



MODERN RUSTIC

Canning, Pickling and Dehydrating

A GUIDE TO FOOD PRESERVATION
INCLUDES CANNING, PICKLING, DEHYDRATING
AND HOW TO START A ROOT CELLAR

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Modern Rustic: Canning, Pickling and Dehydrating

A Guide to Food Preservation – Includes Canning, Pickling, Dehydrating and How to Start a Root Cellar

Eric Beuning

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Introduction

The homesteading movement today has a diverse range of people practicing their own brand or philosophy of living off the land. Some people turn towards animal husbandry, getting their milk and meat from cattle, goats or pigs. Other homesteaders might use wild game trapping and hunting for their core protein. Many turn to gardens and orchards for the kinds of fruits and vegetables you simply can't get at the grocery store.

Regardless of a homesteader's chosen lifestyle there still remains the core philosophy of living life by the work of your own two hands and making the most of what the forest, field and soil have to offer. Enjoying fresh fruits, vegetables, milk and meats during the peak season is a great benefit. Inevitably, each homesteader finds themselves in a situation where they are staring at more bounty than they can eat and they have to find the best way to preserve the harvest.

In this book we'll take a look at various preservation techniques for canning fruits and vegetables as well as meat. We'll also look at the best methods for pickling, fermenting and dehydrating as well as setting up a root cellar.

Sourcing

Now I recognize that not everyone is living off the land for 100% of every calorie they put in their body or stock in the pantry. As such, each chapter will also include notes for sourcing the best of the best at the grocery store or through a CSA.

CSA's are a new trend in the American marketplace. It stands for Community Supported Agriculture and it is a great way for a homesteading specialist to augment their own pantry with foods that they might not specialize in themselves.

Different farms and ranches might put their own little tweaks on the CSA concept. Essentially the idea behind a CSA is that early in the season you invest a certain amount of money with the CSA to have a stake or share in the goods they produce.

Some CSA's specialize in a just a few things. For example a CSA near me specializes only in honey and bees wax products. A single share costs you \$300 for the year and you get an assortment of candles and balms. Then in the fall you

get a large stash of rendered and filtered raw honey. I know there are some farmers and orchard keepers that they deal with that have silver tongued deals worked out where they pay a little extra to have the hives placed in their fields to help improve pollination and yield of their own crops.

This is just one example of a CSA specialist.

Many CSA's specialize in a handful of different goods. There is a charity CSA in my area that offers goat's milk products for 10 months out of the year, as well as farm fresh chicken eggs. Then in the fall you can choose between a few select cuts of pork or a large amount of fresh smoked sausage. On good years they even offer fresh, in-season sweet corn.

This is an example of what you'll find with many CSA's.

There are however a few CSA's out there which were once large scale operations or family farms that have turned away from specializing in one particular set of goods and instead offer a wide range of products throughout the season.

This type of CSA used to be very rare but with all the current blow back against GMO (genetically modified organism) products and the rise in popularity of organic vegetables and pasture raised animals you are starting to see them more and more.

In my area there is a charity organization just getting started in a CSA organization like this. Their plan is to offer asparagus and greens in the spring, snow peas and strawberries in early summer. Then after the 4th of July they intend to offer young red potatoes, pearl onions and blueberries. In August they plan to offer tomatoes and fresh sweet corn. Then, they'll finish out the year with butternut squash and apples.

Along the course of the calendar they even plan to offer fresh herbs, flowers and an array of baked goods. They plan to have multiple packages where you can choose to get a small amount of goods delivered each week or get one large delivery each month that you can put up as you see fit.

They are about to break ground as I write this, so I can't completely attest to their success yet. Still, when you talk to the chairman he has big dreams and an eye towards one day raising pasture fed and free range animals.

Finding a CSA or two that you can be a member of is a great opportunity to

augment your own operation with goods and products that you might not specialize in yourself. There are several resources on the internet that can help you search for and connect with local CSA's. Some states also produce annual guidebooks and magazines through university extension offices that can get you pointed in the right direction.

Chapter 1 – Creating Your Own Root Cellar

While canning and dehydrating are common methods for long term storage in the pantry, there are other long term storage options that will help preserve the freshness and flavor of meat, fruits and vegetables.

Sure you can take a bushel of apples, peel them and process them into apple pie filling and it will keep in the freezer or a sealed jar for a long time. However there are still times when you want to bite down into a fresh crisp apple. You want the crunch, the smell of real apple and the light glaze of juice that clings to your chin.

For centuries people kept things like apples, turnips, carrots and winter squash without the use of canning, dehydrating or conventional freezer bags. Their solution was to turn to well thought out root cellars and other forms of underground storage.

Now I understand that to the casual layman a root cellar probably doesn't seem like much more than a spot in the basement where you keep food next to some old boots and a couple tote bins of your kid's old toys.

However, the reality is that there is a lot of practical storage science at work. The differences in temperature, humidity and ventilation work in concert to slow the metabolic process of ripening and decay for a wide range of vegetables.

Ideally, if you're building your own house on your homestead then it's wise to plan an area on the lowest level that you can turn into a root cellar. If you're in a situation like me, where I bought a home that already had two finished levels then you might have to improvise. I got lucky and the fuel oil tank room was big enough, well insulated and modestly ventilated enough that I was able to convert it into a make shift root cellar.

I have a friend that recently purchased his own 20 acre spread and is in the planning phase for how he wants to develop the homestead. The home that already sits on the property is one level with no basement. Of course, long term storage is a major factor for him.

He has relatives that once kept things in an above ground root cellar carved into the side of the hill. After some careful research he wants to adapt that old idea into a new standalone root cellar made from a carefully designed outbuilding that would then be surrounded by a mound of earth.

This is called a mound root cellar. Pioneers on the Great Plains built them for decades from mounds of earth or rolls of sod built around crude wood structures.

My great grandmother had a root cellar like this during the years when she and my great grandfather were living in South Dakota. At the time, my great grandfather was working for the railroad laying new tracks and upgrading old rail beds. This meant that he had access to old treated railroad timber. He used these to build a strong reinforced building. He stuffed the cracks with dried grass then sealed the cracks with mortar. This essentially made a super strong log cabin that he was able to mound with sandy ground.

For our purposes here, I think it makes for a great opportunity to look at the principles that make a good root cellar work!

There are a lot of things to consider in making an effective mound cellar, however, none of the other factors matter if the main structure can't support the weight of the soil mounded around and on top of it.

This can be quite a challenge. I mean you can't just run down to the box hardware store and slap together a small shed that you shovel dirt over. You need something strong. Walls made from cinder block are cheap and easy to work with.

The ceiling is the real challenge. In theory my Great Grandfather's railroad timbers are a viable option so long as you seal the cracks.

Personally I think the best idea is to borrow from a new trend I've seen popping up in campgrounds. More and more campgrounds are purchasing old shipping containers. They then burry them or mound them with soil to use as storm shelters or off season storage.

The challenge is in finding a shipping container for the right price that can also be delivered to you. It's not the sort of thing where you dial an 800 number and some guy with sweat stains on his shirt loads it into the box of his pickup truck and drops it off the next day.

As an exercise I did some looking on the internet and calling around.

There were several companies that were willing to sell me 20 and 40 foot long shipping containers. With delivery the final cost would run in the \$7,000-10,000 range!

There were many places that would rent me one but the instant I explained I would want to bury it in an above ground mound of soil, they refused to work with me.

It took about 10 hours of poking around before I found a shipping company with a trucking division that would sell me one of their old 20 foot long shipping containers for \$2,100.

To continue our exercise I got a quote from a local building supply for a 20 foot by 20 foot by 10 foot high brick building. Assuming that I would do all of the labor myself, they came back to me with a quote for \$6,200. Estimated construction time for a do-it-yourselfer was 140 man hours.

All things considered I would spend the extra time to simply find someone that was willing to part with an old shipping container so you can focus on the site prep.

Site Prep

Once you have your central building or shipping container planned you'll need to pick a site to place it. If you live in a southern climate where summers are very hot it is probably best to orient the door on the north face. The door area is the most likely place where heat from the outside world can leach in.

If you live in the northern region then the cold harsh winters are going to be your biggest nemesis. I know where I live ambient low temperatures in the winter can plunge down as low as -20. For these regions you want to orient the door facing south to capture any of the sun's energy.

I would also consider building a buffer or a foyer area to limit air exchange with the outside world every time you open the door.

If you're going to be building a mound then drainage is a factor. Rain water needs somewhere to go. So you want to make sure you have an adequate slope in the soil with an adequate amount of sand in the soil. Clay soils can hold excess water adding weight and increasing the chances of corrosion. Planting grass will also help with erosion.

General Root Cellar Principles

Whether you are building a mound style root cellar or converting a room in your unfinished basement there are a few general principles that you will want to plan for.

Temperature is one of the central concerns for any root cellar. Adequate insulation is very important when you consider that your ideal target temperature is 40 degrees. Of course the temperature in the root cellar will be different at the ceiling than it is at the floor. You can assume a 10 to 15 degree difference from top to bottom. The general window for most of the things you'll be putting up in the root cellar is between 32 and 55 degrees.

Honestly the first year or two you will probably have to look at this from a trial and error stand point. It's hard to really know how much insulation you'll need to install. I had to do a similar thing with the insulation in my barn to find the right balance between keeping the chickens warm and properly ventilated.

What I did was turn to insulated panel board. I started out with 1 inch thick then I tested the temperature swing. When I realized that I needed more insulation on the north and western walls I was I able to simply slide a 2 inch sheet into place. This was a far more versatile solution than simply using roll out foam insulation.

You can use the temperature difference between the floor and the ceiling to your advantage. For example apples, potatoes and carrots will hold better in the temperatures near the floor. Onions, garlic and shallots prefer the warmer temperatures near the ceiling.

If you are into home brewing, a well-designed root cellar actually holds the carboys at the ideal temperature for lager-style beer.

Humidity is the second most important factor in a well-designed root cellar. With a little careful shopping you can find a humidity gauge called a hygrometer for around \$20-25. Without modest to high humidity most fresh fruits and vegetables will start to shrivel. In general, a root cellar with a bare earth floor will have more favorable humidity and require less management than a root cellar with a poured concrete floor.

In my own case, the room I modified in my already finished basement was the room storing the fuel oil tank and the well pump. The fuel oil actually acts

like a heat sink, while the pump and all of the water lines contribute ambient humidity.

It just happened to turn out that it worked great for a root cellar. If you're not blessed with this many star-crossing factors you will need to turn to other methods of maintaining humidity. In some cases it is as simple as putting a shallow pan of warm water on the floor. The natural heat transfer from the cold floor cooling down the water causes humidity to rise into the air. If you are in seriously dry conditions you might have to turn to other options like bringing a cold air humidifier in once or twice a week.

If you are using your root cellar to store dried goods then you will want to take additional precautions. Things like dried nuts and grains abhor high humidity. When I store rice and walnuts in my root cellar I prefer to portion them into 1 gallon zip top bags. Then I seal the bags and store them in totes. When I buy flour in bulk I like to store it in 5 gallon buckets with tight sealing lids.

Storing Notes

Apples prefer to be stored in temperatures between 33 and 40 degrees and around 90 to 95% humidity. One of the biggest problems to keep in mind with apples is that they slowly emit ethylene gas over time. This gas causes accelerated ripening, spoilage and rot in many other vegetables. It's a huge concern for exposed root vegetables stored nearby. As such, potatoes, carrots and other root vegetables should be stored as far away from apples as possible.

Apples need the cold to slow down their ethylene production. Any bruised apples need to be removed from the batch. One bruise on a single apple can indeed spoil the entire bunch through a runaway ethylene cycle. An apple that is picked cold and allowed to warm up then chilled down again will inevitably not last as long as an apple that is kept cold from the first minute it is picked from the tree.

Beets and Carrots prefer temperatures between 32 and 40 degrees and 90 to 95% humidity. One big advantage is that they can actually be stored in buckets full of loose, dried playground sand.

Pull them directly from the ground and do not wash them. If at all possible you should try to harvest them after 2 to 3 days of dry weather. Harvesting them during rainy weather or washing them after picking invites water into the small dents and divots which later can become little festering pockets of rot.

Snip the tops to leave around 1 inch of the green exposed from the nub. Fill the buckets half way with sand. Then stand the beets and carrots up and lace more dry sand around them. Kept this way beets and carrots can hold over for 3 to 4 months. You can set the buckets of sand on the floor of the root cellar under the shelves where carrots will enjoy the cool temps. In fact when you put nutrient rich, garden grown root vegetables at temperatures just above freezing the flavors start to slowly intensify!

Brussels Sprouts are strange vegetables in that if you carefully remove them from the garden soil and pot them up, the plant will keep producing harvestable sprouts in your root cellar for a couple of weeks. I'd suggest using a 5 gallon bucket with nitrogen rich, black loam soil. Pull them from your garden after they've been exposed to 1 or 2 light frosts. This will help concentrate the flavor in the sprouts that develop in your cellar potting.

Cabbage can be a great keeper for the root cellar if you choose the right

brand. Otherwise you are probably better off choosing to process and ferment the cabbage into sauerkraut. Red cabbage tends to keep better in a root cellar than green. Some of the best varieties for the root cellar are Brunswick, Danish Ballhead, Late Flat Dutch and Red Acre. Harvest the heads the day after the first frost. Pull the plants directly from the ground, use a sharp knife to cut off the base of the head from the thick root then remove the excess loose leaves from the head. This should leave you with a nub at the base that sticks out about an inch.

Over time cabbage can start to give off a strong smell which can pervade your root cellar. I actually prefer to wrap the cabbage heads in newspaper then pack them loosely into a sealable storage tote. I try to leave some space in between the heads, keeping the heads from directly touching by using balls of crumpled newspaper.

Dried Beans are a nice thing to keep around so long as they are thoroughly dried and sealed away. Since beans are such a great way to regenerate garden soil, I always end up with way too many of them. Dried beans are a great addition to soups, especially if you're making stock from extra bones at the end of hunting season.

Allow the pods to completely ripen on the vine. You want to hear the pods rattle with the loose beans inside. Pick the pods from the plants and place them on a single layer sheet pan lined with newspaper in a dark dry place for 10 days to 2 weeks.

Shell a few beans as a test. You want to make sure they are dry enough that your fingernail won't dent them. If they are thoroughly dry, shell them and carefully remove any excess debris. I like to put them up in sealed glass jars to keep them cold yet uninfluenced by the root cellars high humidity.

Garlic should be pulled just as the tops are dying. You want to pull them after 2 to 3 days of dry weather. Brush off the loose soil with your hands but do not wash them. Place them in a cool, dark, dry and well ventilated place for 2 to 3 weeks to allow them to cure.

Once they are cured you can braid the withered tops together. I'm personally pretty bad at braiding anything including my daughter's hair, so I forgo the braiding, snip the tops and keep them in some of my wife's old nylons.

Garlic doesn't like the high humidity of the main root cellar, so I like to

hang it in a part of my garage or else I will duct tape the nylons onto a bucket lid, then seal them in a 5 gallon bucket with a handful of painter's desiccant in the bottom. Just make sure the nylon isn't hanging so low in the bucket that it touches the desiccant.

Kept this way they can last 5 to 6 months.

Onions have a little wiggle room depending on how you chose to plant them. Roughly a third of the onions I plant each spring are planted shallow enough to form into full sized bulbs. Most of my onion sets are planted deeper so they come up as scallions. This is a personal preference thing since so much of my cooking and grilling uses scallions. Inevitably I have some scallions that don't get used and they spend the late summer struggling against the weight of the soil to become stunted pearl onions.

Onions should be harvested after the tops have turned yellow and completely died back. Ideally they should be harvest after 2 to 3 days of dry weather. However, you don't want to leave them in the ground too long after the tops have completely died back or they could rot. This is especially true in wet soil. If you know the patch is starting to die back significantly but isn't completely done and you see a long stretch of wet weather in the extended forecast, then I would pull them early to keep them dry.

You can dust some of the dirt off the onions with your hands, but do not wash them. A wet onion invites rot in more ways than one!

Once they are pulled place the onions on sheet pans lined with newspaper in a cool, dark, dry and well ventilated place for 2 to 3 weeks to allow them to cure. The cure time for over mature scallions or pearl onions is shorter. They only require 10 to 14 days.

Once they are cured you can cut back any remaining tops. Just try to leave an inch or two of head above the bulb to keep it from being exposed. Just like garlic onions prefer dry conditions. Instead I like to hang it in a part of my garage or else I will duct tape the nylons onto a bucket lid, then seal them in a 5 gallon bucket with a handful of painter's desiccant in the bottom. Just make sure the nylon isn't hanging so low in the bucket that it touches the desiccant.

Kept this way they'll last 6 to 7 months.

Parsnips are very similar to carrots, except they have little tolerance for successive frost events. Harvest parsnips immediately after the first frost of the

fall. Pull them directly from the ground and do not wash them. Then clip the greens an inch or two above the root. Fill 5 gallon buckets half way with sand. Then stand the parsnips up and lace more dry sand around them. Kept this way parsnips can hold over for a month or two. You can set the buckets of sand on the floor of the root cellar next to the carrots and beets.

Pears are just like apples in that a bruised pear will give off an excessive amount of ethylene causing the rest of the bunch to spoil. I usually choose to can bruised pears. If one is really deep in the dog house I'll feed it to the chickens as a fruit snack.

Wrap each pear in newspaper with newspaper or cardboard spacers just like you would heads of cabbage. Store them in cardboard containers, wooden boxes or old milk crates. In a pinch a sturdy laundry basket can get you by. They store better around 32 degrees, so it's best to set them on the floor. With a little bit of luck and cool temps you should be able to get 6 to 8 weeks out of them. If you start opening them up and they are looking brown on the inside it's a sign that everything is about to turn sour. I would can the good ones and turn any bad ones into compost or chicken snacks.

Potatoes should be harvested after the top of the plants have completely died back. Try to allow 3 or 4 days of dry weather to pass before harvesting them. Potatoes that are harvested wet or washed right after harvest tend to rot quickly from the miniscule amounts of water that inevitably linger in the eyes.

Potatoes need to be cured before they can be put into long term storage. Leave them dirty and in a dark dry place around 50 to 60 degrees for 10 to 14 days. This will allow the skins to thicken and allow some of the natural sugars to transform into long term, storage friendly starch.

Once they have cured, you should then store them at temps around 40 to 45 degrees. If the floor of your root cellar is near freezing you will want to avoid storing them there. Temps near freezing can cause the moisture to freeze inside the potato while leaving the sugars to concentrate. This gives you a potato with an unfamiliar sweet flavor.

Squash and Pumpkins are highly nutritious and are very popular choices for long term storage. Harvest all squash and pumpkins before the first frost or when the vine connecting the plant to the fruit dies. Sometimes sugar pumpkins can ripen as early as August. If this happens pick immediately or they will rot.

Make sure when you pick the plants that you leave the stem still attached. If you pull the stem off the fruit it will create a spot that invites rot. I've found in the past that squash and pumpkins that have been allowed to sit on the dirt instead of straw are more likely to develop mold on the skin over time. To counter this I like to give the surface of every fruit a quick wipe down with a mixture of bleach and water. It doesn't take a lot of bleach, 4 tablespoons in a single gallon of cold water is more than enough.

I wipe them down quickly to kill any potential spores from their time on the soil. Then I towel them dry with clean paper towels.

Most squash and pumpkins need to cure for a little while in warm temps around 80 degrees. Usually a week in a warm, dry, dark place will suffice. Acorn squash don't need this curing time, however they also do not keep as long as other varieties like butternut.

Once they are cured you can place them on a middle shelf in your root cellar. I like to keep the fruits from touching by placing cardboard spacers or small balls of newspaper in between each one. Early on this doesn't matter at all but as I'm stretching my stash of butternut squash out into the month of March I find that the ones that are touching against each other directly start to develop a sort of bruised spot.

As a general rule of thumb pumpkins can last 6 maybe even 7 months. Sugar pumpkins that are kept cool can last 5 to 6 months as can butternut squash.

Sweet Potatoes should be dug up from the garden in the fall, preferably after 2 to 3 days of warm weather. Simply brush the dirt off of them with your hands. Washing them invites rot to develop in the creases, dents and eyes. They preferred to be cured in warm temperatures around 80 to 85 and high humidity. It's exactly the sort of conditions you might be hoping for if you see a nice stretch of "Indian Summer" on the extended forecast.

Allow them to cure on a sheet pan lined with newspaper in a warm, well ventilated place for 7 to 10 days before moving them into long term storage. The ideal temperature for long term storage is around 55 to 60 degrees, though they will do just fine around the mid 40's to low 50's.

Wrap them lightly in newspaper and keep them in a ventilated place in a wooden box or old milk carton.

Stored properly you can keep them for 4 or 5 months. If one or two start to

show signs of going bad I would pull them out of the batch, cut out the bad spots and put them in the compost or feed them as a treat to the chickens. This is usually your warning sign that you have a lot of sweet potato pie in your future!

Turnips are very similar to carrots, except they have little tolerance for successive frost events and prefer slightly moist conditions in their sand buckets. Harvest turnips immediately after the first frost of the fall. Pull them directly from the ground and do not wash them. Simply clip the greens an inch or two above the root. Fill 5 gallon buckets half way with sand. Then mix some moist sphagnum moss in equal parts with playground sand. Stand the turnips up and lace the sand and moist sphagnum moss around them. Kept this way turnips can hold over for 12 to 14 weeks. You can set the buckets of sand on the floor of the root cellar next to the carrots and beets.

Chapter 2 –Canning

Of course canning isn't just about stocking up nutrients and calories in a jar to hold over for leaner times later in the year. There are other things to consider in texture, flavor and color. To make sure you're preserving all of the elements of the fruits and vegetables you're canning you want to stay focused on the procedures from the first step to the last.

Properly canned food is nutritious, flavorful, pleasing to the eye and above all else safe to eat.

On paper canning is a rather simple process where you place the food in question in a sterilized glass jar. You heat the jar in a water bath, which sterilizes any pathogens or microbes in the food, while also sealing the lid on the jar.

For most people the water bath is as simple as a large canning pot where the jars are submerged in water that covers the lid of the jar by at least two inches. Some people prefer to take this a step further and use a pressure cooker.

Advocates of the pressure cooker method prefer to sterilize under pressure because the pressure vessel allows you to reach temperatures above 212 degrees. 212 is the maximum temperature that you can heat water to before it turns to steam. In the pressure vessel you can sometimes reach temperatures as high as 240 degrees!

The reality is that most of the things you're afraid of die when they hit the 165 to 170 degree range. Of course, the ultimate bad beastie microbe that haunts the canning universe is botulism. Botulism, when treated immediately at the hospital is a miserable suffering experience. Without immediate treatment it can cripple and kill you in horrible ways.

Advocates of the pressure canner method will tell you that it's the only way to kill botulism spores in canned foods. On paper this is correct and if you have any concerns about botulism spores or toxins developing in any of your canned goods, then you should turn to the pressure cooker method.

The botulism spore dies instantly at 240 degrees. At lesser temperatures it takes longer to kill it. The general guideline to consider when using an unpressurized water bath is that you need to hold the food in the jar at 180 degrees for 10 minutes in order to effectively kill botulism.

Again this seems pretty simple. Boiling for 10 minutes at 180 doesn't seem

like such a hassle at first glance. The problem is that it's the food temperature we're talking about. So if it goes into the jar at room temperature and is then put into boiling water, it needs time to heat up to 180 before being held there for 10 minutes. Then it needs to cool down again.

For some fruits and vegetables being heated for this long can cause them to turn mushy. Pickled pepperoncini peppers for example will turn into wilted mush rather easily after 10 minutes at 180 and a slow cool down.

It is important to note that botulism is especially horrible for infants under 12 months old as their undeveloped digestive systems lack the acidic strength to adequately combat the spores and toxins. If you are an advocate of the 180 for 10 minutes strategy, then I strongly suggest you alter your final cooking method before serving to a child that is under one year of age.

Anything that is not canned by using the pressure method should again be cooked to at least 180 degrees for 10 minutes before serving.

There are methods you can use to cool the jars down faster than simply leaving them out on the counter, but they are wrought with their own risks. Tossing a hot jar in an ice water bath is more likely to shock and shatter the glass of the jar than it is to cool the food down.

Water Bath Canning

Personally I'm a fan of the water bath method, despite all of its potential botulism pit falls. A few years back my pressure canner took a dump on me. I got a nasty steam burn on my arm and I was a little short on money so I turned to the 180 for 10 minutes method. For most foods this works, but there are a few exceptions and caveats which I'll note as we go along.

In general, foods with high acidity are less likely to develop contamination from dangerous microbes. The natural acids make an unfriendly environment for them to develop in. There are some foods where this can be a bit tricky. Some types of tomatoes have less acid and require the addition of a little lemon juice to punch up their pH for canning.

Equipment you will need for the water bath method

A large stock pot or canning pot with a lid

Mason jars

Clean, rust free rings

New lids with fresh clean bands

A clamp for handling jars

Welding glove (Optional)

Cooling rack

Basic Procedure

This can vary a little from recipe to recipe, so look at this as a general guideline.

Step 1: Inspect all jars, rings and lids. Discard any jars that have chips or cracks on the lip. Do not use rings with rust on the inside and, most important of all, always use a new lid. Once a lid has been heated it cannot be reused. Attempting to do so creates a poor seal that can let microbes in.

Step 2: Fill the pot with a modest amount of hot water. Try to gauge the water displacement for the number of jars you will be putting in the water bath. It is ultimately better to have too much water in the pot than not enough. You can use a Pyrex measuring cup or soup ladle to remove excess water.

Step 3: Place the pot on the stove on high heat.

Step 4: Once the water starts to simmer, lower the empty jars and rings into the water. Do not add the lids. Allow them to boil for 10 minutes. Then remove them with a sturdy tongs or the jar clamp. Pour away any excess water and set them on the cooling rack to cool down.

Step 5: Prepare the fruits and vegetables according to the specific recipe.

Step 6: Pour or ladle the food into the jars. Give each jar a little tap or shake to free any trapped air bubbles.

Step 7: Use a clean tea towel or paper towel to wipe the lip of each jar. This is important in order to get a good seal.

Step 8: Carefully place the lid on top of the jar. Be sure not to let your fingers touch inside of the rubber ring.

Step 9: Place the rings over top and tighten them down. I find it's easier to hold the jar with a welding glove.

Step 10: Allow the jars to sit for 5 minutes to mitigate the temperature differences between all the different elements.

Step 11: Place the jars carefully into the large pot of boiling water. Make sure the top of the jar is covered by at least 2 inches of water. Allow them to boil for the time indicated in the recipe. Keep in mind that when trying a new recipe the minimum cook time always needs to be 10 minutes or more.

Step 12: Remove the jars from the pot of boiling water using the jar clamp. I personally have a welding glove that I managed to fit a large rubber glove over top of which allows me to directly handle the jars.

Step 13: Allow the jars to sit undisturbed for 6 hours, though a full day would be best. If you handle the jars too soon after they come out of the water bath the soft seal could be broken.

Step 14: Use a permanent marker to label the lid of the jar with the recipe name and the date.

Pressure Cooker Canning

This method is the preferred method for preserving low acid content foods as well as meats, like beef, venison, chicken and various types of seafood. I have to admit that my last pressure cooker was a cheap model that sealed poorly and had a knack for the seal sticking. It is worth it to spend the extra money to get a quality pressure cooker meant for canning large batches.

Equipment you will need for the pressure cooker method

Pot-type autoclave or large pressure cooker

Mason jars

Clean, rust free rings

New lids with fresh clean bands

A clamp for handling jars

Welding glove (Optional)

Cooling rack

Kitchen timer

Basic Procedure

This can vary a little from recipe to recipe, so look at this as a general guideline. Make sure you read the manufacturer's directions thoroughly before using the pressure cooker.

High acid foods require less pounds of pressure in the vessel than low acid foods. In general high acid foods require a minimum 6 pounds of pressure per square inch.

Low acid foods require a base line of 11 PSI.

It is important to note that the time and pressure required for each recipe will vary based on your altitude. As a general rule of thumb you should increase 1 pound of pressure for every 2,000 feet you are above sea level.

For example if you live at 6,000 feet above sea level and you were canning a low acid food you would want to work at 13 PSI.

Step 1: Inspect all jars, rings and lids. Discard any jars that have chips or cracks on the lip. Do not use rings with rust on the inside and most important of

all always use a new lid. Once a lid has been heated it cannot be reused. Attempting to do so creates a poor seal that can let microbes in.

Step 2: Place the grid that came with the pressure cooker in the bottom of the pot and fill with water up to the manufacturer's specified level. Some units have a line etched in the metal while others simply use a stated volume.

Step 3: Prepare the recipe as noted.

Step 4: Pour the food into the jars and wipe the lip of the glass jar clean.

Step 5: Use a clean tea towel or paper towel to wipe the lip of each jar. This is important in order to get a good seal.

Step 6: Carefully place the lid on top of the jar. Be sure not to let your fingers touch inside of the rubber ring.

Step 7: Place the rings over top and tighten them down. I find it's easier to hold the jar with a welding glove.

Step 8: Allow the jars to sit for 5 minutes to mitigate the temperature differences between all the different elements.

Step 9: Tighten the rings onto the jars.

Step 10: Place the jars in the water. Double check that the level is within the manufacturer's stated safe levels.

Step 11: Put the lid on without the duct cap. Turn the heat of the stove up to high and allow the water to boil for 5 minutes with the steam coming out.

Step 12: Place the pressure cap on the vessel. Then monitor the time and pressure per the recipe.

Step 13: When it reaches the specified amount of time, turn the heat off and allow the pot to cool until the pressure gauge reads zero.

Step 14: Remove the jars from the pot of boiling water using the jar clamp. I personally have a welding glove that I managed to fit a large rubber glove over top of which allows me to directly handle the jars.

Step 15: Allow the jars to sit undisturbed for 6 hours, though a full day would be best. If you handle the jars too soon after they come out of the water bath the soft seal could be broken.

Step 16: Use a permanent marker to label the lid of the jar with the recipe

name and the date.

NOTE: Whether you are using the pressure cooker method or the water bath method all lids should be compressed downward once they are cooled. Any lids that pop when you tap them are not properly sealed and would be dangerous to put up in storage.

If this happens you should repeat the process making sure to thoroughly wipe the lips of the glass and always use a new lid.

Canning Procedures that are NOT Recommended

There are other methods which have arisen over the years for people who tried to be creative with the sterilization process.

Oven canning is a method where you place the uncooked foods into jars and put the jars in a hot oven. You essentially bake the jars for a while until the little rubber seals on the lids melt and connect with the glass of the jar.

The real problem with this method is the poor heat transfer. Air conducts heat 25 times slower than water. In fact, if you put an ice cube in a gallon of lukewarm water and put an identical ice cube in a 300 degree oven the ice cube in the lukewarm water will melt much faster!

What happens with a canning jar in your oven is that the heat of the air melts the ring long before any of that heat manages to transfer through the insulated glass and into the food. Since you have no way to test the temperature of the food inside the jar you could essentially be sealing in a whole host of evil pathogens.

I had a friend whose mother was a strong advocate of this method. She didn't believe me and all my talk about poor heat transfer. So we conducted a test and set up a jar of run of the mill garden tomatoes in the oven method.

Once she was convinced that the lid had secured itself on we pulled the jar out of the oven, popped off the lid and stuck an instant read probe thermometer into the center of the tomatoes. It read an alarming 110 degrees! In essence not only had it failed to kill any potential botulism spores it straight up hadn't killed any potential pathogens. In some cases she had created the perfect environment for dangerous microbes to breed. Her pantry was theoretically a weapon of mass destruction bound for the county fair!

The next day her compost pile got a lot larger and her bank account got a little smaller when she bought a pressure canner!

Pre-cooking or untreated canning is another potentially dangerous method. The idea behind it is that you cook the food in advance then place it immediately in jars and seal them. The hope is that the heat of the cooked food will be enough to melt and activate the seals.

On paper this method isn't completely horrible, but it is none the less loaded with opportunities for microbes to get in. Any botulism spores that might be in

the jar or on the lid will not have been heated enough to kill them. In fact there is the real potential for other microbes to survive in the small amount of air space between the top of the food and the bottom of the lid.

Also the lid might not 100% seal. There is a real chance that the ambient heat of the food placed in the jar will leave a section of ring unaffected. This creates a tiny air gap where microbes can get into the jar over time and start breeding.

Microwave canning is another creative yet dangerous way to seal and preserve canned goods. Even the best microwave is wildly inconsistent in how the emitter heats the internal space. I tried it once just out of curiosity and what I ended up with was a jar of strawberries where some berries were rocket hot and others were merely tepid. There was also a strange synthetic smell that I didn't want to play with.

All of this is of course without voicing concern over putting metal in the microwave in the first place.

Dishwasher canning is another one of these whacky creative ideas. The notion is that the hot water being sprayed on the jars cooks the food, while the high heat of the drying cycle seals the can. Well the reality is the water in the dish washer is the same hot water from your water heater which is set no higher than 120 degrees. The drying cycle is at a lower heat than your oven can achieve in the oven canning method.

Canning Fruit

Fruit is one of the most commonly canned foods. Some fruits people prefer to can whole, in halves or as spears. While other fruits people prefer to make into jams and jellies.

Preventing oxidation

If you are canning whole, halved or speared sections of fruit you might run into the problem of premature browning. This is a chemical process related to oxidation of the surface sugars in the fruit. The easy way around this is to give the fruit an acidulated bath.

While you can use vinegar or even crushed and dissolved vitamin C tablets, I personally prefer to make a bath of lemon water. Simply mix a quarter cup of real, fresh squeezed lemon juice for every one cup of cold water.

If I'm working with a large amount of fruit I'll make a big batch of lemon water and put the fruit in the pot of lemon water immediately after peeling or cutting. Then I'll just leave it in there while I'm preparing the rest of the fruit or setting up the recipe at hand.

Canning in Syrup

Fruit that is preserved in whole, halves or spears is usually canned in sugar syrup. This helps preserve some of the fruits color and flavor. There are 4 different concentrations of syrup that are most commonly used.

Extra Light syrup is mixed with 1 cup of granulated sugar per every 2 cups of water.

Light syrup is mixed with 2 cups of granulated sugar per every 2 cups of water.

Medium syrup is mixed with 3 cups of granulated sugar per every 2 cups of water.

Heavy syrup is mixed with 5 cups of granulated sugar per ever 2 cups of water.

It's important to note that sugar is a disaccharide and as such it will not dissolve in cold water.

In order to make syrup of any concentration you will need to place a sauce

pot of the appropriate size over low heat. Add the water. Then bring up to a low simmer before slowly stirring in the sugar in modest sizes batches.

Once all of the sugar has dissolved you can add the fruit to the syrup and bring to a low boil.

Basic Fruit Canning times and pressures

Here is a list of some of the more common fruits that people choose to can in whole, halves or as spears. These times are assuming that you live within the first 2,000 feet above sea level. If you are using the pressure cooker method at sea level you would set for a pressure of 6PSI.

Apricots

Apricots are related to peaches and nectarines. It is best to cut apricots in halves or quarters, remove the stone from the middle. Preserve them with the peel still on.

Syrup Type: Light

Basic Water Bath: 25 minutes

Pressure Cooker: 10 minutes

Blueberries

Blue berries can come in different sizes. There are a few strange varieties that can be the size of a cherry tomato and should be halved. Otherwise I prefer to can them whole, in medium syrup.

Syrup Type: Medium

Basic Water Bath: 15 minutes

Pressure Cooker: 8 minutes

Pie Cherries

These are also known in some parts of the country as tart cherries. These small cherries are usually used directly in pies, so the reality is you're canning a pie filling. As such I prefer to can these into quart sized jars. Without additional sugar they can be a real pucker-fest. While some people will advocate canning them in heavy syrup, I personally find it cloy. Instead I like to can them in light syrup and then I can augment the top pie crust with a sprinkle of sugar in the raw or serve it with ice cream. I find the play between the modestly sour pie filling

and the sweeter elements to be preferable to simply hiding the sour element of the cherries with a heap of sugar.

Syrup Type: Light (Personal preference)

Basic Water Bath: 20 minutes

Pressure Cooker: 10 minutes

Sweet Cherries

It's important to note that sweet cherries that are raised organically can sometimes carry fungus spores. This is especially true if you're scavenging wild cherries. This is especially true if the cherries come from a tree that hasn't been pruned for proper air flow. All sweet cherries should be thoroughly washed and then dried before canning.

I prefer to remove the pits by slicing the cherries in half with a paring knife.

Syrup Type: Light

Basic Water Bath: 20 minutes

Pressure Cooker: 10 minutes

Strawberries

Strawberries are the star of the early summer garden. The best yield tends to come from June Bearing plants that only produce berries for a narrow window of time. Capturing the flavor of these berries can be a challenge. Garden grown strawberries are so wonderful because you can allow them to ripen all the way through. Many of the berries sold in grocery stores have white, semi-flavorless hulls.

Garden grown strawberries that are allowed to ripen all the way through can break down in the heat of the canning process. This is especially true if the berries are small. As a backup plan when I know I'm going to open a jar of strawberries like this I'm always prepared to make a batch of ice cream or strawberry sorbet.

Strawberries can also oxidize a little over time. So I like to give the syrup a little splash of lemon juice.

Before canning you should remove the greens. If you are working with store bought berries or berries that have a significant white center, you should remove

the hull.

Syrup Type: Light, with a splash of lemon Basic Water Bath: 10 minutes

Pressure Cooker: 6 minutes

Peaches

Peaches should be peeled before canning. It's best to cut them in half and remove the stone. Northern grown peaches can be a little firm so I prefer to cut them into quarters.

Syrup Type: Light

Basic Water Bath: 25 minutes

Pressure Cooker: 10 minutes

Pears

Pears also need to be peeled before canning. I find it's best to cut them into quarters or spears and remove the seeds and pith surrounding the seeds. Pears can sometimes oxidize and develop shade of brown, so I like to add a splash of lemon juice to the syrup.

Syrup Type: Light, with a splash of lemon juice Basic Water Bath: 25 minutes

Pressure Cooker: 10 minutes

Apples

Apples serve as the base for a lot of different recipes, chutneys and sauces. Crisp apples are usually better served if they are put up in a root cellar. However flavorful soft apples like Macintosh are great candidates for cutting into quarter or chunks before canning.

Apples are notorious for oxidizing quickly. When processing the apples you want to peel them, core them and put them immediately in a bath of lemon water. Then I include a splash of lemon juice in the syrup.

Syrup Type: Light, with lemon juice

Basic Water Bath: 20 minutes

Pressure Cooker: 8 minutes

Plums

There are two types of plums Japanese and European. You should always peel and remove the pits from plums before canning. Plums that have been allowed to ripen fully on the tree can be soft and sometimes break down during the canning process. I like to cut them into halves or quarters, any smaller and I worry that tree ripened plums might break down too much.

Syrup Type: Light

Basic Water Bath: 25 minutes

Pressure Cooker: 10 minutes

Canning Vegetables

Take note that according to the [CDC](#) “Pressure canning is the only recommended method for canning vegetables, meat, poultry, and seafood.”

There are a lot of creative ways to can vegetables. Later on we will get into some specific recipes. For canning basic whole vegetables it is usually best to work with raw, uncooked vegetables. The heat of the canning process does most of the cooking for you.

Bruised or damaged vegetables can break down or invite excess microbes that even when killed could affect the flavor of all the other vegetables in the jar. As a general rule of thumb any damaged vegetables I find are either eaten or added to the compost pile.

The process for canning vegetables is pretty straight forward. Simply put the raw vegetables into clean sterilized jars with a pinch of salt then pour boiling water into the jar. Then seal the jar and process.

Here are some commonly canned vegetables and their pressure canning times. Note that because of their low acidity vegetables need to be pressure canned at 11 PSI.

Asparagus 40 minutes Beans 25 minutes Lima Beans 50 minutes Cooked beets 30 minutes Carrots 35 minutes Corn 60 minutes Okra 40 minutes Peppers 35 minutes Tomatoes – While tomatoes are not covered in the scope of this book, for an entire guide on canning tomatoes the USDA Complete Guide to Home Canning includes a section called [Selecting, Preparing and Canning Tomatoes and Tomato Products](#) which is a free online resource.

Canning Meat

Take note that according to the [CDC](#) “Pressure canning is the only recommended method for canning vegetables, meat, poultry, and seafood.”

These days many people prefer to turn to dehydrating and freezing to preserve meat. However before the advent of advanced freezing technology and modern dehydrator kits, canning was the preferred method for many households that wanted to hold over a surplus of meat.

I’ll be honest with you here I’m not a canned meat kind of guy, but I know many a little old lady who swears by it. The nice thing about canned meat is that you can put it up in extra pantry space when your freezer is already packed tight.

A lot of the cuts of meat people choose to can end up being used in soups and stews. Prime cuts like steaks are usually best for vacuum freezing.

Before canning meat you should remove it from the bone and cut off excess fat or obvious gristle.

Red meat can be canned directly without any precooking. Simply place the meat in sterilized jars, pour boiling water over top, being sure to leave an inch of head room. Then seal the jars and process at 11 PSI for 90 minutes.

Poultry of course comes with the concern over salmonella. The little old lady who introduced me to canned chicken insisted that the meat be cut into 2 inch chunks using a kitchen shears then braised until cooked through. Place the meat in clean sterilized jars then pour the braising liquid over top, leaving 1 inch of head room. Then seal the jars and process at 11 PSI for 90 minutes.

Fish can be canned raw since the canning process will cook and sterilize them. Fish that has been cooked in advance tends to break up in the jar. Freshness is the key. Ideally you want to pull the fish straight out of the water, gut it, fillet it and start processing the jars.

The filets should be cut into 2 to 3 inch wide segments and stood up in the jar. If you are canning a species where the skin is left on then put the skin side facing out. Stand the sections up and pour boiling water with a pinch of salt into the jars. Leave an inch of head room and process at 11 PSI for 100 minutes.

Chapter 3 – Jam Making

While I do can a variety of fruits, I must admit to a secret love affair with the creativity afforded to me by jam making. Sometimes I keep it simple. I don't want to screw around too much with the classics like strawberry jam. Other times I love getting creative with random tidbits and bumper crops.

For years I used to make jam using extra pectin additives and even some gelatin. To be honest with you I think I had more failures than I did success stories. More often than not I would end up with some strange syrup or fruit flavored brick in the shape of a jar.

In recent years I've changed my tune and now I work with the natural pectin in the fruit or try to adapt the consistency by reducing it over low heat.

Specific Recipes

There is a lot of room for creativity with canning fruit into jam. The following section looks at a few basic recipes as well as a couple of creative ideas I've stumbled across over the years. Think of these more as a starting point to get you inspired, rather than hard and fast rules.

Strawberry Jam Recipe

This is a classic strawberry jam. While strawberry jam is indeed a basic canvas that invites other creative combinations, it is still none the less a beloved icon of the jam pantry.

Equipment

Large sauce pot

A large dinner plate, chilled in the freezer **Ingredients**

2 pints of ripe strawberries, hulled and cut in half

2 cups sugar

½ cup of distilled water

The juice and zest from one lemon **Procedure**

Step 1: Place a large dinner plate in the freezer.

Step 2: Remove the greens from the berries, cut out any of the white hulls. You can leave small berries whole, cut medium berries in half. If you have a very large berry you should cut it into quarters.

Step 3: Place the sugar, water, lemon juice and lemon zest in a large sauce pot over low heat. Add a small handful of strawberries and stir slowly until the sugar dissolves into thick pink syrup.

Step 4: Add the rest of the strawberries to the pot. Stir slowly and continuously. The berries will release extra juice. Simmer for 15 to 20 minutes. You'll know it's done when you drizzle a stripe of syrup on a chilled plate and it turns tacky.

Step 5: Remove it from the heat. Pour it into the jars and process in a standard water bath for 15 minutes.

Plum-Cinnamon Jam

While you might not think it at first, cinnamon and plums work and play together beautifully. European plums tend to work better than Japanese in this recipe **Ingredients**

3 pounds of plums

4 cups of sugar

1 cup of water

The zest and juice of 1 lime The zest and juice of 1 lemon

1 tablespoon of cinnamon

½ teaspoon of all spice

Procedure

Step 1: Peel the plums and remove the stones. Rough chop the plum meat into small chunks.

Step 2: Add the chunks to a medium sauce pot over medium-low heat.

Step 3: Add the zest and juice from the lemon and lime along with the water and cinnamon.

Step 4: Once the mixture starts boiling softly add the sugar and all spice.

Step 5: Stir occasionally while allowing the jam to simmer for 20 minutes.

Step 6: Remove it from the heat. Pour it into the jars and process in a standard water bath for 15 minutes.

Raspberry and Mint Jam Recipe It seems like every year my raspberries are coming into peak season just as my container grown mint is running wild and threatening to escape.

Equipment

Large sauce pot

Large dinner plate, chilled **Ingredients**

4 pints of fresh raspberries

2 cups of sugar

½ cup of water

Juice from one lemon

1 cup of fresh mint, chopped **Procedure**

Step 1: Remove the greens from the berries, making sure you get all of the hulls.

Step 2: Place the sugar, water, and lemon juice in a large sauce pot over low heat. Add a small handful of raspberries and stir slowly until the sugar dissolves into thick pink syrup.

Step 3: Add the rest of the raspberries to the pot. Stir slowly and continuously. The berries will release extra juice. Simmer for 15 to 20 minutes. You'll know it's done when you drizzle a stripe of syrup on a chilled plate and it turns tacky.

Step 4: Add the mint leaves and stir for 2 to 3 minutes or until they start to wilt. You want to add the mint right at the end to preserve some of its aromatic lilt.

Step 5: Remove it from the heat. Pour it into the jars and process in a standard water bath for 15 minutes.

Blueberry Jam Recipe Blueberry jam is another one of those creative canvasses that leaves a lot of room for you to try out your own ideas. Personally, I try to hold back from getting too creative with blueberries simply for functional reasons. Some people like to mash up the berries with a potato masher. This sort of marries you to use a pure jam. So long as you're careful with them blueberries tend to stay mostly whole in the jar. This means you can pop open a jar for use in dishes like blueberry muffins and pancakes.

Most people like to add extra pectin to their jam, but I prefer to turn to the no-pectin recipes.

Equipment

Large sauce pot

Ingredients

8 cups of fresh blueberries 4 cups of white sugar

2 tablespoons of lemon zest

¼ cup of fresh lemon juice ½ cup of water

Procedure

Step 1: Remove the greens from the berries and wash thoroughly.

Step 2: Place the sugar, water, and lemon juice in a large sauce pot over low heat. Stir slowly until the sugar dissolves into thick syrup.

Step 3: Add the blueberries to the pot. Stir slowly and continuously. The berries will release extra juice. Simmer for 15 to 20 minutes. If you prefer the mashed berries jam this is the time to mash them.

Step 4: Remove it from the heat. Pour it into the jars and process in a standard water bath for 15 minutes.

Chapter 4 – The Basics of Fermenting

To the casual layman pickling and fermenting are often thought of as being the same thing. While they both end up with similar end products, the chemical process and the potential nutritional benefits can be very different.

For centuries fermenting vegetables was the most popular method. Fermentation is the work of salt and beneficial microbes. When kept in the right conditions these microbes work with the salt to preserve the food. The most commonly fermented food these days is homemade sauerkraut. Once the fermentation is complete the beneficial bacteria along with soluble fiber and nutrients like beneficial lactic acid are still available in the food. This is a great benefit to the digestive tract as well as the immune system.

When fermenting, you don't always have to can and sterilize the food. In fact, it's actually better nutritionally if you don't can and sterilize them. When done right the beneficial bacteria will actually stop dangerous microbes from taking root in the food. While there is a little room for creativity and extra flavorings in fermentation, you generally don't want to get too extravagant or you risk throwing off the chemistry and ruining the whole batch.

It's important to note that the fermentation of vegetables is a different beast altogether compared to home brewed wine and beer. Wine and beer are created by a metabolic process with brewer's yeast.

Pickling is a process where you place certain vegetables in an acidic liquid. Over time the acid, along with salt and other ingredients, infiltrates the food and preserves it. Even though many harmful bacteria struggle to get a foothold in the acidic liquid, you still must can and sterilize the food in order to deem it safe.

Basic Fermenting

In my Grandmother's day fermenting was the only option in her household. Giant clay crocks with heavy, holed lids were her weapon of choice. Today these crocks are rare and most of the ones in decent shape will be considered antiques, commanding astronomical prices at auctions and antique shops.

If you can find them for a decent price you need to be careful. Check the glaze carefully for any cracks or chips. Flaws in the glaze can give harmful bacteria a home to set up roost long before you shred your first cabbage. This can lead to off flavors or even potential spoilage in the batch.

With some careful searching on line you can often find fermentation kits that come with their own type of crock made with modern materials. Usually your choices are glass or ceramic. Occasionally you can find plastic crocks, just make sure that it is certified food grade plastic. Non-food grade plastic has a knack for leaching chemicals and off flavors into the food it is fermenting. Non-food grade plastic can also harbor harmful microbes in the microscopic contours of the plastic.

Even if you have a quality fermentation vessel you still want to be diligent about sterilization. I prefer to wipe down with bleach water then rinse twice with boiling water. However a kit that comes with an oxidizing sterilization powder is even better!

Now keep in mind chances are good that you're going to ruin a batch or two along the way. Sometimes fermenting as much an art as it is science. When you first set up to ferment a batch you have to keep in mind that the salt balance is absolutely critical. For the first couple of days the salt is the most important ingredient, as it is the front line defender against all the little beasties that are just dying to take up residence in your fermenting vessel.

Another key consideration is the quality of the vegetable you are starting with. Chances are better than not that bruised, cut or otherwise damaged vegetables can harbor harmful bacteria that might bloom faster than the salt and beneficial bacteria can handle. Even if it doesn't completely spoil the batch these microbes could contribute off flavors to the brine and the final product.

When possible it's always better to work with fresh vegetables. As a general rule of thumb fresh vegetables have higher water content than old vegetables. In fact older vegetables might not have enough juice sufficient to get the

fermentation process started.

Finally you need to consider the location you want to keep the fermentation vessel and its effect on temperature. As a general rule of thumb you want to ferment below 65 degrees Fahrenheit. Usually I advocate temperatures in the low 50's.

If you let the temperature get over 65 degrees, the fermentation process can accelerate. Most foods that ferment quickly end up developing off or otherwise skunky flavors.

Sauerkraut Recipe

Cabbage tends to be the gateway vegetables when it comes to learning the ropes of vegetable fermentation.

Equipment

1 to 2 gallon sized fermentation vessel that has been thoroughly sterilized
Mandolin slicer

Sharp chef's knife

Sharp paring knife

Large work bowl with lid

Potato masher

Food grade latex gloves

Food grade plastic bag or heavy duty plastic wrap **Ingredients**

6 pounds of fresh green cabbage

3 ½ tablespoons of pickling salt

2 cloves of garlic, minced (Optional)

2 tablespoons of caraway seeds (Optional) 2 tablespoons of dill seed
(Optional)

Procedure

Step 1: Sterilize the fermentation vessel and any other equipment. Put on food grade latex gloves to keep bacteria from your hands from getting into the batch.

Step 2: Quarter each head of cabbage with a chef's knife. Then use a paring knife to remove the cores.

Step 3: Use a mandolin slicer set to approximately a ¼ inch thickness to shred the cabbage into uniform thickness. Uniform thickness will help the fermentation process and insure that all of the cabbage is equally fermented.

Step 4: As the cabbage is shredded place it in a large work bowl. Once it is

all shredded toss thoroughly with salt and any other optional ingredients.

Step 5: Cover the work bowl and allow the cabbage to sit at room temperature for 60 to 90 minutes. This rest time will allow the shredded cabbage to weep and release liquid into the bowl. This will also soften the cabbage and make it easier to pack into the fermentation vessel.

Step 6: Pack the entire batch of cabbage into the fermentation vessel. You want to pack it tight. Packing it down with a potato masher is handy.

Step 7: Cover the top of the fermentation vessel with a food grade plastic bag or multiple layers of heavy duty plastic wrap. Make sure there is no air under the plastic. Then carefully pour some water over the top to weight it and create a temporary seal.

Step 8: Place the fermentation vessel in a dark place that is at least 65 degrees or colder.

Step 9: Check the young sauerkraut after a day. By this point the cabbage should be completely submerged under an inch or more of brine. If it is not completely submerged then you should make some additional brine by dissolving 1 ½ tablespoons of pickling salt in a quart of distilled water. Then slowly pour it over top.

Step 10: Re-cover the young sauerkraut with the plastic and water seal.

Step 11: Check the sauerkraut every day. Within 2 to 3 days you should see some small bubbles forming. This is a sign that tells you fermentation is actively taking place. There might be a little bit of scum that forms at the surface. If so simply skim it off with a tablespoon.

Step 12: Starting at week 2 you should taste the sauerkraut. It should be fully fermented in 2 to 4 weeks, though if you are keeping it in a very cold location it might take as long as 6 weeks.

Step 13: Once the sauerkraut is completely fermented you should store it in individual jars in the refrigerator for 4 to 6 months. This is the preferred option since it will allow the beneficial lactobacilli bacteria to stay alive and active. This way they will be able to impart their probiotic magic to your digestive tract when you eat it.

If you don't have room in the refrigerator then you will need to can the sauerkraut in a pressure canner. While this does reduce the nutritional value and

kills the beneficial bacteria, it will allow you to store the sauerkraut at room temperature for up to 2 years.

Fermenting Pickles

Fermented cucumbers, casually referred to as pickles, are the other classic fermented vegetable. In the old days these were usually fermented in enamel glazed crocks with heavy lids with holes that were strategically just wide enough to allow two fingers to fish out a single fat pickled cucumber. This allowed the pickles to stay under the brine for life and the long term storage people needed in the days before refrigeration or sterilized canning.

If you've been to a Charlie Brown, or California flea market, there's a chance that you've seen fermented pickles sold in old oak wooden barrels. Some people swear by these barrel fermented pickles claiming that the oak imparts extra flavor to the brine and pickles the same way it does with wine, scotch or bourbon. While I'm sure that's true, I don't actually like that flavor. My larger concern with using this method at home is sterilization. When you use an oak barrel for alcohol you are already dealing with a liquid with an alcohol content, or the presence of aggressive yeast, which inhibit harmful microbes.

When you are fermenting vegetables the lactobacilli are fighting on even footing against the harmful microbes which can be living in large numbers amongst the microscopic texture of the wood itself. Since I personally don't have any experience using wood as a fermentation vessel, I don't advocate it as an option.

While traditional recipes for fermented pickles usually call for the same kind of pickling salt you'd use for homemade sauerkraut, I actually prefer to use sea salt. While it might just be personal preference I think sea salt, especially if it's unrefined, brings an extra mineral flavor that accents the cucumber's natural flavors, while working well with other optional herbs and seasonings.

When you make sauerkraut you have to chop, beat down and pack the cabbage in order to release enough of the natural juices to create a minimum amount of brine needed for the beneficial microbes like lactobacilli to bloom and complete the fermentation process. With cucumbers that are fermented into pickles you will need to prepare the brine separately and pour it over the cucumbers.

The traditional brine is seasoned with dill to give it brightness and keep the earthy flavors of the pickles alive. Some people like to add hot peppers or garlic

to the brine in order to punch the flavors up even more. My advice is that you try a batch or two of traditional sour pickles with dill just to get a feel for the process before you start getting creative.

Fermented Pickles Recipe

Make sure you thoroughly wash the cucumbers if you're taking them fresh out of the garden. Unless you're growing them on a trellis chances are good they have some dirt or potential fungus spores on the skin. This is the fastest way for harmful microbes to get in and ruin your batch before the beneficial bacteria can get a strong foot hold.

While you can buy pickling spice in little packets or glass jars I prefer to mix my own just so I can control the proportions of each ingredient. I like to set mine up a little stronger on black pepper and mustard seed, while also being a little lighter on cloves.

Unless you have your own personal preference, I would suggest using equal parts of ground all spice, mustard seed, whole cloves, crushed bay leaf and rough cracked black pepper.

One common critique of fermented sour pickles is that sometimes they can be a little on the soft side. If you're the kind of person who likes a little snap and crisp in a sour pickle, then you need to work with pickles that are picked fresh, first thing in the morning. Otherwise you will want to soak them for half an hour in ice water before you start. Depending on the size of the batch, you can use a medium stock pot or a five gallon bucket.

Equipment

1 to 2 gallon sized fermentation vessel that has been thoroughly sterilized

Medium size stock pot or 5 gallon bucket full of ice water

Quart size mason jars

Ingredients

1 gallon of fresh cucumbers (Approximately 4 to 6 inches long)

Distilled water

2 large bunches of dill (Approximately 3 cups) chopped

5 tablespoons of pickling spice

6 tablespoons of sea salt

2 clusters of garlic, peeled and left whole (Optional)

6 serrano peppers, chopped (Optional)

2 teaspoons of cayenne pepper (Optional)

Procedure

Step 1: Remove any excess stems. Then wash gently to remove any debris or soil from the cucumbers.

Step 2: If you didn't pick the cucumbers fresh from the garden, and early in cool morning conditions, then you should soak them in ice water for 30 to 45 minutes before you start.

Step 3: While the cucumbers are soaking you can combine the pickling spice to your preferred proportions and prepare any other ingredients.

Step 4: Lay the cucumbers into the fermentation vessel in layers, sprinkling a little bit of the pickling spice, salt and any optional ingredients on top of each layer. While this might seem like added work it will help make sure the extra flavor components will be evenly distributed.

Step 5: Mix the remaining salt and pickling spice with half a gallon of water. Stir thoroughly until the salt is dissolved. Then pour the dissolved brine into the fermentation vessel, making sure it covers the layers of cucumbers.

Step 6: Cover the top of the fermentation vessel with a food grade plastic bag or multiple layers of heavy duty plastic wrap. Make sure there is no air under the plastic. Then carefully pour some water over the top to weight it and create a temporary seal.

Step 7: Place the fermentation vessel in a dark place that is 65 degrees or colder.

Step 8: Allow the cucumbers to ferment for a full week before checking them. Pull one from the second layer down. Cut an inch off one end with a paring knife, then slice a chunk off to taste test. Chances are the pickles will still be a little on the green side, but this will give you a baseline for how the fermentation process is going.

Step 9: Continue fermenting the pickles, checking them every day or two over the course of the next 10 to 14 days.

Step 10: Once they have fermented to your preference, remove them from

the fermentation vessel and can them in quart sized mason jars.

Step 11: You can store the individual jars in the refrigerator for 4 to 6 months. This is the preferred option since it will allow the beneficial lactobacilli bacteria to stay alive and active. This way they will be able to impart their probiotic magic to your digestive tract when you eat the pickles.

If you don't have room in the refrigerator then you will need to can the pickles in a pressure canner. While this does reduce the nutritional value and kills the beneficial bacteria, it will allow you to store them at room temperature for up to 2 years.

Chapter 5 – Pickling

Pickling vegetables is admittedly easier than fermenting them. It's also a lot more convenient and opens doors for more creativity. Spicy hot pickled carrots, garlic pickled peppers and even pickled fish with red onions are just a few of the many creative options available to you if you've got a pressure canner.

The down side of pickling is that the process of pickling and eventually canning them will reduce the nutrient value of the vegetables and completely lacks the probiotic health effects that you get with fermented foods.

The following recipes assume that you are pressure canning the recipe to be put up for long term storage.

Dill Pickles

The type and size of cucumber you work with does have some impact on how you process the cucumber and what kind of flavor profile you're going with. My personal preference is to pair small or midget cucumbers with a basic dill pickle recipe. This is mostly because I love them alongside a salty or heavy sandwich. You could just as easily slice the cucumbers into pickle chips or as spears.

Equipment

Large sauce pot

Ingredients

1 gallon of small cucumbers 3 cups white vinegar

3 cups of distilled water

6 teaspoons of pickling salt

1 cup of fresh dill, chopped roughly 1 teaspoon of ground all spice 1
teaspoon of mustard seed 1 teaspoon of whole cloves

1 teaspoon of crushed bay leaf

1 teaspoon of rough cracked black pepper **Procedure**

Step 1: Place the water and seasonings in the large sauce pot over medium heat. Do not add the vinegar. Simmer for 5 to 7 minutes or until the salt is completely dissolved and the brine has come to a soft boil.

Step 2: While the brine is simmering, thoroughly wash the cucumbers. Make sure to remove any stems, dirt or debris.

Step 3: Tightly pack all of the cucumbers into sterilized canning jars.

Step 4: Add vinegar to the simmering brine. Then carefully ladle the brine into the jars, make sure the cucumbers are covered by at least an inch.

Step 5: Seal and process in a pressure canner using the procedures from the

canning chapter.

Step 6: Wait at least 4 weeks for the brine to permeate the pickles completely. Kept in a cool dark place they should last for up to two years.

Kosher Dill Pickles Recipe

On a basic level the only real difference between kosher and regular dill pickles is that kosher pickles use garlic as an additional flavor component. To spice things up a little bit I like to add a pinch of cayenne pepper to the brine. I also like to tweak the pickling spice recipe with a little extra bay leaf while reducing the amount of cloves.

I also prefer to make kosher pickles using spears made by cutting medium cucumbers into quarters for use as spears. I find the extra exposed surface area does a better job of absorbing the garlic flavors. Kosher pickles ultimately came to popularity at the American table alongside classic deli sandwiches. So I like to pull out the spears when I'm making a Rye or pastrami sandwich.

Also if you find yourself staring at a crazy amount of zucchini at the end of a season you can cut them into quarters, trim the seeds and pickle them using this this same recipe.

While this recipe calls for using white vinegar, if you love garlic you could also use garlic-rice wine vinegar.

Equipment

Large sauce pot

Ingredients

1 gallon of medium cucumbers, cut into quarters 8 cloves of garlic, sliced

3 cups white vinegar

3 cups of distilled water

6 teaspoons of pickling salt

1 cup of fresh dill, chopped roughly 1 teaspoon of ground all spice

1 teaspoon of mustard seed

½ teaspoon of whole cloves

1½ teaspoons of crushed bay leaf 1 teaspoon of rough cracked black pepper
½ teaspoon of cayenne pepper

Procedure

Step 1: Place the water, garlic and seasonings in the large sauce pot over medium heat. Do not add the vinegar. Simmer for 7 to 10 minutes or until the salt is completely dissolved and the brine has come to a soft boil.

Step 2: While the brine is simmering, thoroughly wash the cucumbers. Make sure to remove any stems, dirt or debris.

Step 3: Cut the cucumbers into quarters. Remove any large developed seeds, but you can leave any soft under developed seeds in the seed core. Then tightly pack all of the cucumber spears into sterilized canning jars. If you are using pint sized jars you will probably need to cut the spears in half.

Step 4: Add vinegar to the simmering brine. Then carefully ladle the brine into the jars, make sure the cucumbers are covered by at least an inch.

Step 5: Seal and process in a pressure canner using the procedures from the canning chapter.

Step 6: Wait at least 2 weeks for the brine to permeate the pickles completely. Kept in a cool dark place they should last for up to two years.

Sweet Pickles Recipe

When working with sweet pickles I like to cut the cucumbers into $\frac{3}{4}$ inch thick chunk-like slices. I find if you don't add at least a little heat to this recipe that the final pickles can end up a little cloy and can actually dull your palette as you eat them.

Equipment

Large sauce pot

Ingredients

1 gallon of medium cucumbers, cut into quarters 4 cloves of garlic, sliced

3 cups of apple cider vinegar

3 cups of distilled water

$\frac{1}{2}$ cup of white sugar

6 teaspoons of pickling salt

$\frac{1}{2}$ cup of fresh dill, chopped roughly 1 teaspoon of ground all spice 1
teaspoon of mustard seed

1 teaspoon of whole cloves

1 teaspoons of crushed bay leaf

1 teaspoon of rough cracked black pepper $\frac{1}{2}$ teaspoon of turmeric

2 jalapeno peppers, minced

Procedure

Step 1: Place the water, garlic and seasonings in the large sauce pot over medium heat. Do not add the vinegar. Simmer for 7 to 10 minutes or until the salt and sugar are completely dissolved and the brine has come to a soft boil.

Step 2: While the brine is simmering, thoroughly wash the cucumbers and

jalapenos. Make sure to remove any stems, dirt or debris.

Step 3: Cut the cucumbers into $\frac{3}{4}$ inch thick chunks. Mince the jalapeno peppers. Then tightly pack all of the cucumber chunks and jalapeno pieces into sterilized canning jars.

Step 4: Add vinegar to the simmering brine. Then carefully ladle the brine into the jars, make sure the cucumbers are covered by at least an inch.

Step 5: Seal and process in a pressure canner using the procedures from the canning chapter.

Step 6: Wait at least 4 weeks for the brine to permeate the pickles completely. Kept in a cool dark place they should last for up to two years.

Napalm Carrots

I was first introduced to this recipe at a dive bar in Georgia. Right next to the ubiquitous jar of pickled eggs and hogs feet was a small jar of baby carrots pickled in a brine that hit your tongue about 2 degrees hotter than Chernobyl! Of course the bar tender kept the recipe close to the chest but I managed to glean enough information from him that a little research and experimentation lead me in the right direction.

This recipe calls for using habanero peppers to bring the heat. They also bring a nice fruity lilt of smoked apricot. If you're not into having your face melt off as you pour ice cold milk on your face then you could take a step down to Thai chilies or serrano peppers. If you're the kind of person born with the gifts of sense and reason then minced jalapeno peppers might be more your speed.

Equipment

Large sauce pot

Latex gloves

Ingredients

½ pound of baby carrots

2 cloves of garlic, minced 2 cups of distilled water 1 cup of white sugar

2 cups of cider vinegar

½ of a medium red onion, cut into bite sized chunks ½ teaspoon of mustard seeds ¼ teaspoon of ground cumin

1 tablespoon of pickling salt

1 teaspoon of fresh cracked black pepper 2 habanero peppers, minced

Procedure

Step 1: Add the water, sugar, chopped onion, minced garlic, mustard seeds, ground cumin, black pepper, salt, sugar and habanero peppers to a large sauce pot over medium heat. Simmer the brine for 5 to 7 minutes or until it comes to a

soft boil.

Step 2: Wash and prepare the carrots. Then pack them tightly into sterilized canning jars.

Step 3: Add the vinegar to the brine then pour it into the jars, leaving an inch or so of head room.

Step 4: Seal and process in a pressure canner using the procedures from the canning chapter.

Step 5: Wait at least 4 weeks for the brine to permeate the carrots. Kept in a cool dark place they should last for up to two years.

Pickled Cauliflower

Cauliflower is a much maligned and misunderstood member of the cabbage family. Often seen as the pale ugly sister of sexy broccoli most people end up leaving a head of cauliflower in the back of the refrigerator until it makes a funky stink. People who do use it tend to use it as filler in a crudité platter or botch making it into a soup that smells like an old gorilla's farts.

Now I'm not going to sit here and tell you that cauliflower is the greatest vegetable in human history. On its own I personally admit that it can be a bit boring. However when you pair it with other hot, spicy and especially sulfurous flavors it can come alive as more than just a filler starch.

Equipment

Large sauce pot

Ingredients

1 head of cauliflower broken down into bite sized florets 2 cloves of garlic, minced 2 cups of distilled water

2 cups of red wine vinegar

1 cup of white vinegar

1 medium red onion, cut into bite sized chunks ½ teaspoon of mustard seeds
¼ teaspoon of ground cumin

2 tablespoons of pickling salt

1 teaspoon of fresh cracked black pepper 2 jalapeno peppers, minced

Procedure

Step 1: Add the water, sugar, minced garlic, mustard seeds, ground cumin, black pepper, salt and jalapeno peppers to a large sauce pot over medium heat. Simmer the brine for 5 to 7 minutes or until it comes to a soft boil.

Step 2: Wash and chop the cauliflower. Then pack them tightly into sterilized canning jars along with the onion chunks.

Step 3: Add the two vinegars to the brine then pour it into the jars, leaving an inch or so of head room.

Step 4: Seal and process in a pressure canner using the procedures from the canning chapter.

Step 5: Wait at least 4 weeks for the brine to permeate the cauliflower florets. Kept in a cool dark place they should last for up to two years.

Pickled Peppers

Like many avid gardeners I have a tendency to over plant my peppers. It doesn't take more than a favorable summer with seasonal rains and a late first frost to leave me staring at a heap of peppers that I can't possibly eat fresh and I can't use them for salsa because I already have dozens of jars of salsa put up.

The nice thing about pickled peppers is that you can add them to salads and sandwiches. They can also be pureed later into a myriad of spicy sauces that play well in other dishes. It also helps that I have a friend who makes a great Bloody Mary loaded with pickled peppers and green beans. He loves to horse trade me a dozen jars of my pickled jalapenos and pepperoncini peppers for bales of straw and mulch.

One of the big debates with pickling peppers is whether you want to leave them whole, cut them into slices or dice them into chunks. I personally think it varies by the pepper. Thin walled peppers inevitably break down faster during the canning process. So while I like to use them diced for sandwiches, I will can them whole. When it comes to jalapeno peppers, I like to cut them into thick slices this maximizes the exposure to the brine. The thick walled peppers are tough enough that they won't break down into mush during the canning process.

This recipe is for pickled jalapenos, but really you could adapt it to any pepper from your garden. I've even used it for pickling strips and chunks of red and green bell peppers.

Equipment

Large sauce pot

Ingredients

1 pound of jalapeno peppers, cleaned and cut to preference
2 cloves of garlic, minced
2 cups of distilled water

2 cups of white vinegar

1 medium red onion, cut into bite sized chunks

2 tablespoons of pickling salt

1 teaspoon of fresh cracked black pepper **Procedure**

Step 1: Add the water, minced garlic, black pepper, salt and other seasonings to a large sauce pot over medium heat. Simmer the brine for 5 to 7 minutes or until it comes to a soft boil.

Step 2: Wash and chop the peppers. Then pack them tightly into sterilized canning jars along with the onion chunks.

Step 3: Add the vinegar to the brine then pour it into the jars, leaving an inch or so of head room.

Step 4: Seal and process in a pressure canner using the procedures from the canning chapter.

Step 5: Wait at least 4 weeks for the brine to permeate thick walled peppers. Thin walled peppers could be ready to use in as little as 2 weeks. Kept in a cool dark place they should last for up to two years.

Pickled Green Beans

Typically beans end up being canned or dried. There isn't honestly a lot of call for pickling green beans anymore. However I have a friend that loves them and swears by them in a number of cocktails and herbal creations. Since I am always using beans to regenerate my garden soil, I always have a bumper crop of them waiting to be used.

It's important to note that from a nutritional stand point green beans lose half of their vitamin C content to starch conversion within the first 24 hours after being picked. Pickling and pressure canning also degrades the nutritional value. As such I would only pickle green beans that are fresh picked from the garden that day. Picking them first thing in the morning, when the beans are still cool from the night air helps preserve some of their natural crispness in the final pickled product.

I find it is best to work with quart sized jars that allow me to work with the whole bean, rather than cutting them in half to pack them into pint size jars.

Equipment

Large sauce pot

Ingredients

1 gallon of garden fresh green beans, whole 4 cloves of garlic, sliced

3 cups white vinegar

3 cups of distilled water

6 teaspoons of pickling salt

1 cup of fresh dill, chopped roughly 1 teaspoon of ground all spice

1 teaspoon of mustard seed

1 teaspoon of crushed bay leaf

1 teaspoon of rough cracked black pepper ½ teaspoon of cayenne pepper

Procedure

Step 1: Place the water, garlic and seasonings in the large sauce pot over medium heat. Do not add the vinegar. Simmer for 7 to 10 minutes or until the salt is completely dissolved and the brine has come to a soft boil.

Step 2: While the brine is simmering, thoroughly wash the green beans. Make sure to remove any stems, dirt or debris.

Step 3: Tightly pack all of the green beans into sterilized canning jars.

Step 4: Add vinegar to the simmering brine. Then carefully ladle the brine into the jars, make sure the green beans are covered by at least an inch.

Step 5: Seal and process in a pressure canner using the procedures from the canning chapter.

Step 6: Wait at least 2 weeks for the brine to permeate the green beans completely. Kept in a cool dark place they should last for up to two years.

Chapter 6 – Dehydrating

Another common way to preserve meat, fruit and vegetables is to dehydrate them.

Where you live in the country can be a big factor, as is the seasonal weather. If you live in the dry parts of the Sun Belt, a cheap and weak food dehydrator is all you need. In fact, many homesteaders that live in the south western United States simply use covered well aerated trays to dehydrate fruits, vegetables and meat. If you live in more humid parts of the country or an area that sees a harsh winter, then a good food dehydrator can pay for itself in just a few months.

Shelf and stackable varieties are the two most common type of food dehydrator. Both work on the same principle of moving warm air across the food. Stackable dehydrators have a fan in the bottom which blows warm air up through the vents in the trays. The biggest weakness of a stackable dehydrator is that it tends to dry the food at the bottom faster than the top. You can often get past this foible by placing the larger or wetter pieces of food at the bottom with thinner dryer stuff at the top.

Shelf style dehydrators have a fan and heating element at the back of the unit. This allows you more control over the heat and air flow of each tray. Still larger or wetter pieces of food should be placed at the back.

Honestly between the two there probably is not a clear cut winner. Both designs have fans and detractors. If you are planning to do a lot of jerky then it is probably better to look for a shelf unit. Stackable dehydrators have a hole in the middle of the tray for airflow. The hole tends to cause trouble with laying out the meat evenly.

There are other key features to keep in mind when shopping for a food dehydrator.

I would personally avoid any unit that doesn't have a fan. The air circulation really does speed up the process!

An adjustable thermostat is also a nice feature to have. Delicate things like herbs prefer a temperature around 95 to 100 degrees. Herbs will burn and lose many of their essential oils at the 125 degree temperature you use for vegetables. Vegetables will lose some of their flavor and nutrient value if you dry them at the 155 degrees needed for meat and jerky.

Shelf capacity is another factor to consider. If you're a huge fan of venison jerky and you are planning to bag that big buck this fall, then it means you're going to be making a lot of sausage and jerky out of his tough old gnarly carcass. A small counter top dehydrator will require multiple loads of meat over multiple days. Two weeks of tending a food dehydrator every morning and night gets frustrating and you will wish you had the big unit.

If you're looking to use a dehydrator to make dried fruit for the kids to snack on, then a small unit will handle that little batch without having to work a monster cabinet of a dehydrator.

Dehydrating Meat

Beef Jerky recipe and procedure Equipment

Chef's knife or meat slicer

Gallon sized zip top bag

Shelf style food dehydrator

Ingredients

Inside skirt or flank steak

½ cup of Worcestershire sauce

½ cup of soy sauce

1 tablespoon of minced garlic

1 tablespoon of onion powder

1 tablespoon fresh cracked black pepper ¼ cup of dry red wine

1 tablespoon of salt

Procedure

Step 1: Trim any excess fat off the meat. Then slice the meat, with the grain into thin long strips.

Step 2: Combine all the other ingredients in a zip top bag.

Step 3: Add the meat to the bag and massage it to make sure all the strips have full contact.

Step 4: Place the bag in the refrigerator overnight.

Step 5: The next day evenly layout the strips out on the trays. They should not overlap or touch each other.

Step 6: Set the thermostat on the dehydrator to 155 degrees.

Step 7: Allow the jerky to dry completely. Depending on your unit this might take anywhere from 24 to 72 hours.

Turkey Jerky Recipe

Turkey Jerky is a nice thing to have around the house as a change of pace from beef or venison jerky. The thing I love about turkey jerky is that it packs better for an ice fishing expedition. Things tend to freeze during the hike across the ice and frozen beef jerky can challenge the limits of your dental work. Turkey jerky tends to break apart into bite size chunks. Admittedly if you don't punch up the flavor the turkey can be a little bland.

Working with turkey breast meat is easier. However, I like to remove the breast and save it for the freezer and instead I turn to pickling the thigh meat and some of the excess meat you find near the breast and back. It's a little extra work but it's a great way to make full use of the bird without always having to turn to stock and soup.

Equipment

Chef's knife

Food processor

Gallon sized zip top bag

Shelf style food dehydrator

Ingredients

2 tablespoons soy sauce

1 small can of chipotle peppers, with adobo sauce ¼ cup Worcestershire sauce

2 teaspoons of smoked paprika

2 teaspoons light brown sugar

2 tablespoons of onion powder

2 teaspoons of sea salt

1 pound turkey meat, sliced thin **Procedure**

Step 1: Puree the chipotle peppers in a food processor. Then add the rest of the ingredients and pulse 4 to 5 times to combine.

Step 2: Trim any excess fat off the meat. Then slice the meat, with the grain into thin long strips.

Step 3: Add the meat and marinade to the zip top bag. Massage thoroughly to combine.

Step 4: Place the bag in the refrigerator overnight.

Step 5: The next day evenly layout the strips out on the trays. Make sure the pieces don't touch.

Step 6: Set the thermostat on the dehydrator to 155 degrees.

Step 7: Allow the jerky to dry completely. Depending on your unit this might take anywhere from 24 to 72 hours.

Step 8: Vacuum seal the jerky in small bags.

Dehydrating Fruits and Vegetables

Now you've probably seen videos on the internet of people making solar dehydrators. While this is a classic method for dehydrating fruits and vegetables, I personally don't advocate it. I played with this method in the past and I wasn't happy with the occasional fruit flies I'd find buzzing around in there.

One of the biggest challenges with dehydrating fruit is handling the oxidation issues. You'll inevitably have to find ways to pretreat the fruit to keep you from getting a brown wad of fruit stuff. This is especially true of apple slices.

You can indeed buy chemical pretreating additives and they will give you the optimum color and crispness to your fruit. Personally I'm not a big fan of dumping extra chemicals onto products that I spent so much effort to grow organically.

Instead I prefer to turn to a mixture of citrus and ascorbic acid. I simply grind up a small vitamin C tablet in a mortar and pestle then dissolve it in a cup of lemon juice. This will preserve the color of oxidizing fruit with about 90% of the effectiveness of a chemical treatment, without all the chemical muck up.

Conclusion

When you take the time to really sit down and think about it, having a practical understanding of how to preserve and put up the bounty of the summer is critical to finding success in the homesteading lifestyle.

You shouldn't look at this book as the be-all, end-all of food preservation. This is just the tip of the iceberg. Once you get a handle on the basic techniques you can start expanding and branching out into all kinds of other creative endeavors.

The first half dozen or so times through, just try to remember to keep it simple. Always remember that whether you are putting things up in the root cellar, pickling, fermenting or canning that sterilization is the most important key to success. Five more minutes of extra effort could make the difference between dumping a case of jars into the compost pile and a pantry full of summer's flavorful goodies.

Once you are the grand maestro of sterilization and you've got a bunch of successful batches put up for the season, then you can start playing with your own creative ideas. By waiting until the bumper crop to get creative, you insure that you've got enough put up already to get you through the lean winter nights.

When you do start to strike out with your own creative additions try to keep it to one or two new ingredients. Sometimes what seems like a great idea in your mind can muddle the flavors or over power the flavor of the original fruit, vegetable or meat. Being able to figure out just which addition is the culprit is a lot easier when you're only dealing with one or two possible suspects.

Also don't forget about the importance of shelving space. In 2007 I got over zealous with my canning. Before you knew it I was tearing apart old pallets for the lumber to line my old basement stairwell with shelves. Of course this led to a couple hundred splinters, which led me to a weekend of sanding and painting. Sure, in the end I probably saved \$20 or \$30, but if I would have ponied up a few more dollars I could have just bought some garage shelves ahead of time that were rated to handle 250 pounds per shelf.

The moral of the story is that before you get too excited about putting up a couple hundred cans of fruits and veggies, you really want to look around and understand the space you have available.

Enjoy the process of preserving your bounty and remember to follow safe practices when preserving your food, especially when canning. If you have any doubt, confusion or questions about safe procedures or methods or any of the information in this book always refer to the [CDC website](#), the [National Center for Home Food Preservation](#) and the [USDA Complete Guide to Home Canning](#) and follow the information you find there.

Other Books by Eric Beuning Eric Beuning has written over 10 books on various aspects of cooking, gardening and homesteading. He writes with wit, humor, and an abundance of real world experience. Below are a few of his most popular books.

[Modern Rustic: Greenhouses and Gardening](#): A homesteading guidebook for subsistence gardening, heirloom vegetables and greenhouse ideas [Understanding Italian Pasta and Sauce](#) - Making Pasta from Scratch and Cooking Classical Italian Pasta Dishes (a short recipe guide and unconventional cookbook) [Modern Rustic: Starting a Homestead](#): A Guide to Buying Property and Moving Toward Self-Sufficiency [Modern Rustic: Homesteading and Self-Sufficiency Skills and Equipment](#): A How-to Skills and Idea Guide for Do-It-Yourself Homesteaders [Growing and Cooking Italian Vegetables](#) - Gardening Tips and Recipes from a Lifetime of Italian Cooking See the entire list [here](#).