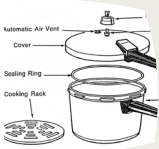




▶ 3 GENERATIONS OF COOKERS – HOW THEY WORK



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Cooking Under Pressure

Perfect Meals Using a Pressure Cooker

At the end of a busy day, who wouldn't love to quickly produce a tasty, nutritious, home-cooked meal with minimal effort? One way to achieve this is by utilizing a pressure cooker.

Some of you may be hesitant about using a pressure cooker, either because you're not familiar with them or have heard horror stories from your mother or grandmother about them exploding and the cooker and its contents flying across the room. As long as you correctly follow the manufacturer's operating instructions for the cooker, you can cook most foods very safely. Today's cookers include more safety release valves & interlocking lids, which makes them safer than older models. Electric pressure cookers have their own heat source that is automatically regulated to maintain desired pressure.

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 style" pressure cookers that allow the operator to change the weight of the weight-modified value (5, 10 or 15 pounds of pressure). AVERAGE COST: \$150+.

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 inter-locking lid that will not allow the user to open the lid if the internal pressure is unsafe for release. AVERAGE COST: \$60+.

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 operated with caution when releasing vapor through the valve, especially while cooking foamy foods and liquids (beans, lentils, grains, milk and gravy). AVERAGE COST: \$70+.

HOW PRESSURE COOKERS WORK?

The pressure cooker works by creating steam to build pressure. A small amount of water or other liquid is placed in the bottom of the pot and heated to boiling. The boiling liquid produces steam, which is trapped under a tightly sealed lid. This raises the pressure and temperature to very high levels so that food cooks thoroughly in just minutes. Most

pressure cookers have a pressure gauge that allows you to adjust the pressure within the cooker. They also contain a release valve for releasing the pressure. The newest generations of pressure cookers have a spring loaded valve that pops up when the correct pressure is reached within the cooker. There are many different pressure cookers on the market so be sure to refer to your owner's manual before using your method.

BENEFITS OF PRESSURE COOKING

The following benefits make learning how to use a pressure cooker worth it!

COOK MEALS IN LESS TIME. While meals prepared in crock pots or ovens can take hours to cook, pressure cooked meals are usually ready in a half hour or less.

SAVE MONEY. With shorter cooking times, families can save money on their energy bills every month. Grocery bills can also drop since cheaper cuts of meat can be used in pressure cooker recipes. This can lead to big savings over the year!

MAKE HEALTHIER MEALS. Certain traditional cooking methods can destroy some of the vitamins and minerals in food. Pressure cooking preserves these nutrients because the food is cooked quickly in a sealed environment. This results in healthier meals.

USE YOUR COOKER SAFELY

Not every pressure cooker operates exactly the same way, so before using yours, read the owner's manual for specific instructions and follow them carefully. Here are some tips to make sure pressure cooked meals are prepared safely:

- Make sure the vent pipe is free of any bits of food or other blockage. A blocked vent can result in unsafe pressure levels.
- Lock the lid properly so that it does not come open during use. Check the lid locking mechanism thoroughly.
- Always use cooking liquid when you are using pressure to cook the food. Although you can brown meats in the bottom of the cooker first, you must then add liquid before sealing the lid and building pressure. Operating the pressure cooker without liquid or allowing the cooker to boil dry will damage the unit and can be dangerous.

- Never fill the cooker more than $\frac{2}{3}$ full of liquid. You need enough head space for the cooker to function properly and safely. Leaving adequate space helps prevent boiling liquid from seeping out of the pot.
- Brown meats before adding liquid or other ingredients to develop good flavor. Do NOT open the lid of the device until the pressure has completely dropped.
- Do not leave the cooker unattended during use. Check the pressure gauge occasionally to be sure everything is working well.

PRESSURE AND COOKING TIMES

It is important to pay attention to both the cooking time and pressure of your device while preparing meals. Specific cooking temperatures and cooking times will vary for different cookers. Foods cook very rapidly under high pressure, so increasing the pressure will cook food faster and you may end up with overcooked food if you leave the food in too long. Before following any recipe, always read your owner's manual for specific instructions on temperature, time, and pressure. Below is a general cook time chart for some common foods.

FOOD	COOKING TIME IN MINUTES	AMOUNT OF COOKING LIQUID
Beef, corned, 3 lbs.	50-60	2 cups
Pork, roast, 3 lbs.	40-45	1 $\frac{1}{2}$ cups
Pork, ham shank, 3 lbs.	30	1 $\frac{1}{2}$ cups
Chicken, whole, 2-3 lbs.	15-20	1 cup
Chicken pieces, 2-3 lbs.	8-10	$\frac{3}{4}$ cup
Corn on Cob	3	$\frac{1}{2}$ cup
Potatoes, new, sm. whole	5	1 cup
Turnips, quartered pieces	3	$\frac{1}{2}$ cup
Okra, small pods	2-3	$\frac{1}{2}$ cup
Collard greens, chopped	5	1 cup

BEST FOODS TO PRESSURE COOK

Since the pressure cooker cooks food at such a high temperature, things that are naturally tougher or take a long time to cook with other methods tend to do well cooked under pressure. Examples of perfect pressure cooker foods include, but are not limited to, chicken thighs, pork chops, rump roast, brown rice, bulgur, dried beans, or vegetables such as beets, carrots, potatoes, or winter squash.

A GOOD RULE OF THUMB: *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.*

PRESSURE COOKING
saves time, energy and vitamins!

Prepare gourmet meals in minutes with the pressure cooker.

If you can boil it, steam it or braise it, you can pressure cook it!

Laura Pazzaglia, www.hippressurecooking.com

*Cooking Time
1/3 or less*

*Vitamins Kept
90 - 95%*

*Energy Saved
70% or more*

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RECIPES

HONEY GLAZED HERBED CARROTS

1 lb. fresh baby carrots or carrots cut to a similar 2-inch by 1/2-inch thickness

1/2 cup honey

1 teaspoon dried dill

1 teaspoon dried thyme

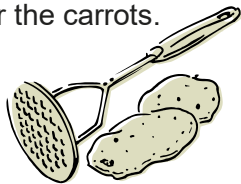
Salt to taste

2 tablespoons butter or 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 the 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 cooker dry. Melt the butter in the cooker over medium heat. Add the dill & sauté a couple minutes or until the aroma is released. Add salt & honey, stirring to blend. Add cooked carrots and sauté, 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 MASHED POTATOES

6 medium-size russet potatoes, peeled and quartered



1/2 cup whole milk, half-and-half cream, whipping cream, buttermilk, or sour cream (your choice)

4 tablespoons (1/2 stick) butter, room temperature

Salt and pepper to taste

Pour 2/3 cup water into the pressure cooker and add the rack or steamer basket. 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 stabilize and maintain that pressure, and cook for 6 minutes. Remove from heat and use the quick release method to depressurize. Carefully open the lid after the pressure drops. Use a colander to drain the potatoes; 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 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 or 6.

COLA PORK ROAST

2-3 lb. pork loin, shoulder or butt

2 cans regular can cola

1 packet powdered onion soup mix

2 tablespoons cornstarch



Place the roast and all ingredients except cornstarch into pressure cooker and securely lock on lid. Set the cooker to high (15psi) and cook for 40 minutes. Let the pressure release naturally for 10 minutes before quick releasing remaining pressure and safely removing lid. Check roast for tenderness. If not fork tender, re-secure the lid and cook an additional ten minutes, with a 10 minute natural release. Remove roast to rest under foil as you thicken the gravy.

To thicken gravy: "Brown" with lid off until cooking juices are simmering. Mix cornstarch with 2 tablespoons water & slowly add to simmering juices, stirring constantly, until thick. Carve roast & serve.

To make this a one-pot dish, throw in your favorite vegetables when you remove the roast to rest. Five minutes under high pressure (15psi) is a pretty safe time for quartered potatoes & large chunked carrots.

BLACK BEANS AND RICE (MIXED)

2 tablespoons olive oil

1/2 onion

1/2 green bell pepper, diced

1 can black beans (14-16 oz.), with liquid

1 teaspoon oregano



- ¼ teaspoon sugar
- 2 teaspoons cider vinegar
- 1/2 cup chicken stock or broth
- ¼ teaspoon cumin
- ¼ teaspoon garlic powder
- 2 ½ cups water
- 1 ½ cups long grain white rice, uncooked
- Salt and pepper to taste

Add olive oil, onion, and bell pepper to the pressure cooker and heat on high (15psi) or “brown” with the lid off for 5 minutes, until onions are almost completely translucent. Turn off or remove cooker from heat. Cover with remaining ingredients, except for water and rice, and stir well to combine. Pat the mixture down softly with a spoon to even it out. Slowly pour water over top the bean mixture without stirring. Then pour rice over top of everything. Securely lock on the pressure cooker’s lid, set the cooker to high (15psi) and cook for 4 minutes. Let the pressure release naturally for 5 minutes before quick releasing the remaining pressure and safely removing lid. Let cool for 5 minutes for rice to fluff up before serving.

If you prefer to serve your beans over the rice instead of all mixed together, follow the first two directions on the stove over medium high heat as you cook the water & rice in the pressure cooker on high for 4 minutes. Once beans are bubbling, lower the stove to a simmer until the rice is ready.

POT ROAST WITH ONIONS & ROOT VEGETABLES

- 3 lbs. roast (chuck, loin, round, sirloin), trimmed of visible fat
- 2 to 4 tablespoons barbecue rub
- 1 onion, sliced into thick rings
- 1 cup water or burgundy wine
- 1 cup beef or chicken broth
- 1 cup water
- 3 large carrots, cut into 1-inch slices
- 2 medium white potatoes, peeled & sliced
- 2 medium sweet potatoes, peeled & sliced
- 2 medium turnips, peeled and sliced



Trim roast of visible fat and cover with barbecue rub. Coat pressure cooker with non-stick spray; brown roast and half of the onions. Add liquids; bring to high pressure (15psi) & cook 50 minutes. Perform a quick release to release cooker’s pressure. Safely remove lid and add the rest of the onions and root vegetables. Bring to high pressure again and cook 10 more minutes. Perform another quick release.

CHEESY TUNA CASSEROLE

- 3 cups egg noodles, uncooked
- 3 cups chicken broth or stock
- 2 cans white tuna, drained well
- ½ red bell pepper, finely chopped
- 2 tablespoons butter or margarine
- 1 tablespoon grated Parmesan cheese
- 1 cup cream cheese
- 1 cup frozen peas, thawed
- 1 cup buttery round crackers, crumbled
- Salt and pepper to taste



Add egg noodles, chicken stock, tuna, bell pepper and butter to pressure cooker; securely lock on lid, set the cooker to high (15psi) and cook for 4 minutes. Perform a quick release to release the cooker’s pressure. Safely remove lid and slowly stir in the Parmesan cheese, cheddar cheese, cream cheese and peas until cheeses are melted and creamy. Salt and pepper to taste and serve immediately, topped with cracker crumbs.

Try topping with crumbled sour cream and onion potato chips instead of crackers for a variation.

FALL-OFF-THE-BONE BABY BACK RIBS

- 3 lbs. baby back pork ribs
- 1-2 cups of your favorite barbecue sauce

Cut ribs into sections small enough to fit into the pressure cooker and generously coat with barbecue sauce. Lean ribs against the sides, standing upright in the cooker. Add any additional barbecue sauce at bottom of cooker; securely lock on the cooker’s lid and cook on high for 20-30 minutes. Perform a quick release to release pressure. Safely remove lid and serve.



GREEK TACOS WITH TZATZIKI SAUCE

4 lbs. boneless picnic pork shoulder, trimmed and cut into 1-inch cubes

½ teaspoon salt

¼ teaspoon pepper

1 teaspoon marjoram

2 tablespoons olive oil

½ cup fresh squeezed lemon juice

¼ cup water

TZATZIKI SAUCE

1 small cucumber, peeled, seeded & shredded

¼ teaspoon salt

1 cup plain Greek yogurt

1 tablespoon lemon juice

1 teaspoon dried dill weed

1 clove garlic, minced or pressed

⅛ teaspoon pepper

Mix the marjoram, salt and pepper with the olive oil and rub all over the pork. Add lemon juice and water to the cooking pot. Place the pork in the pressure cooking pot.

Select high pressure (15psi) and set the timer for 25 minutes. When beep sounds, turn off pressure cooker and let the pressure release naturally for 10 minutes. After 10 minutes, release any remaining pressure. When valve drops, carefully remove lid. Using a slotted spoon, remove meat from juices. Serve on a pita with diced tomatoes, shredded lettuce and tzatziki sauce.

Tzatziki Sauce: In a fine mesh strainer, toss the cucumber with salt. Allow the cucumber to drain for 15 minutes over a bowl or sink to remove excess water. In a medium size bowl, combine the drained cucumber, Greek yogurt, lemon juice, dill weed, garlic and pepper.

THAI CHICKEN THIGHS

1-2 tablespoons canola oil

2 lbs. boneless, skinless chicken thighs, trimmed (about 8)

½ cup chicken broth

¼ cup peanut butter

¼ cup soy sauce

1 tablespoon dried cilantro (or 3 Tbsp. fresh)

2 tablespoons lime juice

⅛ - ¼ teaspoon red pepper flakes

1 teaspoon ground ginger

1 tablespoon corn starch

2 tablespoons water

¼ cup chopped peanuts

Green onions, chopped (for garnish), optional

Add 1 tablespoon oil to pressure cooker pot and select brown or heat to high (15psi) with the lid off. When oil is hot, brown the meat in small batches; do not crowd the pot. Set the browned chicken on a platter. When all the chicken is browned, add chicken broth, peanut butter, soy sauce, cilantro, lime juice, red pepper and ginger. Stir to combine.

Add the browned chicken to the pot, along with any juices that have collected on the platter. Cover pot and lock lid in place. Select high pressure (15psi) and cook for 9 minutes. After cook time is complete, perform a quick pressure release. Remove thighs from pot leaving the sauce.

In a small bowl, dissolve cornstarch in 2 tablespoons water. Add cornstarch mixture to the sauce in the pot stirring constantly. Select simmer and bring to a boil, stirring constantly. After sauce thickens, add chicken thighs and coat with the sauce. Serve garnished with chopped peanuts & green onions.

VANILLA BEAN CHEESECAKE

1 cup butter cookies, crumbled

2 tablespoons butter

1 vanilla bean

16 ounces cream cheese, softened

¾ cup sugar

3 eggs

½ cup vanilla yogurt

1 tablespoon flour

1 teaspoon vanilla extract

2 ½ cups water

Whipped cream, to top

Mix cookie crumbs with butter and press into the bottom of a 7-inch springform pan to form the crust. Slice the vanilla bean lengthwise and scrape seeds into an electric mixer or food processor. Add cream cheese, sugar, eggs, yogurt, flour and extract to the electric mixer or food processor and mix on medium speed until mixture is well blended and fluffy. Pour the mixture over the crust in the springform pan. Tightly cover the pan with aluminum foil. Pour water into the pressure cooker and place a metal rack on the bottom. Place springform pan on the rack.

Securely lock on the pressure cooker's lid and set the cooker to high (15psi) for 25 minutes. Let the pressure release naturally for 10 minutes before performing a quick release to release the remaining pressure. Safely remove lid, and let cool in the pressure cooker for 10 minutes before attempting to remove the pan. Do not attempt to remove the pan while still hot!

Refrigerate for 1 hour with aluminum foil off (blotting any water on the top of the cake with a paper towel to keep cake dry), then replace aluminum foil and refrigerate an additional 6 hours before serving topped with whipped cream. Serve topped with Strawberry Sauce (below) or as is.

STRAWBERRY SAUCE TOPPING

- 1 (16 ounce) bag frozen strawberries
- 1 teaspoon corn starch
- 1 cup water
- 1 cup sugar
- ¼ teaspoon vanilla extract
- 1 teaspoon lemon juice



Cut open bag of frozen strawberries and add corn starch directly into bag. Hold bag closed and shake to lightly coat strawberries. Add coated strawberries to pressure cooker, cover with remaining ingredients and stir.

Securely lock on the pressure cooker's lid, set the cooker to low (5psi) and cook for 4 minutes. Let the pressure release naturally for at least 10 minutes before slowly releasing the remaining pressure to safely remove lid. Keep your hand away from the steam as you release the remaining pressure, as it could spit the extremely hot sauce. Serve as a hot sundae topping or refrigerate 2 hours to serve cold.

STORING YOUR PRESSURE COOKER

The lid should be inverted on the pressure cooker body with the sealing ring out of the groove. The sealing ring should be removed and rinsed after each use. Allow the sealing ring to air dry before placing back in the lid. Storing the cooker with the lid locked on (incorrectly) may cause unpleasant odors and may deform the sealing ring. Check your owner's manual for any other storing instructions unique to your cooker.

GENERAL SUMMARY

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 & nutritious. Tasty meals can be prepared in 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 techniques.
- Decrease energy usage.
- Keep your kitchen cool.
- Make great tasting food with or without added fats.
- Use less expensive cuts of meat because pressure cooking tenderizes meat.
- Boost nutrition by locking in flavor & color.

If you have any questions about food safety, please feel free to call me at 870.779.3609, email Chaley@uaex.edu, or visit Room 215 in the Miller County Courthouse, 400 Laurel, Texarkana, AR.

A handwritten signature in blue ink that reads "Carla Haley-Hadley". The signature is written in a cursive style and is positioned above the printed name.

Carla Haley-Hadley, County Extension Agent-Family & Consumer Sciences

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CMH:jds

REMEMBER:

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