

Cooking with a Pressure Cooker



Bernalillo County
Extension Service

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Introduction to Pressure Cooking

Cooking with a pressure cooker is often a scary thought for people. Perhaps you have one in your cabinet that you have been afraid to use. Maybe you are considering the purchase of a new pressure cooker. Be at ease with the safe and quick method of cooking under pressure!

Learning how to use a pressure cooker may take some time, but in the end it will save you more than time. Pressure cooked food can be delicious and nutritious. Tasty meals can be prepared in very little time while preserving nutrients and saving energy.

Using a pressure cooker will help you:

- Reduce cooking time by 50% or more compared to conventional cooking techniques
- Decrease energy usage
- Keep your kitchen cool
- Make great tasting food with or without added fats
- Use less expensive cuts of meat, pressure cooking will tenderize meat
- Boost your nutrition by locking in flavor and color
- Make cooking meals change from boring to delicious

So, as long as you follow directions, you cannot hurt yourself with a pressure cooker. But you can get flavor packed meals together in minutes that taste like they took all day. A good rule of thumb is that an ingredient will cook in one-quarter to one-third of the time it takes with another method. The reason is simple. Putting the contents of the pot under pressure by trapping the steam raises the boiling point of water. Critics of pressure cooking are often people who like to monitor what's going on in the pot. With this technique, it isn't an option. It takes some getting used to, but the time savings is always worth the tradeoff.

Here are some tips to help get you started using your pressure cooker:

When pressure cooking at high altitudes, the cooking time should be increased. Increase cooking times 5% for every 1000 feet above 2000 feet.

Time increases as follows:

- 3000 ft.: 5%
- 4000 ft.: 10%
- **5000 ft.: 15%**
- 6000 ft.: 20%
- 7000 ft.: 25%
- 8000 ft.: 30%

Water boils at 212° F (or 202 degrees at our 5000 ft. altitude) and creates steam. In a pressure cooker, this steam is safely locked inside, allowing the temperature to increase higher than the boiling point and resulting in faster than normal cooking. On a basic weighted valve pressure cooker, when the pressure regulator begins to rock, 15 pounds pressure (250° F) is reached inside the pot. On ALL kinds of pressure cookers, it's important to reduce the heat on the stovetop once pressure is reached. If the heat is not reduced, too much liquid will be released while the cooker is trying to maintain 15 pounds pressure.

Foods cook quickly in the pressure cooker, so precise timing is important to avoid overcooking. The cooking time is measured from the point at which the correct level of pressure is reached. Use a timer! Use high heat to bring the pressure cooker up to pressure then **reduce the heat to maintain a slow, steady level.** When the specified cooking time is complete, reduce pressure in the cooker according to the directions in the recipe.

Three Generations of Pressure Cookers

Old:

Pressure cookers that fit into this category operate with a weight-modified or “jiggler” valve that releases pressure during operation. They are very loud because the weight-modified valve operates similarly to the piston in a steam engine. Many older pressure cookers offer only one pressure level. The newer “old styles” pressure cookers that allow the operator to change the weight of the weight-modified valve (5, 10 or 15 pounds of pressure). Many pressure canners also offer the 3 levels of pressure.

New:

New models or second generation pressure cookers operate with a spring-loaded valve that is often hidden from view. Some of these pressure cookers do not release any steam during operation. They only release steam when the pan is opened, or as a safety precaution if the heat source is not reduced enough when the pan reaches the required cooking pressure. This generation is characterized by 2 or more markings to show the pressure level; others use a dial that the operator can advance by a few clicks (which adjusts a spring underneath) to change the pressure setting or release pressure, these release steam during operation. Newer models of pressure cookers have 2 or 3 redundant release valves for safety and many also have an interlocking lid that will not allow the user to open the lid if the internal pressure is unsafe for release.

Electric:

This type includes an electric heat source that is automatically regulated to maintain the operating pressure. They also include a spring-loaded valve. Two or more pressure settings are available on this type of pressure cooker. However, the pressure cooker type cannot be opened with cold water quick – release method and should be operation with caution when releasing vapor through the valve, especially while cooking foamy foods and liquids (beans, lentils, grains, milk and gravy).

Using Your Pressure Cooking Equipment

Selection of pressure cooking equipment: When considering the purchase of new equipment there are several questions one might want to decide upon. Manual pressure cookers are available in aluminum or stainless steel and come in 3 basic sizes; 4 quart, 6 quart and 8 quarts. Electric models are generally more expensive than manual cookers. They do however allow for ease of preparation and fewer steps in the cooking process. The electric models may be less intimidating for newer pressure cooker operators

Parts of a pressure cooker:

Pressure regulator- Controls and maintains pressure inside the cooker and indicates when the ideal cooking pressure is reached.

Vent Pipe- The pressure regulator fits on the vent pipe and allows excess pressure to be released.

Air Vent/Cover Lock- the vent automatically exhausts air and serves as a visual indicator of pressure within the cooker. When pressure begins to build, it slides up, causing the Lockpin to lock the cover.

Sealing Ring- Forms a pressure-tight seal between the cover and pressure cooker body during cooking.

Over-Pressure Plug- This plug automatically releases pressure as a safety measure should the vent pipe become clogged and pressure cannot be released normally.

Cooking Rack- This rack holds food out of the cooking liquid and allows several different foods to be cooked at the same time without an intermingling of flavors. When a blending of flavors is desired the rack is not used.

Cover handle- The top of the air vent/cover lock can be seen through a hole in the cover handle, enabling one to see the glance if there is pressure inside the unit.

Store your pressure cooker in a dry place with the cover inverted on the body. If the cover is locked in place during storage, unpleasant odors may form inside the unit and the sealing ring could become damaged.

Safety Checklist:

- ⇒ Follow manufactures instructions. If instruction manual is missing these can often be found on-line.
- ⇒ Check the vent pipe before use. Hold the lid up to the light and visually inspect to be sure the hole is open.
- ⇒ Check the air vent/cover lock to be sure it moves freely before use.
- ⇒ Follow recommendations for filling the cooker. Most models suggest no more than 2/3 full. When cooking soup, grains, dried beans and other foods that expand do not fill the cooker over ½ full.
- ⇒ Never open the pressure cooker until the unit has cooled and all the internal pressure has been released.
- ⇒ Close supervision should be exercised when operating a pressure cooker near children.
- ⇒ Check sealing ring and overpressure plug and replace if hard, deformed, cracked or worn.
- ⇒ Replace parts as needed, occasionally, a handle will break or a pressure regulator will be lost. If this happens, these and other pressure cooker parts can be purchased from the manufacturer or from a retailer that carries parts for your specific pressure cooker. Remember, pressure cooker parts are not interchangeable. Use only the parts made for your cooker. Refer to your manufacturer's instruction manual. Often replacement parts can be found on-line.
- ⇒ A few foods to avoid. Foods such as applesauce, cranberries, rhubarb, cereals, pastas, and dried soup mixes are not recommended for the pressure cooker. These foods expand so much as a result of foaming and frothing that they should not be cooked under pressure.
- ⇒ Many times accidents happened due to improper use and maintenance of pressure cooker or operator neglect.
- ⇒ Use pressure cookers only as manufacture recommends.

Resources:

Cooking Under Pressure by Carol W. Turner, Ph.D., R.D., L.D.

NMSU, Extension Food & Nutrition Specialist

Cooking Under Pressure by Eugenia Wilson and Nellie Buchanan

Cooperative Extension Service, University of Kentucky, College of Agriculture, Lexington KY, 2012

Remember:

- Never overfill the pressure cooker
- Precise timing is important
- Replace pressure cooker parts regularly



Three Methods of Releasing Pressure

Cold water release method – This is the fastest method to stop the cooking process by lowering the temperature and the pressure. The pressure cooker is carried to the sink and tilted at a slight angle to allow cold water to run over the outer edge of the lid so that it runs down the side of the pot and across the top of the lid, but not directly over the vent or valve. If your faucet is too short to allow water to run over the top of the cooker, then use the sprayer attachment, or set the pressure cooker in the sink filled with a couple of inches of water until the pressure drops.

Quick release method – The quick release mechanism is found on modern pressure cookers, and while not as fast as the cold water release, this special valve rapidly releases pressure with just the turn of a knob or the push of a button. The quick release is used to drop the pressure without lowering the temperature of the food.

Natural release method – This is the slowest, and the most often used method of releasing pressure. The pressure cooker is removed from the heat source and the pressure is allowed to subside naturally. This gradual drop in pressure and temperature allows the food to finish cooking through the slow cool-down process.



Whole Meal Magic!

One of the handiest advantages of pressure cooking is being able to prepare an entire meal at one time, in only one pot! By using the cooking rack to keep certain foods out of the cooking liquid, each food - whether it's an entrée, side dish or dessert - retains its own individual, delicious flavor.

Ideally, you should select foods which require the same cooking time when planning a pressure cooker meal-in-one. The size of the food pieces, of course, will affect the cooking time. For instance, 1/2 inch slices of potato cook in 3 minutes, while 3/4 inch slices take 5 minutes. So, you can adjust cooking times by cutting your foods into larger or smaller pieces.

If the foods you select for your meal-in-one require widely different cooking times, you can easily make adjustments. For example, when your menu features barbecued chicken (8 minutes) with corn-on-the-cob (2 minutes) and green beans (2 minutes), follow this common sense cooking schedule:

1. Place chicken in pressure cooker with desired amount of cooking liquid. Close cover securely. Bring cooker to pressure and cook for 6 minutes.
2. Quick cool the pressure cooker under cold water until pressure is completely reduced. Remove the pressure regulator and then the cover. Place corn and green beans on cooking rack in pressure cooker.
3. Close cover securely. Bring pressure cooker back to pressure and cook 2 minutes more.
4. Quick cool the pressure cooker until pressure is completely reduced, remove the cover and "presto!" Dinner is served! You can adapt this easy cooking method for dozens of delicious meals-in-one with your pressure cooker. It's almost like magic!

Swiss Steak

1 ½ to 2 pounds round steak
½ cup all-purpose flour
½ teaspoon each, salt and black pepper
2 Tablespoons olive oil
1 onion, chopped
½ cup red wine (or beef broth)
1 (28-ounce) can chopped tomatoes, with juice
1 (3-ounce) can tomato paste
2 green bell peppers, seeded and chopped
2 Tablespoons minced garlic
1 Tablespoon dried oregano
1 Tablespoon dried basil
1 teaspoon crushed dried rosemary
Pinch of red pepper flakes
2 Tablespoons cornstarch

Cut the steak into serving portions. In a plastic bag, mix the flour, salt, and pepper, and add the meat, shaking gently until coated. Heat the oil in the pressure cooker over medium heat. Add the meat and cook until browned on both sides. Set aside. Add the onions to the cooker and cook, stirring, for about 3 minutes. Deglaze the cooker with the wine (or broth), scraping up all those crusty, brown bits from the bottom. Add the remaining ingredients, except cornstarch. Stir well. Return the meat to the cooker and lock the lid in place. Bring to 15 psi over high heat. Immediately reduce the heat to the lowest possible setting to stabilize and maintain that pressure, and cook for 18 minutes. Remove from the heat and use the natural release method to depressurize. Carefully open the lid after the pressure drops. Remove the meat to a serving platter; cover and keep warm. Thicken the sauce by making a slurry with the cornstarch mixed with 1/3 cup cold water; stir the slurry into the broth and simmer gently over medium heat, stirring often as it thickens, but do not boil. Adjust the seasonings to taste. Pour the gravy into a separate serving bowl. Serve over mashed potatoes or pasta noodles. Serves 4.

Beef Pot Roast

4 lbs. Beef Pot Roast 2-3 in. thick

2 Tbsp Fat or oil

1 Tbsp Salt

1/2 tsp Pepper

4 Onions, medium, sliced

2 1/2 cups Water

1. Brown beef in fat in cooker.
2. Season with salt and pepper. Add onions and water.
3. Cover, set control at 15 PSI and cook 45-60 minutes after control jiggles.
4. Cool cooker normally for 5 minutes, then place under faucet.

Gravy:

2 cups Broth (liquid from cooked meat)

1/4 cup Flour

1/2 cup Cold Water

1. Skim excess fat from broth. Add enough water to broth, if necessary, to measure 2 cups.
2. Mix flour and water until smooth. Gradually stir into broth.
3. Cook over medium heat, stirring constantly, until gravy is smooth and thickened. Season with salt and pepper.

Serves 6 to 8.

Chicken Cacciatore

- 1 (3-pound) chicken, cut up
 - 3 tablespoons all-purpose flour
 - 1 teaspoon salt
 - 1/8 teaspoon pepper
 - 2 Tablespoons vegetable or olive oil
 - 1/4 Cup diced salt pork
 - 1 1/2 Cups sliced onions
 - 2 Cloves garlic, minced
 - 2 Tablespoons minced parsley
 - 1/2 teaspoon chopped fresh oregano
OR 1 teaspoon dry oregano
 - 1/2 Cup chopped carrots
 - 1/2 Cup chopped celery
 - 1 (1-pound) Can Italian tomatoes, chopped
 - Salt and pepper
 - 1/2 Cup white wine
 - 1 (6-ounce) Can tomato paste
- ✓ Coat chicken in mixture of flour, salt, and pepper; set aside.
 - ✓ Put oil in a 4- or 6-quart Presto® pressure cooker. Sauté pork until crisp.
 - ✓ Add onions and sauté until light brown; remove and set aside. Brown chicken a few pieces at a time; set aside.
 - ✓ Pour off excess drippings; stir garlic, parsley, and oregano into remain-ing drippings.
 - ✓ Return chicken and onion to pressure cooker.
 - ✓ Add carrots, celery, tomatoes, salt, pepper, and white wine.
 - ✓ Close pressure cooker cover securely.
 - ✓ Place pressure regula-tor on vent pipe.
 - ✓ Cook for 8 minutes, at 15 pounds pressure, with regulator rocking slowly.
 - ✓ Cool pressure cooker at once.
 - ✓ Place chicken on warm platter.
 - ✓ Stir tomato paste into sauce in pressure cooker.
 - ✓ Simmer until thickened.
 - ✓ Pour over chicken.

Makes 4 to 6 servings

Chicken Paprika

2 1/2 - 3 lbs. chicken

2 tsp Salt

1/4 tsp Pepper

2 tsp Paprika

6Tbsp Flour

1/4 cup Fat

4 cups Water

2 Chicken Bouillon Cubes

2 cups Sour Cream

1. Cut chicken into individual servings.
2. Mix salt, pepper, paprika and flour, coat chicken.
3. Brown in hot fat in cooker. Place on rack.
4. Slowly add water and bouillon cube.
5. Cover, set control to 15PSI and cook 15 minutes after control jiggles.
6. Cool cooker normally for 5 minutes, then place under faucet.
7. Stir in sour cream; heat thorough. Serves 8 to 10.

Barbecued Spare Ribs

- 3 pounds spareribs, cut into serving pieces
- Salt and pepper
- Paprika
- 1 tablespoon vegetable oil
- 1 large onion, sliced
- 1/4 cup catsup
- 2 tablespoons vinegar
- 1 teaspoon Worcestershire sauce
- 1/8 teaspoon chili powder
- 1/4 teaspoon celery seed
- 1 1/2 cups water

Season ribs with salt, pepper, and paprika. Pour vegetable oil into Presto® pressure cooker. Turn heat selector to medium and brown ribs. Add onion. Combine catsup, vinegar, Worcestershire sauce, chili powder, celery seed, and water. If desired, stir in 1/4 teaspoon liquid smoke. Pour over meat in cooker. Close cover securely. Place pressure regulator on vent pipe and cook 15 minutes at 15 pounds pressure, with regulator rocking slowly. Let pressure drop of its own accord.

Makes 6 servings

Three Minute Veggie Plate

1 cup Water

1 large Cauliflower, broken into large flowerets

1 lb Green Beans, cut in halves

8 Carrots, medium, quartered and cut lengthwise

1 large Bunch Broccoli, stems cut in quarters

1 1/2 tsp Salt

6 Tbsp Browned Butter

1. Put water in cooker with rack.
2. Place vegetables on rack. Season with salt.
3. Cover, set control at 15 PSI and cook 3-4 minutes after control jiggles. Reduce pressure instantly.
4. Arrange vegetables on large serving plate. Serve with hot browned butter. Serves 8.

Honey Glazed Herbed Carrots



1 lb fresh baby carrots, or carrots cut to a similar 2 inches x 1/2 inch thickness

1/2 cup honey

1 teaspoon dried dill

1 teaspoon dried thyme

Salt to taste

2 tablespoons butter, not margarine

Add 1/2 cup water to the pressure cooker. Wash the carrots and place them in a steamer tray. Place the tray in the cooker, using a cooking rack if needed to elevate it above the water level. Lock the lid in place. Bring to 15psi over high heat, immediately reduce the heat to the lowest possible setting to stabilize and maintain that pressure. Cook 3 minutes. Remove from heat and use the quick release method before opening the lid. Pour off the water and wipe the pressure cooker dry. Melt the butter in the pressure cooker over medium heat. Add the dill and fry a couple of minutes or until the aroma is released. Add salt and honey, stirring to blend. Add the cooked carrots and saute, turning gently until they are well coated with the honey mixture and heated through. Serve hot, spooning any remaining honey butter over the carrots.

Basic Green Beans

Pour $\frac{1}{2}$ cup water into the pressure cooker and add the rack or steamer tray. If necessary, elevate the rack so it is above the water line. Place green beans in pressure cooker and lock the lid in place. Bring to 15psi over high heat; immediately reduce the heat to the lowest possible setting to stabilize and maintain that pressure, and cook for 2 to 3 minutes. Remove from the heat and use the quick or cold water release method to depressurize. Carefully open the lid after the pressure drops. Drain green beans and place in a warm serving bowl. Season to taste with butter, salt, and pepper.

Basic Mashed Potatoes

6 medium-size russet potatoes, peeled and quartered
 $\frac{1}{2}$ cup whole milk, $\frac{1}{2}$ and $\frac{1}{2}$, whipping cream, buttermilk, or sour cream (your choice)
4 Tablespoons ($\frac{1}{2}$ stick) butter, at room temperature
Salt and pepper, to taste

Pour $\frac{2}{3}$ cup water into the pressure cooker and add the rack or steamer tray. If necessary, elevate the rack so it is above the water line. Add the potatoes and lock the lid in place. Bring to 15psi over high heat; immediately reduce the heat to the lowest possible setting to stabilize and maintain that pressure, and cook for 6 minutes. Remove from the heat and use the quick or cold water release method to depressurize. Carefully open the lid after the pressure drops. Use a colander to drain the potatoes, and set aside. (At this point, you can put them through a potato ricer for a lighter texture). Reheat the cooker over medium heat, adding the milk and butter, and heat until bubbles begin to form around the edge of the cooker. Add the potatoes, salt, and pepper, and start mashing with a potato masher; or use an electric mixer on a low setting, but do not overdo it or the potatoes will be more like glue. Add more butter if necessary, and adjust seasonings to taste. Transfer to a warm bowl, and serve. Serves 5 to 6.

Quick and Easy Pinto Beans

1 lb. dried pinto beans
3 cups water

Place beans and water in pressure cooker. Bring to a boil and boil for 2 minutes. Remove from heat, cover, and let stand for at least 1 hour, but preferably 4 hours or more. Drain and discard the soaking water and rinse the beans.

Place beans back into pressure cooker and cover with at least 2 inches of water (or broth), but not more than half full. Add 1 to 2 tablespoons of a pure fat, such as cooking oil, bacon drippings, or butter, in order to minimize foaming. Lock the lid in place. Bring to 15psi over high heat. Reduce the heat to maintain and stabilize that pressure and cook for 12 to 15 minutes. Use the natural release method when pressure cooking any type of dried bean or legume. Check for doneness, and if necessary return the beans to pressure for an additional 3 minutes.

Add salt after the beans have finished cooking in order to avoid toughness.

Serves 6 to 8.

Bread and Butter Pudding with Raspberry Sauce

- 2 tablespoons butter, softened
- 5 slices French bread, 1/2-inch thick
- Ground nutmeg
- 2 eggs
- 1 egg yolk
- 1/3 cup sugar
- 1/2 teaspoon vanilla
- 2 cups milk, heated

Butter one side of bread slices. Sprinkle lightly with nutmeg. Cut into quarters. Arrange in 1-quart buttered casserole that fits loosely in a 6-quart Presto® pressure cooker. Beat eggs, egg yolk, sugar, and vanilla. Slowly add milk to egg mixture. Pour over bread. Cover casserole securely with aluminum foil. Place cooking rack or steamer basket and 4 cups water in 6-quart pressure cooker. Place casserole on rack or in basket. Close cover securely. Do not place pressure regulator on vent pipe. Heat until steam flows gently through vent pipe. COOK 5 MINUTES. Place pressure regulator on vent pipe. COOK 10 MINUTES, at 15 pounds pressure. Cool cooker at once. Serve warm, or at room temperature with Raspberry Sauce.

Raspberry Sauce

- 1 (10-ounce) package frozen (thawed) raspberries
- 1/2 cup red currant jelly
- 1 tablespoon cornstarch

Combine raspberries, jelly, and cornstarch in saucepan. Cook and stir until sauce boils and thickens. Strain sauce. Let cool.

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