are satisfactory.

Be sure to check the warranty. A FULL warranty means the appliance is entirely covered for defects in workmanship and materials. Remember warranties do not cover damage to appliance caused by misuse, accidents or alterations. Also consider the dealer's and manufacturer's responsibility. Can you take it to a dealer or will you have to mail it somewhere? Does manufacturer have service center in nearest city, or will the cooker need to be mailed out of state for any repairs?

Prices

Prices vary from a low of under \$20 to around \$40 for slow cookers, and to over \$50 for multi-purpose cookers. There can be considerable price difference among brands. Different stores charge different prices for the same item. It may pay to do some comparative shopping.

Use

Before using a cooker for the first time:

1. Wash with hot soapy water, using a dishcloth or sponge. Rinse thoroughly and dry.
2. Condition a non-stick finish according to manufacturer's directions.
3. Place the slow cooker on a flat level surface during use. The base is heat-resistant so you may use it safely at the table.

Are Slow Cookers Safe?

Slow cookers have been designed to be safe and convenient. They can be used with confidence if used as directed by the manufacturer.

Slow cookers are constructed to make them easy to clean and keep clean. The smooth-sealed surfaces promote sanitation.

Appliance Safety

An Underwriters Laboratories approval symbol (UL) indicates that the appliance meets minimal standards for electrical safety. However, there are safety measures to keep in mind:

- If you have a separate cord, always attach cord to appliance first, then plug the cord into the wall outlet. At the end of the cooking time, remove the plug from the wall outlet. Let the cooker cool before removing the separate cord.
- Keep a close watch on the cooker when children are nearby.
- Double check settings before leaving the slow cooker in operation unattended.
- Always remove plug from wall outlet when it is not in use or if it is being cleaned. Unplug removable cord from appliance also. Do not immerse removable bases when cleaning.
- Hot oil is dangerous! Be very careful when heating oil or shortening: never cover cooker while oil or shortening is heating. Be extremely careful when carrying an appliance with hot oil. Cool oil before pouring it out.

- Use care with appliance cord. Electric shocks may result if the cord becomes wet with water or other liquids. Hot surfaces may damage the insulation of the cord.
- If an extension cord is needed, use only a heavy duty appliance cord.
- Cords or extension cords hung over the counter or table edges can cause accidents and serious burns.
- Cookers should not be operated in sinks or near flowing water because of electrical hazards.
- Restrict appliance uses to those intended by the manufacturer.
- Do not touch any hot surface. Use handles, knobs and hot pads to prevent burns.
- Do not attempt to use a slow cooker if you know it does not work properly, or if cord or plugs are damaged. Have a malfunctioning slow cooker examined or repaired, or discard it.

Slow cookers are tested for electrical and safety performance. *ALL INSTRUCTIONS FOR THE SLOW COOKER SHOULD BE READ BEFORE USE.* Follow the instructions for your brand. Guidelines differ with the construction and temperature settings for the particular appliance.

Food Safety

Food safety should have a high priority when using a slow cooker. Food spoilage organisms survive between 40° to 45° and 140°F (4° to 7° and 60°C). Most rapid growth is between 60° and 125°F (15° to 52°C). Because the slow cooker heats slowly, foods are at these low temperatures for long periods of time. Food poisoning can result from too-slow heating, so it is important to know how to protect the food being prepared:

1. Use only high quality foods. Thaw frozen foods before cooking. Keep food cold and handle as little as possible before cooking. Meats and egg mixtures, especially, should be moved quickly from refrigerator to slow cooker.
2. All working surfaces and equipment should be cleaned after each use. Personal cleanliness is important as soiled hands can contaminate otherwise safe food.
3. Follow recipes carefully. Instructions (pre-heat, brown, scald) are often included to speed the heating process. Browning also kills surface bacteria.
4. Follow recommendations of amount of food to prepare in your cooker. Most operate best at 1/3 to 1/2 full. Two-thirds to three-fourths full is usually considered overloaded.
5. Foods cooked in the slow cooker must be in liquid. Air (in dry loose foods) is an effective insulator, greatly slowing heat movement.
6. Very dense mixtures (as scalloped corn, macaroni-type mixtures, rice, thick soup) also insulate and slow down heat penetration. Other methods of cooking will give better results than slow cooking for these recipes.

- If amount of a recipe is increased, a thermometer is the best way to check doneness. Check temperature in the center for either a side heating or bottom-heating unit. Be sure knobs or dials are set exactly right.



- All foods should reach an interior temperature of at least 165°F (74°C) to control bacteria and should reach 150°F (67°C) within one hour. Select food as fresh as possible and control freshness from the time the food is obtained.
- Don't peek! Lifting the lid during cooking lowers the temperature rapidly because heat rises. To retain heat, moisture and food flavor, don't remove cover during cooking unless necessary for adding additional ingredients or checking temperature with a thermometer.
- Food should be held at actual temperatures of 140° to 150°F (60° to 67°C) for no more than four hours when it has been heated through. Heat-loving bacteria will survive at these temperatures.
- Home canned low-acid foods (most vegetables) should be boiled, covered, for 10 minutes before putting them in a slow cooker. (Meats, corn and greens need 20 minutes boiling.) Toxin of *Clostridium botulinum* (which causes botulism) is destroyed by boiling.
- For faster cooking, figure that a "high" setting will cook 2½ times as fast as low. Thus eight hours cooking on low can be accelerated by using two hours on high plus three on low (5 hours). NEVER substitute "Low" for "High". Cooking longer at lower temperatures does not control disease causing bacteria.
- Foods not consumed should be cooled at once for safe storage in the refrigerator. To cool, transfer to storage container if necessary and place in cold running water before refrigerating.

Certain vitamins are affected by the long slow heating. Water soluble vitamins tend to migrate into the liquid, which is all right if the liquid will also be eaten! Thiamin, pantothenic acid, and vitamin B₆ tend to be destroyed by long slow cooking. Foods rich in these nutrients should be cooked by quicker methods most of the time.

Some foods do not cook satisfactorily in the slow cooker. Heat does not easily penetrate pastas (spaghetti, macaroni, noodles) and rice, so they do not cook well or evenly. Rice and pasta may either be cooked separately or added uncooked during the last hour of cooking. If added uncooked, make sure there is liquid and a high enough setting for thorough cooking.

Milk, cream and sour cream curdle when cooked a long time. If these dairy foods are to be used, they should be added shortly before serving. Long cooking breaks down cheese. Processed cheese will give better results than natural, especially when added near the end of cooking time.

"Doing your own thing" is not for the slow cooker owner. Lowering the heat spells TROUBLE. So does using recipes not recommended for the slow cooker. Beware especially of ground meat (grinding spreads bacteria all through the meat) and custard-type mixtures (which are ideal food for bacteria). Recipes for these foods should be used only if recommended for the cooker.

To check the heating speed of your cooker, fill it half full of cold tap water and set the control at setting suggested for beginning cooking. In an hour, remove lid and check the temperature at once by putting a thermometer in the center. If temperature reads 150°F your cooker is functioning well.

Adapting conventional recipes to the slow cooker

Amount of Liquid: Because little moisture evaporates during slow cooking, reduce amount of liquid in a regular recipe by one half (1 cup of liquid is enough for most recipes). For soup recipes, add all ingredients except water or broth; then add only enough liquid to cover ingredients.

Amount of Seasoning: Reduce amount of seasoning in proportion to reduced amount of liquid. Use whole or leaf herbs and spices rather than crushed or ground forms.

Slow Cooking Meat: Less tender, less expensive cuts of meat are better suited to slow cooking than tender cuts of meat. Fatty meats such as pork should either be trimmed or browned to remove excess fat before slow cooking. Pork roast can be broiled for 15 to 20 minutes to remove excess fat.

Slow Cooking Vegetables: Add frozen vegetables partially thawed, Chinese vegetables and fresh mushrooms during the last hour of cooking. Strong-flavored fresh or frozen vegetables such as spinach, eggplant, okra or collard greens should be precooked before adding to slow cooker. The amount of onion normally used in a recipe should be reduced because its flavor gets stronger during cooking. In most cases, fresh vegetables take longer to cook than in top-of-the-range cooking because liquid simmers rather than boils.

Slow Cooking Fish and Seafood: Fresh or thawed seafood and fish fall apart during long hours of cooking. Add these ingredients about an hour before serving.

SELECT ACCORDING TO NEEDS
FOLLOW INSTRUCTIONS FOR SAFE USE
SELECT RECIPES CAREFULLY
AND A SLOW COOKER WILL BE A JOY

Prepared by Judy Wessel, Extension Specialist, Management and Equipment, and Evelyn Gray, Former Extension Specialist, Nutrition, at The Ohio State University; reprinted, with permission, by the cooperative Extension Service, Michigan State University.