

How to: Can & Preserve Your Own Food

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The purpose of this article is to help those who are new to canning, or those who want to know the “whys” of home food preservation. This is such a massive subject, so I will be adding to it over time. If anyone has a question or a suggestion, please feel free to post it.

First Step

The first step for any new home canner is to pick up a hard copy canning guide. Unless you plan to can only one food or plan to look up every step of the process, this book will be a priceless reference that you will use for years to come. It will give you specific instructions on what method to use for certain foods along with guidelines to fit you personally. I recommend the “Ball Blue Book of Preserving” which is easily found and covers nearly every subject. Of course you’ll need jars, lids, and the proper canner to suit your choice of food.

Home Canning

Home canning is an extremely broad subject that deals with everything from meatballs to marmalade. Though the subject of canning itself is vast, food preservation by canning follows quite a narrow set of rules. If these rules are followed, your home canned food will be safely preserved and delicious for many years.

Food Spoilers and Spoilage Inhibitors

There are a few main things that seek to spoil your food, and a few main ways to destroy them. Mold, Yeast, Enzymes, and Bacteria not only have the ability to spoil your food, but they also have the ability to make you sick to the point of death. With that said, you can easily avoid food spoilage with a little knowledge and a few simple steps. There are 3 common ways to protect your food from spoilage: Acid, Sugar, and Heat. Heat is the most important and is used (to some degree) in every type of home canned food. Acid is used to preserve things like pickles and sauerkraut, and sugar is used in jam and fruits. If you can destroy the spoilers and keep them from getting back into the jar, you have successfully preserved your food.

The Two Canning Techniques

Pressure canning and water bath canning are the two canning methods and both should be considered carefully. These two methods have the same principals but entirely different food spoilage targets, a mix-up in procedures could have bad consequences.

Water bath canning is a method in which the temperature of the food never gets any higher than 212 degrees F, the boiling point of water. Water bath canning is only reserved for foods with enough acid or sugar to make them safe at these temperatures. The point of pressure canning is to increase the temperature of the food to a minimum of 240 degrees F at which point the nastiest bacteria spores are destroyed. Pressure canning is used for (but not limited to) low acid foods such as meat, soups, vegetables, gravies, and meat stock.

Altitude

Your altitude affects both methods of canning and should be considered before you start. You should have a canning book, it will guide you through these variables. If you live higher than 1000 feet, you will need to adjust the canning pressure or length of time to suit your altitude. At high altitudes, water boils at a lower temperature than is required to kill certain spoilers.

Hot Food into Hot Jars

You'll often read, "Hot Jars, Hot Liquid, Hot Canner". This is because it is the quickest way to finish the sterilization process and it prevents a number of problems. The longer food is heated, the less flavor and nutrients it will have. Temperature and pressure are more quickly gained if all parts are heated before canning. You can put cold food into cold jars and put it all into a cold canner, but it will take three or four times longer to heat up the entire thing. One major mistake, however, is putting cold or cool jars into a hot canner, or vice versa. You'll break a bunch of jars this way because of the temperature shock to the glass. If you decide to start out all cold for some reason, just remember to start your timer after heat and or pressure have been achieved.

Boiling Water Bath Canning

Boiling water bath canning is a method of home canning in which sealed jars of food are immersed into a pot of boiling water for a preset amount of time. There are a few universal rules to water bath canning, but not all foods get treated the same. For high acid or high sugar foods only:

- Fill jars to within a half inch of the rim of the jar with hot food or hot liquid.
- Check for air bubbles trapped under the surface of the food or liquid.
- In the case of pickles or other free floating food, a butter knife is handy to knock air bubbles loose.
- Removing air bubbles allows the air to escape the jar during canning which gives you a better vacuum.
- Apply lids and rings finger snug, not tight.
- Place jars into the boiling water and make sure they are covered by a minimum of 2 inches of water.
- Put a lid on the canner or pot to help hold in the heat.
- Start the timer when the water comes back to a full boil.
- When the time is up, turn off the heat and wait until the water stops boiling.
- Remove the jars from the water bath and set them aside for two minutes.
- After a minute or so, tighten the lids fully to "complete" the seals. A silicone oven mitt is a good tool for this purpose.
- This step is unnecessary,

but greatly increases the chance that your jars will seal. - Place the finished jars aside at a minimum of one inch apart to cool. - Within a couple minutes, you should see and hear the first jars sealing.

Pressure Canning

If you are going to get food poisoning, it is likely to be from low acid and low sugar home canned foods that were improperly preserved. This doesn't mean not ever to even try pressure canning, it means to follow the tried and true guidelines. If you do this, you won't have any problems and you'll love the results! Pressure canning **MUST** be used when preserving food that doesn't contain enough acid or sugar to kill the worst bacteria. Also, pressure canning relies totally on heat to kill the bacteria spores that are almost certainly found in the food. - Most pressure canners come with an instruction manual, which will help a lot with the details. - Depending on the type of canner you have, you'll want one to two inches of water in the bottom to begin with. - Distilled or rain water is the best because it leaves no calcium or deposits on your jars. These are sometimes very difficult to remove. - If you want to use tap water, add a little vinegar to avoid these water deposits to some degree. - Here's one way that pressure canning differs from water bath canning: the jars don't have to be completely submerged. - Now is a good time to preheat the canner, but make sure it isn't sealed so that it builds up pressure yet. - Put hot food and or liquid into hot jars to within a half inch of the jar rim. - Check for air bubbles trapped under the surface of the food or liquid. - In the case of green beans or other vegetables, a butter knife is handy to knock air bubbles loose from around the food. - Put lid and ring on and tighten it to finger snug, not tight. - Put the jars of food into the canner and apply the lid. - It's very important to turn the heat up high at this point and allow the canner to vent steam steadily. - Once the water begins to boil, it usually takes 10-20 minutes for the steam to force out any remaining air in the canner. - You'll notice the air escaping the canner going from white to clear even though it is blowing air out the entire time. - This means that steam is replacing air inside the canner, which is important. - Steam will give you a more accurate pressure reading and it cooks the food more completely. - When it blows out steam constantly, it's time to apply the weight and build up pressure. - When the pressure reaches (a minimum of) 10 pounds, it is time to start the clock. - At this time you must reduce the heat to just maintain 10 pounds (or more) of pressure. - If you don't have a gauge, use the weight as your guide. If the weight is moving, you are at pressure. - If you allow the canner to get too hot, the jars will lose liquid and might not seal properly. - The pressure and time are both variable to your specific food and altitude. - When the time is up, you simply turn off the heat and wait for the canner to cool down and de-pressurize all on it's own. - Pressure decreases as the temperature decreases, reducing pressure prematurely will cause big problems for your efforts. - If you manually release pressure at this point, you could break jars or force liquid out of the jars. - When the pressure is zero (between 30

and 90 minutes), you can begin to check your canner. - Start by lightly jostling the canner weight to see if the pressure is gone. - If the canner still has pressure on it, leave it for another 10 minutes or more to cool on it's own. Don't get in a hurry. - When you are very sure the pressure is gone, slowly open the canner lid until it is loose and peek at your jars. - The jars will still "boil" for quite some time, which is normal, but taking the lid off too quickly could result in fluid loss or worse. - Allow them to cool for a few minutes with the lid loosely attached, this will help cool the jars more slowly than fully open. - You should be able to safely remove the jars no more than 20 minutes later. - Many times, the jars will start sealing right inside the canner, which is normal. - Remove the jars and wait a minute or so before "completing" the seal by tightening the lids firmly. - This step is unnecessary, but greatly increases the chance that your jars will seal. - Set them an inch or more apart to cool and you are done.

RAW PACK MEAT CANNING

Pressure Canner ONLY

- Pints yield roughly one pound of meat, which is generally good for a meal supplement of two people.
- Cut uncooked meat into one-inch cubes (neither size nor shape is important) and pack tightly into hot jars leaving one inch of air space at top of jar.
- Salt is unnecessary, but one half teaspoon is sufficient for taste.
- Water is unnecessary, but a tablespoon or two aids in filling the trapped air space around the meat. The point here is to keep any air out from under the surface of the meat liquid. A small amount of water also helps immerse the meat fully after the canning is complete.
- Use a butter knife or the handle side of a fork or spoon to work any remaining air out from under the meat or juice.
- Place the lids on the jars firmly, but not tightly. I call it finger tip tight, but the point is to allow air to escape the jar during the process.
- After adding two inches of water to the pressure canner, you can fill it with the jars. The jars will not likely be completely covered with water, which is fine since the water and the steam itself actually sterilizes the food.
- At this point, you have two options. You can preheat the canner or put everything into the cold canner and allow the jars of meat and the canner to heat up at the same time. If it's your second batch or for any reason you have a hot canner, you must preheat the

jars and the contents to some degree or they could easily break when they come in contact with the hot canner water.

- Apply the canner lid tightly (do not yet add the pressure weight) and allow the water to boil until a steady stream of steam flows from the canner. This displaces the air inside the canner with steam, allowing complete heating of the food to the inside of the jars. On a small canner, it usually takes less than 10 minutes for the steam to completely displace the air inside the canner.

- After all the air has been fully replaced by steam, put on the pressure weight and bring the pressure up to a minimum of 10 pounds or more depending on your elevation. Refer to the canning elevation guidelines to find your proper canning pressure.

- When the canner reads the proper pressure, start the clock. Pints require 75 minutes and quarts require 90 minutes of cooking at a constant pressure. One word of advise, once the proper pressure is reached, it takes about one third the heat to maintain the pressure, so turn the heat down until the pressure stabilizes. More pressure is generally better than less, but over 15 pounds isn't a good idea. If your canner has a pressure gauge (highly recommended) keep the pressure just over 10 pounds (depending on elevation), and try not to allow the pressure weight to jiggle or release steam quickly. A quick release of pressure or a continual jiggle can boil water and food out of jars causing liquid loss and broken jars.

- When the time is up, remove the heat and allow the canner to de-pressurize on it's own leaving the weight in place. Reducing pressure before the contents have cooled WILL cause broken jars. Never release pressure, but allow the canner to cool in order to de-pressurize. It is at this de-pressurizing stage that you will very likely smell the wonderful smell of your food. This is completely normal since it is necessary to exhaust air out of the jars to get a super good vacuum seal. This is why you don't put lids on too tightly to begin the process.

- When the pressure is zero remove the pressure weight only if there is indeed no more pressure escaping the vent. Slowly loosen the lid and allow it to rest if the jars are "boiling" too violently.

- At this point, the vacuum in the jars will cause them to continue to "boil" for quite a while and is completely normal as long as the contents are not hindering the sealing of the lids. If they are still boiling very bad, just give them a few more minutes to cool so they don't force food into the jar seal. If done properly, the lids should have started to pop inward at this time.

- Slowly remove the jars from the canner and place them an inch or so away from each other so they can cool. It is said to ensure that the jars do not cool too quickly or they could break. I have sat these jars in front of an air conditioner before just to see if they would, myth busted in my book. There is one more step to consider. Get on some oven mitts, or better yet, high heat silicone oven mitts. Around 5 minutes after taking the jars out of the canner, the rings tend to loosen due to a sudden cooling. Tighten them now and you have an almost 100% success rate of sealing.

HOT PACK MEAT CANNING

Pressure Canner ONLY

- There are a couple differences between hot pack canning and raw pack canning, but they are very similar. Hot pack means that the food is partially or fully cooked before packing into jars. Hot pack canning meat usually makes the end result more tender or even too tender depending on the amount of pre-cooking time. We use hot pack canned meat for one purpose and raw pack for another. Raw pack canning meat causes the meat to shrink in the jar leaving juice in it's place, whereas hot pack canning generally ends up looking exactly like it started. Hot pack canning requires liquid from the cooked meat or water to fill in the air space around the meat. At times, raw pack meat canning leaves a small amount of meat above the juice level in the jar allowing that part of the meat to turn a darker color. Of course this part of the meat is still safe to eat, but I generally add a small amount of water to keep this from happening. Regardless, there still needs to be one inch of airspace between the food or water and the top of the jar.

HAYDEN'S NOTE:

I take no responsibility for your use of this information. If you are unsure, ask an experienced canner or seek further qualified assistance. Canning food *can* be dangerous if not done properly.