HOMESTEADING HANDBOOK VOL.1

THE BEGINNER'S GUIDE TO BECOMING SELF-SUSTAINABLE

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Homesteading Handbook vol. 1: The Beginner's Guide to Becoming Self-Sustainable

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Book 1 of the **Homesteading Handbooks** series of books.

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What Is Homesteading?

The simple definition of **homesteading** is to "lead a lifestyle of self-sufficiency," but to define it as such and leave it at that would be selling homesteading short. Homesteading is a return to living the way the original settlers of this great nation lived as they struck out West with a glimmer in their eyes and their families in tow. The term homesteader used to be reserved for those living on a homestead they'd received from the government, but has now been extended to refer to anyone working toward becoming self-sufficient and living off the land.

In the not-so-distant past, our ancestors didn't have the ability to run to the store to purchase anything their hearts desired. They had to make do with what they were able to raise, grow or barter for with their neighbors. Homesteads were rarely close to civilization, so our ancestors were largely on their own. Stores and restaurants were few and far between and the further West one ventured, the scarcer they became. The original settlers had to depend on themselves and the items they brought with them as they spread out across the furthest reaches of the country. The nearest help was days, if not weeks, away, so homesteaders had to be able to provide for all of their basic needs.

Homesteading in the 21st century is all about learning the ways of our ancestors and going back to simpler times. In its purest form, it's a simple life that's largely disconnected from the hustle and bustle of today's world. It isn't easy, but there's something to be said about returning to one's roots and living off the land the way our forefathers did when they gathered up everything they owned and headed out to the parcel of land they'd been allotted.

Homesteading means consuming less and creating more. It's about adding to the earth instead of taking away from it. Homesteaders eat food they've raised or grown themselves. They consume less energy and lead simpler lives in an attempt to leave their little portion of the world in better shape than it was when they arrived.

It's up to you how deep you want to venture into homesteading, but I will tell you this. It's addicting. Once you bite into that first cucumber or apple or watermelon you've grown completely organically; once you drink kefir you've fermented yourself; once you raise a chicken for food and eat that first egg or bite into that first piece of pork from a pig you've raised. Once you get a taste, you're going to want more. Homesteading is life lived the way it's supposed to be lived and it just feels right. Pretty much any homesteader you talk to will tell you homesteading as a lifestyle isn't the easiest lifestyle there is, but they wouldn't have it any other way.

Self-sufficiency is the ultimate goal of most homesteaders. It's comforting to be able to walk through life knowing you have the knowledge required to continue living should a disaster strike that cuts off the constant supply of food and the utilities we're used to. Homesteading is a slightly different beast than prepping, but any homesteader worth his weight in dried vegetables has a supply of food and water squirreled away and has the know-how and the supplies needed to survive an extended emergency.

This is the first in a planned series of books on homesteading. This book lays the foundation for future books and is a broad synopsis of homesteading. Future volumes will cover specific aspects of homesteading in detail. Becoming a homesteader isn't something that happens overnight and it's going to require hard work and a good bit of practice on the part of the reader. This series is designed to soften the learning curve and make homesteading simple.

It's time to learn how to go back to the basics. Homesteading allows you to do just that.

The History of Homesteading

The term homesteading dates back to the **Homestead Acts**, which were federal laws passed in the mid- to late-1800's and early-1900's that allowed settlers to claim land for little to no cost. Abraham Lincoln himself signed the original homestead act, the Homestead Act of 1862, into law.

This act granted anyone who had never taken up arms against the U.S. government and was at least 21 years of age or the head of a household the right to claim up to 160 acres of federal land for a nominal fee of $18. While $18 then went a lot further then than it does now, it was still one heck of a deal for those looking to own land. Adjusted to the buying power of today's dollars, it would be the equivalent of being able to buy 160 acres of land for approximately $430. The catch was the person filing the claim had to be willing to live on the land for 5 years and make improvements to the land, after which they'd be granted the deed.

The passage of this law and additional homesteading laws that expanded upon the initial law led a large number of U.S. citizens to lay claim to the vast expanses of free land being doled out by the government. By 1934, over 1.6 million homesteads had been granted and 270 million acres of land had been claimed. The federal government gave land to nearly 40% of the 4 million settlers who attempted to file claims. Much of the land claimed was in the West, so the settlers packed up all their worldly belongings and headed to their homestead with only the supplies they could carry with them.

The Homestead Act remained active in most states until 1976, with Alaska being the last state to shut it down in 1986.

It Isn't All or Nothing

While you'll occasionally come across a person or family who's willing to sell all of their worldly belongings and head off into the wilderness to make a go at homesteading, it's extremely rare these days to find people who practice homesteading in the truest sense of the word. Living like the pioneers lived is a difficult life and it's one that's fraught with peril. Don't get me wrong. I have the utmost respect for people living a purely traditional lifestyle, but that isn't a choice most people are willing to make. They enjoy the luxury of running water, indoor plumbing and electricity too much to be willing to give them up and dive headfirst into the lifestyle.

The good news is you don't have to take an all or nothing approach. It isn't pure pioneer or bust like it was in the old days. Modern conveniences afford you the luxury to take on what you think you can handle, work at it until you get it figured out and then build on what you've learned. The more you're able to accomplish, the better off you'll be in the long run, but learning to homestead in the modern world isn't life or death like it used to be.

Most homesteaders, or at least those living in the United States, aren't employing an all-or-nothing approach. They own a small- to medium-sized patch of land and are growing produce on that land. Many of them are raising chickens and some may have other livestock they're rearing. Most have running water, which can be supplemented through rainwater and grey water collection, and electricity, which can also be supplemented through use of solar panels and other energy collection methods.

The average homesteader lives in or near the city, has access to the amenities the average person has access to and is able to go to the doctor when gravely ill instead of trying to treat it themselves at home. They'll probably try to treat the minor stuff themselves and won't run to the doctor every time they sniffle, sneeze or cough, but they aren't living a completely isolated lifestyle.

Homesteading isn't something you can learn in a weekend. It also isn't something that can be learned by reading a book, but a good book will point you in the right direction. Start off slow and build on it as you learn the ropes. If you're planning on raising birds and want to raise rare breeds to sell for a profit, don't run out and spend a small fortune on every rare bird you can get your hands on right away. Buy a handful of inexpensive chickens or some other cheaper birds and learn the ropes with them. Instead of selling all of your worldly possessions to buy a farm in the middle of nowhere, start with a small garden in your backyard. Starting slow gives you the opportunity to see if you enjoy homesteading before going all-in and the mistakes you're going to make while learning the ropes won't be as costly. Start small and expand on what you're doing as you gain valuable experience.

Most failed attempts at homesteading come about as a result of somebody biting off more than they can swallow. Think of homesteading as being akin to learning a number of foreign languages. The average Joe isn't going to try to learn Spanish, Tagalog, French and Italian all at the same time. They'll master one language before

moving on to the next. Homesteading is the same way. Master one technique before moving on to the next. It'll be easier and life will be less stressful as a result.

It's up to you to determine how much you want to take on. The more you learn, the more self-sufficient you'll become and the more likely it becomes you'll be able to survive an extended emergency situation. Every little bit counts, so don't let the fact you don't want to become Daniel Boone stop you from learning how to grow your own food, collect seeds from that food and then grow new crops from the seeds. Even if you don't practice them regularly, most homesteading skills are valuable skills to have and should be practiced occasionally.

Urban Homesteading

Urban homesteading takes city life and simplifies it. People practicing urban homesteading are somewhat limited as to what they can do as far as homesteading goes, but they're still able to pick and choose homesteading techniques they can use simplify their lives and become at least partially self-sufficient. While traffic zooms by mere feet away and the hustle and bustle of city life surrounds them, many urban homesteaders have managed to carve out their own little oasis in the city.

Urban homesteaders have limited space and have to come up with novel ways to save money and become self-sufficient. With little more than a concrete patio, a number of urban homesteaders manage to at least put a small dent in their grocery bill by growing produce and herbs in containers on their patios, preserving foods and learning to make do with what they have. Those lucky enough to have a yard may even raise a small brood of hens—minus the noisy roosters, of course—or raise rabbits in a hutch.

Here are just a handful of the many things you may be able do as an urban homesteader:

- **Collect rainwater or greywater.** Many jurisdictions allow you to collect at least a small amount of rainwater or greywater that can be used to water the plants in your home garden. There are areas in which this practice is banned, so check with your local cooperative extension first.
- **Create a neighborhood co-op.** Set up a barter system where you and like-minded neighbors trade food, goods and services instead of exchanging cash. You might be surprised by how many people there are who will take foods, crafts and/or services as payment. It may take some calling around before you're able to find someone willing to accept what you're offering, but it's worth the extra legwork if it saves you a lot of money.
- **Food preservation.** Even if you don't have room to grow your own food, you can purchase food in bulk when deals roll around and preserve it so you'll have it for the rest of the year. The best deals on produce usually pop up during the local harvest. Canning, freezing, drying and fermenting are all techniques that can be used to preserve food in an urban setting.
- **Make your own soaps, personal care products, cleaning products, etc.** This will allow you to go all-natural while saving money at the same time. Get good enough at it and you might be able to make extra and sell it for a profit.
- **Raise chickens.** Most cities ban noisy roosters, but you may be able to raise a small brood of laying hens. A single hen can provide a couple hundred or more eggs per year.

- **Save seeds and use them to grow future crops.** Learn how to collect seeds from the produce and herbs you're growing and then plant those seeds the following season. Play your cards right and you'll only have to purchase seeds once. Even if you don't have room to grow a garden, it's a good idea to learn how to save seeds and to have a supply of them handy.
- **Tend a small garden.** Container gardens and square foot gardens don't take up a lot of space and can often be grown on a small patio. If you don't have room at home, many cities have community gardens where you can rent or borrow plots of land.

Those practicing urban homesteading often find themselves on the wrong end of the law. It seems urban homesteaders are constantly at odds with local law enforcement officers, landlords and homeowners associations as to what they're allowed to build and grow in the city. Zoning regulations, by-laws and permits that are all but impossible to get can make urban homesteading a difficult proposition for those living in certain areas.

Yet still, many people soldier on and manage to get the job done. With a little ingenuity, many of the techniques discussed in this book can be adapted to work in an urban homestead. They'll have to be done on a smaller scale, but they can are being done by urban homesteaders worldwide. Living in the city isn't an excuse for doing nothing. You might not be able to do as much, but there's still a lot that can be done.

A quick drive through the suburbs of any big city will reveal row after row of neatly-manicured lawns, but drive around long enough and you'll undoubtedly come across a person in the neighborhood who has turned their front lawn into a vegetable garden. Scan the balconies of high-rise apartment buildings in the city and you'll find countless containers full of herbs, salad greens and all sorts of vegetables set out to get some sun. Peek in enough backyards and you'll find gardens, chicken coops and barrels set out to collect rainwater. Look hard enough and you'll find compost bins, laundry lines and even the occasional wind turbine.

These are your urban homesteaders. A growing number of people in the city are realizing there's a better way and more and more people are reaping the benefits of homesteading.

When Money Is an Issue

The vast number of homesteaders I know turned to homesteading during tough times in order to try to save a few nickels and dimes here and there. Homesteading will save you money, but there are some upfront costs associated with getting started. I hear a lot of people tell me they'd love to get started homesteading, but the equipment is too expensive. Many of these people go out to eat a couple times a week, buy coffee from expensive shops and waste money on an assortment of different vices and niceties. The reality is these people don't want to be homesteaders. They have disposable income and enjoy the lives they're leading too much to give any of it up.

On the flip side of the coin are the people struggling to get by. They really do want to start homesteading, but money's extremely tight and many of the items required to get started really aren't in their budgets. These are the people homesteading can help the most.

Certain aspects of homesteading don't cost a whole lot of money to get started. Mason jars for canning and fermenting can be purchased for just under a buck a piece. You can sometimes find them for even cheaper at garage sales and flea markets. A prefabricated chicken coop will set you back a couple hundred bucks, but I've seen them made out of an old dog house or old pallets that were obtained for free and a bit of chicken wire. Egg-laying hens will cost you a few bucks apiece and then all you have to buy is the feed. A packet of good seeds costs a couple bucks. If you've got fertile soil in your yard, you can plant them and learn to harvest seeds from your plants.

When I first started homesteading, money was tight and I often wondered whether I was going to have enough money to put food on the table until my next payday. I bought the items I needed slowly and took the time to find great deals on them that were too good to pass up. The bigger purchases were made using my tax returns, one or two items per year. After a couple years of buying an item here and there, something started to happen. I soon had more money freed up because I wasn't spending as much on food and the other items I needed. As I became more and more self-sufficient, I found it was easier and easier to save money for the items I still needed. Eventually, you reach the point where you have many of the items you need and can start putting a little money away for a rainy day.

Secondhand stores, yard sales, flea markets and salvage yards are going to be your new best friend when it comes to finding deals on the items you need. Keep an eye on classified ads and sites like Craigslist and E-Bay for great deals. Many of the items will be overpriced, but you'll eventually come across a great deal. The best deals come from people who have decided they no longer want to practice homesteading and are selling everything or people who inherited stuff they want to get rid of quickly. There's no good reason to spend a premium on brand new items when gently-used items can often be purchased for a fraction of what new items would cost.

I recently purchased an entire set of Pickl-It fermenting jars from a lady who tried fermenting and decided it wasn't for her for less than what it would have cost to pay shipping if I would have bought them new. It's going to take a bit of patience, but you can find pretty much anything you need for a great price if you'll willing to wait until you find it on the second-hand market.

Another place to keep an eye on is sites where people post free stuff like Freecycle.org. People post stuff there they no longer want and are willing to give away for free. A lot of it's garbage, but every once in a while you'll find a hidden jewel. I know a guy who found enough stone tile for free on that site that he was able to tile his entire hallway for only the cost of the grout. I've also seen other types of building material, pressure canners, pallets (wood for building projects) and canning jars being given away for free at various times over the past year.

20 Ways Homesteading Can Save You Money on Groceries

You've heard it time and time again. Homesteading will save you money. The problem is every time you think about getting started, there are a bunch of upfront costs staring you in the face and it's tough to look past these costs to see the future savings.

Groceries are one of the biggest expenses for most families and homesteading can save you quite a bit of money on your grocery bill. Some of the savings will be instantly realized, while others add up gradually over the course of the year. Check out the following 20 ways you can save money on groceries.

1. You'll shop for a reason.

The average homesteader doesn't need to go shopping very often. When they do, they head to the store with a specific list of the items they need to buy. The more a homesteader is able to grow and raise, the less they'll need to purchase.

Avoiding impulse buys and only shopping for the items you need will save quite a bit of money over the course of the year, especially if you're the type of person who runs to the store constantly and grabs all sorts of random stuff just because it's on sale. On the rare occasion you do need to go to the store, make a beeline for the items you need and steer clear of the items you don't.

When you're at the store, avoid the end-aisle items and the items near the check-out stands. They're there to evoke emotional responses and to convince you to grab them even if you don't need them.

2. You'll shop less often.

Buying in bulk and growing or raising a lot of your own food will mean you spend less time at the grocery store. This equates to less opportunity to spend cash and will end up saving you money.

This is especially true for people who take their children shopping with them. Kids spend much of a shopping trip looking for anything and everything they can talk mom or dad into buying and if you're prone to giving in to your kids, you can waste quite a bit of money without even realizing it. Most families go shopping once a week (sometimes more). Let's say you have 1 kid who always manages to talk you into buying *something* for him. The items he asks for only cost a couple bucks, so you think nothing of it. However, multiply that couple bucks by 52 shopping trips a year or more and you're looking at a couple hundred dollars per year being wasted. People with more than one kid will spend even more money and the costs can add up quickly.

Add in a trip through the drive through a couple times a month when the kids get hungry and you're looking at another couple hundred dollars per year.

3. Growing food is less expensive than buying it.

Growing your own produce can substantially reduce your grocery bill during the months in which you're able to harvest the food you're growing. This is especially true for those who buy organic produce, which sells for a premium at farmer's markets and grocery stores.

It can reduce your grocery bill by even more if you grow enough food to preserve a bunch of it for later use…Which leads us to #4.

4. Preserving food saves money.

Food you grow and harvest can be preserved and eaten throughout the year, which will save you money on groceries. Even if you don't grow produce, you can purchase it in bulk when it's at its cheapest, usually during the local harvest, and then preserve it for use during the rest of the year.

Prices on produce can reach ridiculous levels during the winter months when the produce has to be trucked or flown in from distant locations. Some of the produce you see on grocery store shelves in the winter comes from as far away as South America and you'll pay the difference in the cost it took for the grocery store to get it there.

If you've got produce preserved in the pantry, basement or freezer, you can eat healthy foods year-round for a fraction of the cost and will be able to rest easy at night knowing exactly where the food came from.

5. Cooking at home will save money.

Give up eating at fast food joints and restaurants and make meals at home to save a ton of cash.

Dinner can be made at home for $10 to $15 per meal if you're smart about what you buy. It can be made for even less than that if you use produce you've grown and meat from animals you've raised. Try feeding a family of 4 on that at a local restaurant. Even fast food will cost $20 or more. Most restaurants will run you at least $60, and that's only if you don't have a beer with dinner.

You get the added bonus of being healthier as a result. Who said healthy living has to be more expensive?

6. Buy in Bulk.

Buying in bulk will save you money because you'll pay less when you buy more. Buying in bulk is discussed in detail in the next section of this chapter.

7. Freezer meals will save time and money.

Freezer meals are meals that are cooked ahead of time and then frozen for later use. They're a great timesaver for the busy homesteader because you only have to spend one day a week (or a month, if you're a pro) cooking and all you'll have to do the rest of the time is toss a meal into a pot or put it in the oven.

You'll save money because you can take full advantage of sale prices on meat and produce and you'll spend less time at the store. You'll also save money on the energy cost of running your stove or oven. Since freezer meals require minimum preparation the day they're cooked, you'll have more time to dedicate to other activities.

8. Foods will be used for more than one meal.

Homesteading is all about being resourceful.

Cook a chicken or turkey and serve it as a meal. Take the leftovers and use them to make chicken or turkey noodle soup, which covers another meal. After that, take the carcass and boil it to make chicken stock, which can be used as a base to make a bunch of other meals. You've just turned one chicken or turkey and used it to make multiple meals.

How's that for stretching the dollar?

9. Sell your surplus.

It doesn't take a whole lot more money or effort to grow 15 plants than it does to grow 10. Similarly, it doesn't take much more money or effort to raise 10 chickens than it does to raise 7 and it won't take much more time or money to make 15 jars of pickles than it will to make 10.

The extra produce you grow, eggs or meat you harvest and foods you make can be sold for a profit. Once you get good at it, you can set up a booth at your local farmer's market or advertise in the newspaper and online.

Making and selling surplus items can really offset the cost of groceries, but make sure you're familiar with the laws governing the items you want to sell. Failure to comply with local, state and federal regulations can result in thousands of dollars in fines and, in rare cases, may even net the seller some jail time. Plus, the items you're selling can be confiscated, along with the materials used to grow or produce said items.

Sell your surplus, but make sure you do it legally. And don't forget to set aside some of the money you've made for taxes. How much you have to set aside depends on the tax rate in the area in which you live.

10. Make your own herb and spice mixes.

Herb and spice mixes that are already blended will cost you a premium as opposed to growing the herbs and spices separately and mixing them yourself. Even if you don't have room for a garden, many herbs can be grown in containers indoors, as long as you have a window you can put them in that gets enough light.

You can find recipes for any spice blend imaginable online and can tailor them to suit your needs. Many commercial herb and spice mixes are made using inexpensive table salt with a handful of low-quality herbs thrown in for good measure. You can buy sea salt and high-quality herbs and spices and make your own blends for less than what you're paying now.

Once you've perfected the recipes, see #9. Excess can be sold for a profit for even more savings.

11. Be frugal.

Take advantage of coupon deals when they're available, but be aware coupons can be a double-edged sword. Most items that have coupons associated with them can be made at home for less money and will contain fewer chemicals than the items you're buying. Manufacturers add chemicals to their products to preserve them that serve no purpose other than to pad their bottom line. Using coupons on products that contain these chemicals may save a buck or two, but it isn't worth it in terms of long-term health risk.

When you do find coupons on healthy items, it's a good idea to shop at a store that allows price matching. Stores that offer price matching will match competitor's advertised prices, as long as the item you're buying in their store is exactly the same. Show up armed with ads from the competition and you can get all of your shopping done in one place, while taking advantage of sale prices all over the city.

12. Raise chickens for eggs (and possibly meat).

It's going to take a while to recoup the cost of the coop and buying the chickens, but you'll eventually end up saving money by raising your own chickens.

Depending on feed costs where you live and how many eggs your hens lay, it can cost anywhere from $0.90 to a couple bucks per dozen eggs you collect at home. A dozen grade A eggs will run you around $2 for conventionally-farmed eggs and up to $5 for a dozen organic eggs. As long as you aren't pumping your chickens full of antibiotics, you'll basically be getting organic eggs for less the cost of conventional eggs.

If you raise enough chickens to where you have extra eggs, you can sell some of them to offset the costs. A simple roadside sign on a busy road may net you enough traffic to sell off all your extra eggs and then some. Just don't use the term "organic" when selling them. It's heavily regulated and you have to meet certain criteria in order to use it.

13. Making fermented food is cheaper than buying fermented food.

While yogurt is relatively inexpensive to buy in the store, most other fermented foods will cost an arm and a leg. Milk kefir, fermented vegetables and other fermented dishes command a premium, if you're able to find them at all. Depending on where you live, your only option for some fermented foods may be to make them yourself.

The good news is making your own milk kefir, water kefir, kombucha, fermented vegetables and chutneys will save you a lot of money in comparison to buying them. Additionally, manufacturers often have to change the manner in which their products are fermented because the normal fermenting process is difficult to control on a large scale. The final product may be similar to foods that are fermented at home, but may not have the same robust bacterial profile.

14. Making bread instead of buying it will save money.

Bread takes a lot of time to make, but making your own bread instead of buying it can save you as much as $0.25 per slice for sandwich bread and even more if you're making artisanal loaves that cost a small fortune in stores.

The best part about baking your own bread is homemade bread is delicious when compared to the bread sold in grocery stores. If you've never tried warm bread fresh from the oven, you're in for a special treat.

15. Make your own cold cuts for sandwiches and save cash.

Pre-sliced deli meats cost a pretty penny and are packed full of preservative chemicals. You can eliminate some of the chemicals by having your local butcher cut the meat for you, but it's going to be expensive.

Buy your own meat and learn how to make sandwich meats yourself. You won't completely eliminate the nitrates and nitrites, but you'll end up with a healthier cut that tastes better and is a lot cheaper than the stuff sold in the deli section of your local supermarket.

16. Hit the farmer's market (or the flea market).

Farmer's markets have fresher produce and the prices are generally cheaper than what you find in stores. If you're looking to buy large amounts of produce, you may be able to talk the farmers into cutting the price. If they don't have the items you're looking for, don't be afraid to ask. They may not have brought everything they sell with them or they may know somewhere you can find a good deal.

Be aware that some of the farmers markets in bigger cities aren't places to go to find deals. My mom lives near San Francisco and I was shocked at some of the prices the farmers there were charging. I'm assuming they jack the prices up because they're dealing with city folk who don't know what a real farmer's market is supposed to be like.

Flea markets also sometimes have produce areas with great deals. I have a flea market near my house that caters to the Hispanic community and I can often find produce there that's half the price of produce everywhere else. In addition to produce, I can go there and buy live goats, chickens, ducks and pretty much any other livestock animal you can think of.

17. Learn to Forage.

If you live in a rural area, you've probably got a lot of land around you that can be foraged for food opportunities. Once you learn what to look for, it's amazing how much food is growing in the wild, sitting there for the taking. Our ancient ancestors lived off the land and a large portion of the foods they ate on a daily basis were gathered. Now, hardly anyone gathers them, so they're easy to find.

Nuts, berries, stinging nettle, wild fruits and vegetables and even mushrooms can be foraged for free certain times of the year. Make sure you know what you're eating, as eating the wrong thing can make you very ill. Poisonous mushrooms and plants can cause liver and kidney damage and may even kill you.

18. Hunt for food.

Most homesteaders aren't opposed to hunting and it can be a good way to save money in the kitchen. It might take a few trips to learn the ropes, but once you learn what you're doing, wild game can be taken in much of the country.

A single deer, elk or bear can provide many meals for the cost of a hunting license and a bullet or two. Squirrels, rabbits and smaller game can be hunted with a pellet gun. Make sure you follow the laws governing hunting in your area. Poaching carries stiff fines and can result in jail time.

Here are just some of the many animals you may be able to hunt for food:

- **Alligator.**
- **Bears.**
- **Bison.**
- **Caribou.**
- **Deer.**
- **Doves.**
- **Doves.**
- **Elk.**
- **Frogs.**
- **Grouse.**
- **Moose.**
- **Partridge.**
- **Pheasants.**
- **Quail.**
- **Rabbits.**
- **Rabbits.**
- **Sheep.**
- **Squirrels.**
- **Turkeys.**
- **Waterfowl.**
- **Wild boar.**

If you aren't sure what you can legally hunt in your area, check with your local Wildlife or Fish and Game Department.

19. Go fishing.

Fishing isn't just a great way to relax and soak up some rays. It's a good way to put good, healthy food on the table, Sure, you've got to get a fishing license and fishing gear can be a bit pricy, but have you looked at the price of fish in the store lately? A few big fish and the license, gear and bait just paid for itself.

Make sure have a fishing license when it's required and be sure to follow bag limits and bait and tackle restrictions. Fish and Game wardens aren't likely to let you off the hook if they catch you breaking the law and a single ticket can wipe out any money you save for years to come.

20. Barter for food.

Learn the art of bartering and you may be able to trade excess goods you have, extra food items you make or services you're able to perform for fruit, vegetables, honey and all sorts of other food items other people may have.

You never know who's going to be willing to barter. I know a guy who traded raw honey and fermented foods with a mechanic for hundreds of dollars of work on an old truck and all he had to do was pay for the parts. When the cost of the food was factored in, he ended up paying about a third of what he'd previously been quoted. If you aren't sure, don't be afraid to ask … The worst that can happen is the other person says no.

Buy Food in Bulk

Growing your own food isn't always an option, but one way you can save money on food right away is to start buying it in bulk amounts. When you buy large quantities of almost any real food item you can imagine, you'll pay less money than you would when buying lesser amounts.

There are a number of reasons buying bulk is cheaper. Repackaging costs are all but been eliminated, as all you'll need is a bag or bucket to keep them in. If you go straight to the source and cut out the middle man, the farmers or ranchers you're buying the food from can sell the food to you for less and still make a profit. By eliminating the middle men, the food doesn't have to pass through the processors, manufacturers and grocery stores, so it doesn't have to be marked up as high.

Sellers will usually be willing to offer a discount for larger purchases. If the seller flat-out refuses, check somewhere else. Some sellers think that if they give one person a discount, everyone else is going to want one and will refuse to cut a deal. Others will be more than happy to cut the rate when bulk amounts are purchased because they know the money they lose on the price will be more than made up by the volume. You're putting more money in their pocket, so they should be willing to give a little bit back. Knowing this, you can further tilt things in your favor by gathering a group of buyers together and offering sellers a deal that's too good to pass up. The more money you have to spend, the more leverage you're going to have to hammer out a better deal.

An added bonus of buying from local farmers and ranchers is you're going to get food that's much fresher than the foods sitting on store shelves. The produce you buy locally typically moves straight from the fields to your table and you get to rest easy at night knowing you're supporting the little guy instead of padding the pockets of large corporate farms that only care to make a profit.

Even if you're buying from a larger store that doesn't offer discounts, you can wait until the items you normally buy go on sale and buy them in bulk amounts. This probably won't save you as much money as going straight to the source, but you'll still end up saving at least a little money.

There are a number of places you can find deals on bulk goods. Here are some of the places I use regularly:

- **Big box stores like Costco and Sam's Club.**
- **Farmer's markets.**
- **Feed stores.** Just make sure the food you're buying is safe for human consumption. Some foods at feed stores have been sprayed with mold inhibitors or other compounds you don't want to eat and animal feed is often treated with medication.
- **Grain elevators.** If you live somewhere grains are produced and stored, you may be able to buy grain for dirt-cheap prices directly from the grain elevator.

- **Grocery stores occasionally have sales on bulk food items.**
- **Local butchers.**
- **Local dairies.**
- **Local organic farms.**
- **The flea market.** My local flea market has a section where fruits, vegetables and herbs are sold and there are usually great deals on bulk foods there. The vendors at the flea market expect people to try to barter, so always ask for a better price.
- **Online stores.** Marketplaces like Mountain Rose Herbs (https://www.mountainroseherbs.com/) and Azure Standard (https://www.azurestandard.com/) often have good deals on herbs and dried foods.

If you can afford it, Certified Organic foods are the best quality and provide the most health benefits. These foods can be found at your local health food store and are probably available in bulk amounts if you ask. Some stores offer up to a 10% discount if you buy at least 25 pounds. You're going to have to ask because most stores don't advertise these deals. If the health food store is privately owned, the owner may be willing to work out an even better deal if you ask about purchasing even larger amounts. Don't be afraid to ask for foods at cost plus a 5% mark-up. The worst the owner can do is say no.

There are great deals on bulk goods at the Latter Day Saints Home Storage Centers, which are centers set up by the Mormon Church to allow their members to properly prepare for emergencies. Most of these centers allow nonmembers to come in and make purchases and most people report having a pleasant experience.

One of the best sources of organic foods is to go straight to local organic farmers. Check with your local Agricultural Department and get the names of local organic growers. Pay them a visit or call and make an offer they can't refuse. Some farmers will be willing to sell direct and some won't. You can also try to locate local co-ops, which are groups that pass farmed goods on to bulk buyers with minimal mark-up.

Don't trust that buying in bulk is always going to be cheaper. Do the math yourself and figure out the per-unit cost of buying an item in bulk vs. buying it in smaller amounts. It doesn't happen often, but I'll occasionally come across items that are cheaper to buy in small amounts than they are to buy in bulk. It defies logic, but happens often enough to where those who trust buying in bulk is always cheaper could end up losing a good chunk of money.

Here are some of the many foods that can be bought in bulk:

- **Brown rice.**
- **Coffee and tea.**
- **Dried beans.**
- **Dried corn.**
- **Dried fruit.**
- **Dried vegetables.**
- **Flour.**

- **Herbs and spices.**
- **Meats.**
- **Oats.**
- **Produce.**
- **Quinoa.**
- **Rye.**
- **Sea salt.**
- **Spelt.**
- **Sugar.**
- **Wheat.**

You may have noticed there are some perishable items on the list. Perishable items like meat and produce can be bought in bulk, but there needs to be a plan in place as to how they're going to be put up before they go bad. Allowing just a handful of produce or other foods to spoil per year will really eat into the money you're saving by buying in bulk. It's easier to buy the food in its already-preserved state, but it's cheaper to buy fresh food and do it yourself.

Proper storage of foods that are bought in bulk is crucial to making sure they stay good until you want to use them. Preserve perishable items and store them using recommended safe storage practices. Non-perishable items like sugar, flour, grains and beans can be stored in plastic pails, mylar bags, large mason jars or anything else that can be sealed tight to keep pests and moisture from getting into the container.

If you're planning on storing food long-term, add oxygen absorbers to the container to improve shelf life and use plastic pails with good oxygen barrier liners instead of regular buckets. Many people don't realize oxygen can still get into a bucket even if Gamma Seal lids are used because the HDPE plastic most buckets are made of is permeable to oxygen. This will drastically shorten the shelf life of foods stored in these buckets in comparison to food stored in buckets that are truly airtight.

Purchasing a Piece of Land and Building a Home

If you're on the market for a piece of land to build your homestead on, the cost of getting started is going to be commensurate with what you're looking for. It's typically much more expensive to buy land with an existing home on it than it is to buy land and then build your own home. Of course, this requires being handy enough to actually build a house, but given enough time and access to the proper tools and supplies, most people can figure it out.

There are a number of factors that need to be taken into consideration when choosing a piece of land:

- **How much land are you going to need? Will you be raising chickens and livestock? Will you be farming or gardening?** Everything you want to do is going to take space. Better make sure you have enough space before you buy a plot of land.
- **Is there room to expand?** While it's best to start small, you probably aren't going to want to stay small forever. Does the piece of land you're considering allow you room to grow your homesteading efforts if need be?
- **Where do you want to live and can you afford land there?** We all have an ideal place where we want to purchase land. Many of us can't afford land there, but may be able to afford land elsewhere. Don't get your heart set on a plot of land you can't afford. On the same token, don't settle for a plot of unfarmable swampland just because it's in your price range.
- **Is the land fertile?** While you may be able to use raised beds and other tactics to grow food on infertile land, life will be a lot easier if the land you buy is fertile and crops can be directly sowed into the soil. If you want to grow large amounts of food, building and filling raised beds with fertile soil can get expensive.
- **How will you make money?** If you plan on working a regular job, there needs to be work nearby, preferably in the industry you work in. Buying land in a depressed area will save you money, but all that will be for naught if you can't find a job and can't afford to keep payments up on the land. Even if you purchase the land outright, you're still going to have to pay property taxes, so be sure to factor them into your plans.
- **What restrictions are there on land use?** Just because you own the land, you don't have free reign to do as you wish with it. In a perfect world, you'd be able to build, grow and collect anything you'd like on your land. This is far from a perfect world and it

seems anything and everything is regulated these days. Check local land use regulations to make sure your plans fall within what's permitted.

Regardless of whether you're building a house or buying property with a home already on it, bigger houses will cost more money. You'll pay more upfront and you'll pay more on property taxes. The higher the assessed value of the land and the home, the more Uncle Sam will ask for come tax time every year. Some areas have property taxes that are upwards of 2% of the assessed value of the property, so make sure you know exactly what you're in for. What this means is you'll pay $2.00 or more per year for every $100 in assessed value. A house and land that's assessed at $100,000 in value will be taxed at least $2,000 per year and some areas stack additional taxes on top of that. I have a friend living in California who bought a house for $150K and thought he was getting a great deal. He got a good deal on the house, but his property tax bill every year is nearly $5,000 thanks to an added tax known as Mello Roos. With the added taxes, his property tax rate is nearly 3.3%. Make sure you read the fine print on your mortgage papers. The added taxes are usually disclosed, but they aren't going to broadcast it to you.

On the flip side of the coin, some areas have extremely low property taxes and charge less than one half of one percent. You'll end up owing less than $500 in property taxes per year on a $100,000 house.

Those planning on paying to have a home built can plan on it costing anywhere from $75 to $150 per square foot or more, depending on what you're asking for and how big of a house you're commissioning. This includes the cost of labor, so you can expect to pay approximately 20% to 25% less if you're building your own home and know how to do everything. That's rarely the case, so you'll need to factor in at least some labor costs. At a bare minimum, most people need to hire someone to do the plumbing and the electrical. Of course, larger homes will be more expensive to build and even the easier stuff may require expertise you don't have to do it on such a large scale.

Here are just some of the costs you have to take into consideration when building a home:

- **Drawings.** Most building departments require professional drawings before they'll grant any permits. Many areas require the plans be signed off by an architect.
- **Foundation.** A foundation will cost between $6,000 and $20,000 depending on the size and what you're asking for.
- **Labor.** You're probably going to need help at some point. Make sure you call around and find out how much labor will be from the professionals you're calling in.
- **Landscaping.** If you want a nice lawn, concrete or anything else outside your home, it's going to cost you money.
- **Materials.** You're going to need nails, wood, electrical wire, windows, siding, roofing, sheetrock and all sorts of materials.

Running out of money in the middle of a project could leave you high and dry, so always estimate on the high side.

- **Permitting costs.** When it's all said and done, permitting fees can run $10,000 or more for a 2,000 square foot house. Most areas charge fees based on the square footage of the building, so larger homes will cost more to build.
- **Septic system.** If you're going to be tied into a septic system, it'll cost between $5,000 and $10,000 for a new system to be installed. **Perc testing** is required in some areas, which is a test to see if groundwater rises high enough to where a septic system would contaminate it. A perc test will run between $300 and $500. Many municipalities require these tests be run during certain times of the year, so you might have to put your building plans on hold until after the test is complete.
- **Tools.** You're going to need quality tools and some of them are going to be expensive. Don't buy the cheapest tools you can find and expect them to hold up to the rigors of building a house. Like my father always said, "It's better to buy a good tool once than it is to buy a crappy tool over and over again."
- **Utilities.** If you want to be tied in to municipal water, power and sewage, you'd better make sure they're at least run up to the roadway near your property. There will still be fees to get them connected to your house. It'll cost you at least a few hundred bucks to get each of the utilities connected.
- **Wells.** Need a well on your property? Plan on paying at least $15,000 and up to $50,000 depending on the depth and what's required.

You may be able to save at least a little money by buying a modular home and paying to have it set up. Be aware that some jurisdictions require manufactured homes be placed in mobile home parks only, while other areas allow them on residential property as long as they're built to code and placed on an appropriate foundation.

Planning is crucial to ensuring success. Make yourself very familiar with local building codes before getting started. Research utilities, zoning and land use coding, easements, grading and right of way considerations before getting started. You may be able to find much of the information you need online for larger cities and counties. Failing that, a call to the building department tasked with permits for your city or county might be necessary. Make sure you find out exactly what you need to do to get started and get all of the required permits before you start work on your home.

Don't get frustrated if your first set or two of plans don't get approved. Rare is the home plan that makes it through the permitting process without needing at least minor alterations to bring it within code. Whenever possible, sit down with the person who

reviews the plans and discuss what needs to be done to bring the plans into compliance.

You may find you can save money by buying distressed property on the cheap and renovating it instead of building a house from the ground up. If you're willing to do most of the elbow work yourself, it may be easier and cheaper to rebuild a house that's been let go than it is to build one from the ground up. I've also heard of people offering to buy homes that are about to be torn down and paying to have the entire home moved to their property. This is only a viable option if you're lucky enough to find a house that's in good enough shape to save and it's close enough to your property to where the transportation and set-up costs won't eat up all of your savings.

Another consideration to make is whether or not temporary housing is needed. If your new property isn't within driving distance of your current location, you aren't going to want to camp out in a tent or sleep in a vehicle for 6 months to a year while you work on your house. Motels and hotels are expensive and the nearest one might some distance away. Temporary housing like a travel trailer or an RV will make life a lot more comfortable while you build your new home.

Obtaining Cheap or Even Free Land

While the Homestead Acts are no longer an option, there are still ways you may be able to obtain inexpensive or even free land. It isn't easy to find, but there are some opportunities out there for the taking for those willing to hunt them down.

To take advantage of the best deals, you're probably going to have to be willing to move. There are states and cities that are trying to lure people in with the offer of free land or great deals on land, but you're going to have to be willing to move to one of those states to take advantage of the deal.

Failing that, staking a mining claim, real estate auctions and assuming someone else's loan may net you an inexpensive homestead, but there are a number of considerations that must be made. Let's take a closer look at the benefits and pitfalls of each of these methods.

Free Land? It's Possible

As of press time for this book, there are a select few cities offering free land to those willing to move there. Here's a link to a website you can check that lists some of the areas currently are offering some sort of land program or incentive:

http://www.cfra.org/renewrural/freeland

The website doesn't appear to be kept up to date because a number of the links are broken, but there are a few of them that still work. Here are some of the deals that appear to still be available:

- **A number of small communities in Kansas are offering free land to those willing to build a home of at least 1,000 square feet on it.** Most of the communities allow mobile homes, so this may be one of the best ways to get an inexpensive homestead. 100+ lots have been given away and families have received down payment assistance on a number of other lots.
- **Marne, Iowa is giving away plots of land to people willing to develop them.**
- **Manilla, Iowa is giving away lots to qualified individuals who are willing to build a single-family home on the lot.**

Other areas that have offered free land in the recent past include communities in Texas, Alaska, Maine and Michigan. Some areas are even offering free land to businesses willing to move there and bring jobs to the community.

The problem with most of the communities offering free land is they're located in places that may not be all that desirable to live. Many of the plots of land being offered are in small towns in the middle of tornado country that are desperately trying to draw people in. Others are in depressed areas where there isn't much work and what work there is doesn't pay well. Make sure you research the town and surrounding area before committing to build a house on free land there. You might get there only to find it's a place you don't really want to live.

If you do decide to take advantage of one of these deals, contact the city or county office to find out the requirements. They vary from city to city.

Auctions: Make Sure You Know What You're Getting

Auctions are another option and I know of people who have purchased a decent-sized plot of land for pennies on the dollar at auction. Drug seizures, foreclosures and bank auctions all may be able to be leveraged to get a good deal. There are generally better deals available at auctions when the economy is in a down cycle than when the economy is booming because there will be a lot of property available and there won't be too many people bidding on it.

Be very, very careful when attempting to purchase a home at auction. Horror stories abound about unscrupulous "companies" auctioning off land they don't own and taking off with large sums of cash, so it's imperative you do your due diligence and make sure you're getting exactly what you think you're paying for.

One trick to look out for is auction companies that are auctioning off land that's owned by the bank. They'll offer it at a rock bottom price that sounds too good to be true and will charge large fees for the transfer of title. The catch is the auction company doesn't actually own the title. Upon closure of the auction, the company submits the offer to the bank. The bank doesn't have to accept this offer and your money can be tied up at the auction company for months if the bank turns the offer down.

Co-op Living

Land co-ops are communal communities in which groups of people pool their resources in order to purchase land they can build multiple dwellings on. Most co-ops are set up so each person owns their individual home and everyone owns the property. While this isn't ideal and you'll have to answer to the rest of the people in your co-op as to what can and can't be done with the property, this may be an option for those who can't afford to make a go of it on their own.

The benefit of living as part of a co-op is you'll be able to buy a larger parcel of land. As long as you join a co-op with likeminded individuals, you'll have more hands on deck for gardening and homesteading tasks and will be able to produce a lot more food.

A co-op is only as good as its weakest member. A few missed payments by a single member in the co-op can put the whole group in hot water if you're all living paycheck to paycheck. Another downside to building a home on co-op land is it doesn't build value as fast as an individually-owned home on a private lot. The co-op has to agree on new members and you're at the mercy of the group when trying to sell your home.

Make a Landowner an Offer they Can't Refuse

Landowners will sometimes be willing to let you live on their land if you're able to improve it or produce something they'd like. A common tactic used by people approaching landowners is to offer to farm an unused portion of their land and share a portion of the harvest with them. Some people are lucky enough to get the landowner to agree to let them live on the land, while others are only able to farm it or work on it.

This method is easier if you already know someone who owns a lot of land, but I've heard stories of it working for people who approach landowners they don't know and make them an offer. On rare occasions, people get in so good with the landowners that they give them the land they're working on. While this method might allow you to create a homestead when you otherwise couldn't afford to, the downside is you don't own the land. You're at the mercy of the landowner and could be forced to move and give up everything you've built should the landowner sell the property, die or decide he no longer wants you there.

Assuming a Loan

Assuming a loan means to take over an existing loan on a piece of property by having the bank switch the mortgage over to your name. This can be of benefit to the buyer because it allows the buyer to assume the mortgage rate, the repayment period and the terms of the loan laid out in the original contract.

Loan assumption can save you a good bit of cash in comparison to buying a house by acquiring your own loan if you're looking to buy when interest rates are high and the house was purchased when interest rates were low. It also might allow you to take over an existing loan from someone who is in financial trouble and is willing to give up their equity in a house in order to get out from under their mortgage payment before defaulting on the loan.

You still have to qualify for the loan, so this isn't a good workaround for a person with bad credit. Banks typically have the same requirements for people assuming a loan as they do for people looking for new loans, so you're going to have to qualify. Another pitfall you have to watch out for is loans that have negative equity. If you assume a loan that's in the red as far as equity goes, you may end up paying far more than you would have if you went out and bought a house using a conventional loan.

Speaking of conventional loans, the banks that issue these loans usually disallow loan assumption. FHA and VA loans are common types of loans that do allow loan assumption, so you might be able to find one with a little legwork.

Staking a Mining Claim

An option for those looking to really rough it is to stake a mining claim on Federal Land. Contrary to what many sources state, you'll never actually own a claim you've staked unless the current moratorium on **patented claims**, which are claims the miner is granted title to, is lifted. **Unpatented claims** can still be staked, but you'll never own these claims outright.

You're going to have to jump through a lot of hoops in order to stake an unpatented claim. Be prepared to show proof the claim you're staking has minable mineral deposits on it. Also be prepared to pay fees of up to a couple thousand dollars for the mineral rights and the application process.

There are currently 19 states in which mining claims can be staked:

- **Alabama.**
- **Alaska.**
- **Arizona.**
- **Arkansas.**
- **California.**
- **Colorado.**
- **Florida.**
- **Idaho.**
- **Mississippi.**
- **Montana.**
- **Nebraska.**
- **Nevada.**
- **New Mexico.**
- **North Dakota.**
- **Oregon.**
- **South Dakota.**
- **Utah.**
- **Washington.**
- **Wyoming.**

The Bureau of Land Management (BLM) handles mining claims on much of this land, while the Forest Service manages the rest. Check with the State agency in charge of mining claims before attempting to stake a claim in any of the aforementioned states because the process is different from state to state.

The problem with staking an unpatented mining claim lies in the fact that you never really own the land and are subject to the whims of the United States agency overseeing the land. You can't build permanent or mobile structures on the land, but may be able to get away with living in a travel trailer on it. The only good reason to spend the money staking an unpatented mining claim is if you actually plan on mining it and reasonably think you can get gold or other minerals out of the land.

If you want a claim you can build a cabin or other permanent structure on, you're going to have to purchase a patented claim, which is a claim where the owner owns both the land and the mineral rights to the land. These claims are no longer available through the government and have to be purchased from private owners who are selling them. Some come with cabins or other dwellings already built, but you'll pay a premium for mining claims with preexisting structures.

It'll cost you more money to buy a patented claim and you'll have to pay property taxes every year, but at least you'll own the land and can probably build on it, but don't make any assumptions. Check with the local agency in charge of permitting to see what is and isn't allowed on patented claims before buying one.

Be forewarned…The life of a person living on a mining claim can be a tough one. If living in the wild without running water, bathrooms and electricity is your idea of a great time, you'll be right at home on a mining claim. On the other hand, selling your house in the suburbs and moving the family to a mining claim in the middle of nowhere isn't likely to go over very well.

Growing Your Own Produce: Learn to Live Off the Land

The ultimate goal of becoming self-sufficient is to be able to grow enough food to provide for your family year-round. It can be done, but there's a learning curve involved. Depending on a number of factors including soil quality, climate, plant selection and weather, the curve can be gentle or it can be quite steep.

Living entirely off the land can be a full-time job, so don't plan on planting a bunch of seeds and leaving them to grow with little to no care involved. You're going to have to take care of your garden and the bigger it is, the more time it's going to take to keep it free of pests, weeds and disease and to ensure the plants are getting the water and nutrients they require. If you're working a full-time job on top of gardening, you might find there aren't enough hours in the day to complete all the tasks that need to be done to maintain a large garden. If you do have the time and already have gardening experience, you may be able to jump right in the first year and start growing enough to feed your family.

Those just getting started will be better served spending a couple seasons learning the ropes. Start with a specific crop or two and learn how to grow enough of those crops to supply your family for an entire year and expand from there.

Gardening is rewarding, but keeping up with a garden is a lot of work, especially one on the scale required to feed a family. You may decide you want a smaller garden that will help ease grocery bills, but won't completely eliminate the need to purchase produce from the store.

As is the case with most things in life, planning can make or break your attempt at becoming self-sufficient through gardening. Gardening isn't hard once you get the hang of it, but there are a number of things that must be taken into consideration. The rest of this chapter discusses some of the many considerations that must be made when planning a homestead garden.

How Much Produce Will You Need?

In order to know how much produce you're going to need, you're going to need to know how much your family consumes over the course of a year.

While you could probably estimate your produce usage and get in the ballpark, keeping a log of the produce you use daily for a couple months will provide valuable insight as to how much you're actually using. This information will prove invaluable in helping you properly plan your garden, and it can be used to determine how much produce you're going to need to have preserved for the winter months. Create a list of all the fruits, vegetables, herbs and spices you consume and how much of each of them you're going to need to be completely self-sufficient.

Once you have the list for a 2 month period, multiply the amounts you consumed in 2 months by 6 and you'll have an estimate of your yearly vegetable requirements. Don't forget to factor in fruits and vegetables that are only available seasonally. If you record produce usage for 2 months in the middle of winter, your usage is probably going to be very different than if it were to be recorded during the middle of August when there are a wider variety of fruits and veggies available.

The following chart contains a rough estimate of the number of plants you're going to need to plant per person in your family to provide enough produce to last an entire year, as well as the estimated yield you'll get from each plant:

Produce Type	**Plants needed (per person)**	**Yield (per plant)**
Apples	1 to 2 trees (per family)	50 to 200 pounds
Artichokes	3 to 5 plants	10 to 12 artichokes
Asparagus	10 to 14 plants	½ pound
Basil	1 to 2 plants	0.2 to 0.4 pounds
Blackberries	1 to 2 bushes	2 to 5 pounds
Blueberries	1 to 2 bushes	5 to 15 pounds
Bush Beans	15 to 20 plants	1 to 3 pounds
Pole Beans	15 to 20 plants	2 to 6 pounds
Beets	15 to 20 plants	1 beet
Broccoli	8 to 10 plants	1 to 3 pounds
Brussels	6 to 8 plants	2 to 3 pounds

Sprouts		
Cabbage	6 to 8 plants	1 head
Cantaloupe	2 to 3 plants	5 to 8 pounds
Carrots	30 to 40 plants	1 carrot
Cauliflower	8 to 10 plants	1 head
Celery	4 to 6 plants	6 to 8 stalks
Cherries	1 to 2 trees (per family)	35 to 50 pounds
Corn	20 to 30 plants	1 to 2 ears
Cucumbers	6 to 10 plants	8 to 10 cucumbers
Eggplant	1 to 2 plants	3 to 6 eggplants
Fennel	1 to 2 plants	0.5 to 1 pound
Garlic	10 to 15 plants	1 head
Grapes	2 to 4 plants	3 to 5 pounds
Green Beans	4 to 6 plants	0.25 to 0.75 pounds
Kale	4 to 6 plants	0.5 to 1.5 pounds
Leeks	15 to 20 plants	1 bulb
Lettuce	12 to 15 plants	1 head
Melons	4 to 6 plants	2 to 4 melons
Okra	4 to 6 plants	0.5 to 1 pound
Onions	50 to 60 plants	1 onion
Parsley	2 to 3 plants	0.25 to 0.5 pounds
Parsnips	20 to 30 plants	1 parsnip
Peaches	1 to 2 trees (per family)	20 to 80 pounds
Pears	1 to 2 trees (per	15 to 70 pounds

	family)	
Peas	20 to 30 plants	0.25 to 0.5 pounds
Peppers	6 to 8 plants	1 to 2 pounds
Plums	1 to 2 trees (per family)	10 to 20 pounds
Potatoes	10 to 20 hills	3 to 5 pounds
Pumpkins	1 to 2 plants	1 to 10 pumpkins
Radishes	20 to 30 plants	1 radish
Raspberries	2 to 4 bushes	0.5 to 2 pounds
Rhubarb	8 to 10 plants	1 to 2 pounds
Spinach	15 to 20 plants	0.5 to 1.0 pounds
Squash	4 to 6 plants	3 to 5 squash
Strawberries	8 to 10 plants	0.5 to 1.0 pounds
Tomatoes	6 to 8 plants	3 to 10 pounds
Turnips	20 to 30 plants	1 turnip
Watermelon	3 to 5 vines	1 to 3 watermelons
Zucchini	8 to 10 plants	1 to 2 pounds

If you've got enough property, fruit trees and berry bushes can be planted as high-yield providers of food. A single full-sized fruit tree can produce a couple hundred pounds of fruit per year and some berry bushes will produce berries throughout most of the growing season.

Keep in mind these crop yields are just estimates and can vary based on climate, soil conditions and the variety of produce planted. Your best bet is to try growing the produce yourself and keeping a detailed record of the yields you were able to obtain. After you've got a few growing seasons under your belt, you'll be able to realistically estimate how many you'll need of each type of plant you're growing. In a perfect world, you'd have enough time and space to grow every type of produce you could possibly want. The reality is you'll probably have limited garden space and will have to pick and choose between your family's favorites and the plants that yield a decent amount of produce while using a limited amount of space.

What Can You Grow?

While it would be nice to live somewhere with a moderate climate and mild enough winters to be able to grow any type of produce you'd like, the vast majority of Americans are going to be limited in their choices by the climate zone they live in. The easiest way to get an idea of what can be grown in your area is to use the USDA Plant Hardiness Zone Map, found at the following location:

http://planthardiness.ars.usda.gov/PHZMWeb/

Enter your zip code into the form and click "Find" and you'll be told exactly what Hardiness Zone you live in. This information can be used to help determine what plants can and can't be grown in your area, but there's a catch. Most companies that sell seeds don't disclose the best zones in which to grow those seeds, probably because they don't want to miss out on sales from customers in other zones. It's going to take a bit of legwork on your part to find out what can and can't be grown in your zone.

Those living in the Northern states will find they have a limited selection of plants they can grow and an even more limited window in which they can plant those plants. While warmer states often have a few months' time to get seeds or seedlings into the ground, the timeframe for getting plants into the ground in the North is extremely limited. Many vegetables have to be planted after the last frost in the spring and must be harvested before the first frost of the fall.

For this reason, a person living in Minnesota is going to have a harder time growing enough food to survive on than a person living in Central California, where crops can be planted year-round. It might be able to be done, but it's going to require more land and a lot more effort on the part of the gardener.

Climate zone isn't the only consideration that has to be made when it comes to planting crops. Individual areas within a climate zone can have drastically different soil types and there are a number of other variables that can impact what can successfully be grown in a particular region. For example, someone living in climate zone 7 in the Sierra Nevada Mountains will have drastically different growing conditions than someone living in climate zone 7 in Tennessee. For this reason, any attempt at providing a list of what can and can't be grown based on climate zone would be wildly inaccurate. You can use climate zones to exclude certain types of produce because they aren't able to tolerate the hot and warm temperatures in a climate zone, but you can't use climate zones to definitively figure out all of the plants that can be grown.

Check with your local nurseries, garden centers and Cooperative Extensions to get a good idea of what you can grow in your area and when it needs to be planted. Not every crop will be able to be grown in every climate, but there may be heirloom varieties of the crops you want to grow that have been tailor-made to grow in your area. Gardeners spend decades perfecting heirloom crops and they tend to be hardy to the region in which they're grown. You'll never find out unless you check exhaust all avenues, so get to it!

How Much Space Will You Need?

This is a question most homestead gardeners ask early on in their journey. Unfortunately, there isn't a one-size-fits-all answer. Unless you're lucky enough to live on a huge plot of land, space is going to be one of your biggest constraints when it comes to gardening.

The exact amount of space needed depends on a number of factors, including the following:

- **The amount of sunlight the garden will get.** Less light equals lowered yields, if the crops can be grown there at all. Buildings, mountains and large trees/bushes can all impact the amount of light a garden gets.
- **Soil quality.** The type and quality of the soil will either increase or decrease crop yields. Raised garden beds can be built to help offset the impact of poor soil, but this adds to the cost and upkeep of the garden.
- **Water.** The amount of water a garden gets will affect both the yield and the quality of the produce coming from the garden. Some plants need less water than others, so carefully consider the plants you're placing in close proximity to one another. Place a water-loving plant that needs saturated soil by a plant that prefers dryer soil and one of your plants will end up suffering.
- **The method of gardening.** Gardening in neat, orderly rows takes up more space than square-foot or companion gardening. Choose a method that's commensurate with the amount of space you have at your disposal.
- **The number of crops you plan on planting.** More crops equals more space needed.
- **The skill level of the gardener.** Skilled gardeners will be able to produce bigger, stronger plants and yields will improve.
- **The length of the growing season.** A shorter growing season means more crops will have to be grown at once. You can get away with a smaller garden in areas with a longer growing season because crops can be planted in succession.

The following chart lists the average spacing for a number of common herbs, fruits and vegetables:

Produce Type	Space Between Plants	Space Between Rows
Apples	10' for dwarf, 25' to 35' for full	10' for dwarf, 25' to 35' for full
Artichokes	18 to 36 inches	2 to 3 feet

Asparagus	12 to 14 inches	2 to 3 feet
Basil	6 to 10 inches	1 to 2 feet
Blackberries	4 to 8 feet	8 to 10 feet
Blueberries	2 to 6 feet	4 to 6 feet
Bush Beans	2 to 3 feet	1 ½ to 3 feet
Pole Beans	1 to 2 feet	3 to 4 feet
Beets	3 to 4 inches	1 to 1 ½ feet
Broccoli	1 to 2 feet	2 to 3 feet
Brussels Sprouts	1 to 2 feet	2 to 3 feet
Cabbage	9 to 12 inches	2 to 3 feet
Cantaloupe	1 ½ to 2 feet	3 to 4 feet
Carrots	3 to 5 inches	1 to 2 feet
Cauliflower	1 ½ to 2 feet	2 to 3 feet
Celery	7 to 10 inches	2 to 3 feet
Cherries	10' for dwarf, 25' to 35' for full	10' for dwarf, 25' to 35' for full
Corn	6 to 10 inches	2 to 3 feet
Cucumbers	1 to 3 feet	3 to 6 feet
Eggplant	2 to 3 feet	2 to 3 feet
Fennel	6 to 8 inch	1 to 2 feet
Garlic	4 to 6 inches	1 to 2 feet
Grapes	3 to 5 feet	3 to 6 feet
Green Beans	2 to 3 feet	1 ½ to 3 feet
Kale	8 to 12 inches	2 to 3 feet

Leeks	2 to 4 inches	1 foot
Lettuce	6 to 12 inches	1 to 2 feet
Melons	3 to 5 feet	3 to 4 feet
Okra	1 to 2 feet	2 to 4 feet
Onions	4 to 6 inches	1 ½ to 2 feet
Parsley	9 to 12 inches	1 to 2 feet
Parsnips	3 to 6 inches	2 to 3 feet
Peaches	8' for dwarf, 25' for full	8' for dwarf, 25' for full
Pears	15' for dwarf, 25' for full	15' for dwarf, 25' for full
Peas	4 to 8 inches	3 to 5 feet
Peppers	1 ½ to 2 feet	2 to 3 feet
Plums	15' for dwarf, 25' to 30' for full	15' for dwarf, 25' to 30' for full
Potatoes	1 to 2 feet	2 to 3 feet
Pumpkins	2 to 3 plants per hill	5 to 6 feet between hills
Radishes	2 to 4 inches	1 to 1 ½ feet
Raspberries	2 to 4 feet	4 to 6 feet
Rhubarb	1 to 3 feet	3 to 4 feet
Spinach	4 to 6 inches	1 to 2 feet
Squash	2 to 3 feet	3 to 5 feet
Strawberries	1 to 2 feet	3 to 4 feet
Tomatoes	2 to 3 feet	3 to 4 feet
Turnips	6 to 8 inches	1 to 2 feet
Watermelon	4 feet	6 to 8 feet

Zucchini	1 to 2 feet	3 to 4 feet

The crop spacing listed above assumes you're planning on gardening using regular row gardening. Companion planting may be able to be used to place plants that are good neighbors in closer proximity to one another, but you have to consider root space and nutrient needs carefully. If you have limited space, companion planting is a great way to increase the yield per square foot. You'll be able to pack more vegetables into your garden and they'll complement one another, but moving through your garden will become more difficult. To offset this, many companion planters use raised beds. The beds are built small enough to where the gardener can reach the middle of the bed from either side. That way they don't have to try to walk through the garden to weed it or to collect vegetables.

When growing a garden for self-sufficiency, you're going to want to build in some leeway in case something happens that devastates a crop or two. If you're relying on a specific crop to meet most of your caloric needs and the crop fails, you could be in deep trouble. When devastating potato blight hit Ireland in the mid-1800's, nearly a million people died and the population of Ireland was reduced by a quarter. Had there been other crops available, the damage and death toll wouldn't have been anywhere near as bad.

For this reason, it's important to avoid becoming completely reliant on any one crop. Try to keep your garden as diverse as possible, so a single disease or pest outbreak won't ruin all of your efforts.

Take Extensive Notes

The first year is going to be filled with a lot of questions and there will more than likely be missteps. While it may seem likely you aren't going to soon forget the mistakes and miscues you made while they're fresh in your mind, time has a funny way of chipping away at even the most vivid of memories. It's highly unlikely you'll remember all of your successes and failures years down the road, especially once you've been gardening for a while.

Keep a journal of your gardening adventures and you'll have a great resource to reference time and time again to see what did and didn't work in your garden. You can read all the gardening books in the world, but in the end it's all about figuring out what works best in your garden under the specific conditions that are present there. There isn't a book around that'll help you figure that out better than a personal gardening journal.

It's going to take a little extra effort, but spending 20 to 30 minutes a week taking notes will prove invaluable once you've got years of experience under your belt. Keep track of anything and everything you can think of, but be sure to record the following things:

- **The plants grown.**
- **The number of seeds that were planted, spacing between plants and row spacing.**
- **The location of the plants, including what plants were placed in close proximity to one another.**
- **When the seeds were started and when they were placed into the garden.**
- **Weather, including rain, heat, wind and frosts.**
- **Diseases, pests and other issues the plants had and what you did to resolve them.**
- **How often the plants were watered.**
- **Crop yields and whether they were too little or too much to keep up with the needs of your family.**
- **How excess crops were preserved and how well the preservation technique worked.**
- **Any other issues you can think of.**

While it may seem like a lot to keep track of, you'll find there really isn't much to it if you keep up on it and don't fall behind. It's well-worth it when you run into a problem years down the road and can look up what did and didn't work to fix the problem.

Gardening When Space Is an Issue

Urban gardeners and those living on smaller homesteads have to balance limited space with the desire to be at least partially self-sufficient. While those with limited space may not be able to grow all of the produce they need, there are techniques that can be used to grow at least some of the fruits, vegetables and herbs used regularly.

The techniques in this section can be used anywhere, but those with limited space will benefit most from them. They're designed to make use of every square inch of space that's available and then some and will help gardeners with limited space use what little space they have to the best of their advantage.

Container Gardening

Container gardening uses containers to grow produce in instead of planting seeds and seedlings directly into the soil. This allows the urban gardener to grow plants on patios, balconies and anywhere else there's limited space and lack of access to open soil.

Additionally, container gardening can be used by gardeners living in extreme cold and extreme warm climates to help keep plants alive when the weather gets tips in the wrong direction. Containers can be moved indoors when the weather turns too hot or too cold in order to make sure the crops being grown don't die from exposure. It's going to take extra work to move plants in and out, but may be worth it in order to keep plants alive that couldn't otherwise be grown under the conditions existing outside.

All sorts of vessels can be used as containers. I've seen everything from an old boot to old tires used as containers to good effect. Here are some general rules to follow regarding choosing a container:

- **The container has to be able to hold soil.**
- **It has to be big enough to allow for proper root growth of the plant being grown in it.**
- **There should be holes in the bottom to allow water to drain out.**
- **It should be made from a material that won't leach chemicals into the soil.** The old tires I mentioned earlier? Probably a bad idea for growing produce you plan on eating.
- **The container should be properly-sized to the plant.** Don't place a large, top-heavy plant in too small of a container or it could tip over when a slight breeze picks up. Take the weight of the produce that will eventually grow on the plant into consideration when determining container size.

Container gardening allows gardeners to grow crops where they otherwise wouldn't be able to be grown. Drive through a residential neighborhood with high-rise apartment buildings and you'll undoubtedly see flashes of green on balconies, in windows and in pots set out on fire escapes. These people are taking advantage of container gardening and many of them are growing fresh herbs and/or vegetables to supplement their diets.

The average container gardener isn't going to be able to grow enough produce to become entirely self-sufficient, but every little bit counts. Additionally, the experience they gain from container gardening can be used to plant and grow a traditional garden should they ever decide to leave city life behind and move to a larger homestead.

Raised Bed Gardening

Raised bed gardening is similar to container gardening in that produce isn't planted directly into the soil. This method of gardening uses immobile raised beds that are built and filled with fertile soil. The raised beds allow the gardener to have total control over the type and amount of soil used and are a great way to grow a garden in an area that has less-than-desirable soil. As long as you create a bed that's deeper than the depths the roots of the plants you're growing will reach, your plants will never come in contact with the soil.

Raised beds are freestanding structures that can be built on top of most soil types and can even be built on top of concrete slabs. Since you aren't relying on the soil beneath the bed, you can pretty much build a raised bed anywhere in your yard that gets enough sunlight and has access to water.

Even if you have plenty of fertile soil and space for a regular garden, raised bed gardening has its merits. Raised beds are elevated from ground level, so there isn't as much bending involved. This is great for the older generation and those who have bad backs and can't handle all the bending. Raised beds can be built up as high as you want them, making them one of the most comfortable forms of gardening. Another benefit of raised beds is they're usually built to allow the gardener to be able to reach the entire surface area of the bed. You can forget about having to have rows you can walk between. With raised beds, good neighbors can be planted in close proximity to one another in order to take advantage of their natural abilities.

Raised beds provide better drainage than is found in most garden and they keep the soil inside the beds warmer, so you're able to put crops in the ground earlier than with traditional growing methods. Weed growth is reduced and the weeds that do grow are easier to reach and pull. If you're looking for a garden that's relatively low-maintenance, a raised bed garden may be your best bet.

The hardest part about a raised bed garden is building it and filling it with soil. Once that's done, you've got a garden that's easy to maintain and will provide you with produce for years to come.

Square Foot Gardening

Square foot gardening is a specific type of raised bed gardening that makes life easier on novice and experienced gardeners alike. It uses a 4' X 4' gardening box that's divided into 16 squares that are 1 square foot in size apiece. The box is typically built first and the grid is added over the top of the box.

Potting soil made up of equal parts coarse vermiculite, peat moss and compost is used in the box. Between 1 and 16 plants are planted in each square in the grid. The number of plants grown in each square is based on the size of the plant. Large plants that need room to grow are planted 1 to a square, while smaller plants like carrots are planted 16 to a square.

This gardening method maximizes the usage of space in a small garden area. Choose your plant's neighbors wisely and you can take full advantage of the benefits of companion planting to keep pests away and ward off disease.

Community Gardening

If you absolutely don't have the space to grow a garden or you live in a location where your yard doesn't get enough sunlight to grow anything but moss, there may still be hope. Many metropolitan areas have **community gardens** where a plot of land can be rented for a nominal monthly fee. The cost can run anywhere from $35 per year for a small 200 square foot plot of land to upwards of $100 per year for larger plots. Community gardens run by private organizations tend to be more expensive than those run by municipal governments, but the privately-run gardens tend to be better-maintained.

There are two basic types of community garden. The first type rents individual garden plots to people who then do as they wish with their garden space. This is ideal for the gardener who wants to be left to his or her own accord and is looking to grow specific plants to supplement their grocery bills. The other type of community garden is one in which each member pitches in to do their part while working the garden as a whole. Larger amounts of each item are grown and the bounty is split amongst participants when harvest time rolls around. This type of gardening is more restrictive, as you're tied into the community, but it provides a good opportunity for novice gardeners to learn the ropes from people with more experience.

There are nearly 20,000 community gardens across the United States, so there's a pretty good chance there's one near you if you live in a decent-sized city. Check the following website to see if there's a community garden near you:

https://communitygarden.org/

Community gardens are a great way to learn the ropes and can help urban gardeners pad their grocery bills, but they can't realistically be used to provide a source of food in the event of an emergency. Community gardens will be one of the first places raided and picked clean once grocery store shelves are empty, so they aren't a good option for those looking to grow a survival garden.

How to Store Food

People who store food typically do it for one of two reasons. They either want to put food away in case there's an emergency and their normal food supply is cut off or they want to preserve food so it'll be available later on in the year.

Preppers generally store large amounts of MREs, freeze dried foods and canned goods, which will help them get by temporarily in an emergency situation, but will run out eventually and aren't exactly the healthiest foods around. Making the switch to these foods is hard on the body and may be accompanied with gastrointestinal distress and other symptoms associated with drastic dietary change. Having to switch to MREs and freeze dried foods in an emergency could create a situation in which you're feeling ill and unable to function at a high level at a time when you need to be on high alert.

Foods stored in a survival pantry will only last so long and most sources recommend rotating foods out of the pantry on a regular basis. This is difficult to do if your survival food consists of mostly MREs because your family isn't going to want to eat them for a couple weeks when you decide to refresh your supply. We do keep some of these quick and easy meals on hand in case we have to leave the homestead in a hurry, but they don't make up the bulk of our survival foods.

The majority of our stored foods are healthy, whole foods that we consume on a regular basis. Should the food supply dry up, either temporarily or for a longer period of time, our diets won't change much and our bodies won't have to go through an adjustment period.

Any homesteader worth his or her weight in dried vegetables knows multiple methods of storing food away for the long haul. The rest of this chapter is a quick primer on the most common food preservation methods used by homesteaders.

Canning

Canning calls for the use of heat to seal food into airtight jars. The heat is used to kill any bacteria that are currently residing in the food being canned and a vacuum is created inside the jar to tightly seal the lid against the mouth of the jar. Canning is a preferred method of food preservation because canned foods can be stored at room temperature in a cool pantry or basement.

There are two canning methods that are generally considered to be safe to use to can produce:

- **Water bath canning.** This method uses a large pot filled with boiling water to heat the jars. Produce is placed in the jars, the lids are placed on top, the rings are used to secure the lids and the jars are submerged in boiling water. This method is only considered safe for canning foods with high acid content like some varieties of tomatoes and most fruits.
- **Pressure canning.** This method uses a device known as a **pressure canner** that uses high-pressure steam to heat the jars up to extremely high temperatures. This method is considered safe to use to can both high- and low-acid foods.

These are the only two methods of canning that are considered safe. Solar canning, oven canning, dishwasher canning and any method that uses aspirin as part of the canning process are all unsafe canning practices and should be discontinued immediately. Just because you've been doing it for years and haven't fallen doesn't mean you won't get sick. These canning methods and any other methods other than water bath and pressure canning are unsafe and don't heat foods being canned up enough to kill bacteria inside the jars.

Water Bath Canning

Using a water bath canner is easy. You're going to need the following equipment:

- **Canning jars with *new* lids.** Once a lid has been used, it shouldn't be reused.
- **The rings that are used to hold the lids in place during the canning process.**
- **A large pot.** There are dedicated water bath canning pots available or you can use any pot that's deep enough to submerge canning jars beneath at least 2" of water.
- **A wire rack that fits inside the pot.** The jars are placed on the rack to keep them off the bottom of the pot.
- **A rubber spatula.** Used to make sure there aren't any air bubbles trapped in the food.
- **Canning funnel.** This is optional, but will make filling the jars a lot easier.
- **Jar lifter.** Used to move the canning jars into and out of the pot without having to touch them.
- **Lid wand.** This optional tool can be used to handle hot lids without having to touch them.

Here are the steps that need to be followed to water bath can produce types that are safe to can via water bath canning:

1. Gather the equipment and wash it in hot, soapy water. Rinse the equipment off.
2. Fill a pot with water and place the jars in the canner. The water should be over the top of the jars.
3. Bring the water to a simmer to heat up the jars. Filling cold jars with warm food can cause them to crack and this step helps prevent that from happening. Alternatively, the jars can be washed in the dishwasher right before you're ready to use them and can be filled while still hot. Take the jars out one at a time as you're ready to fill them and close the dishwasher while filling a jar.
4. Place new lids in a saucepan full of simmering water. The lids have to be simmered for 10 minutes in order to get the sealing compound on the bottom of each lid ready. Keep the lids in simmering water until you're ready to use them and only remove one lid at a time.
5. While you're waiting, prepare the food you're going to can.
6. Fill each of the jars with food. Use a spatula to remove any air pockets from the food. Run it around the edge of the jar.
7. Wipe the rim of the jar clean.

8. Use the lid wand to remove a lid from the saucepan and place it onto a jar. Tighten a band onto the jar finger-tight. Don't over-tighten the band. Repeat this process with each of the jars.
9. Fill the water bath canner with enough water to cover the jars when they're placed into it. Place the wire rack into the canner. Bring the water to a boil.
10. Use the jar lifter to transfer the jars into the water bath canner. The water should be an inch or two over the top of the jars. If not, add more boiling water.
11. Boil the jars for the recommended amount of time. Turn off the heat and let the contents of the pot cool for 10 minutes.
12. Use the jar lifter to remove the jars from the pot and set them upright on a towel to cool. Leave a few inches space between each of the jars. Allow them to cool for 24 hours.
13. Check to make sure the jars are sealed by pressing on the center of the lid. If the lid pops back up after being pressed down, a good seal wasn't created. These jars can be refrigerated and consumed in a reasonable amount of time.
14. The jars with a good seal can be labeled and stored at room temperature in a cool, dark location.

The problem with this method of canning is it doesn't reach high enough temperatures to kill off botulism spores in a reasonable amount of time. The only items that should be canned using water bath canning are items with a pH that is 4.6 or lower because the acidity of these foods naturally prevents the development of botulism.

Pressure Canning

Pressure canning ensures food reaches the higher temperatures required to kill botulism spores. The time and pressure required depends on a number of factors including altitude and the type and amount of food being canned.

This method is marginally more difficult, but isn't all that hard once you get the hang of it. Here are the basic steps required for pressure canning:

1. Gather the equipment and wash it in hot, soapy water. Rinse the equipment off.
2. Fill a pot with water and place the jars in the canner. The water should be over the top of the jars.
3. Bring the water to a simmer to heat up the jars. Filling cold jars with warm food can cause them to crack and this step helps prevent that from happening. Alternatively, the jars can be washed in the dishwasher right before you're ready to use them and can be filled while still hot. Take the jars out one at a time as you're ready to fill them and close the dishwasher while filling a jar.
4. Place new lids in a saucepan full of simmering water. The lids have to be simmered for 10 minutes in order to get the sealing compound on the bottom of each lid ready. Keep the lids in simmering water until you're ready to use them and only remove one lid at a time.
5. While you're waiting, prepare the food you're going to can.
6. Fill each of the jars with food. Use a spatula to remove any air pockets from the food. Run it around the edge of the jar.
7. Wipe the rim of the jar clean.
8. Use the lid wand to remove a lid from the saucepan and place it onto a jar. Tighten a band onto the jar finger-tight. Don't over-tighten the band. Repeat this process with each of the jars.
9. Place the wire rack into the canner and fill the pressure canner according to manufacturer's specifications. Place the jars into the canner.
10. Attach the lid to the pressure canner and open the vent pipe. Heat the pressure canner over High heat until a steady stream of steam is escaping from the vent. The manufacturer's instructions will state how long you need to allow steam to vent out.
11. Place the weighted gauge into the vent (or close the petcock). Pressure will start to build in the pressure canner. Wait until pressure has built up as high as it needs to go and set the timer. Don't set the timer until the correct pressure is reached.
12. Monitor the pressure while the timer is running. If the pressure drops too low, increase the heat until it rises to the proper level

and reset the timer. If it gets too high, slowly decrease the heat until pressure reaches the right level.

13. Once time has expired, turn off the heat and let the canner cool until there's no pressure and then allow it to cool for an additional 5 to 10 minutes. Remove the weight or slowly open the petcock. If pressure starts releasing from the hole, leave the canner sealed until pressure is relieved.
14. Once there's no pressure in the canner, open the canner. Be careful because there may still be hot steam trapped inside. Use the jar lifter to remove the jars from the pot and set them upright on a towel to cool. Leave a few inches space between each of the jars. Allow them to cool for 24 hours.
15. Check to make sure the jars are sealed by pressing on the center of the lid. If the lid pops back up after being pressed down, a good seal wasn't created. These jars can be refrigerated and consumed in a reasonable amount of time.
16. The jars with a good seal can be labeled and stored at room temperature in a cool, dark location.

Hot-Packing vs. Raw-Packing

Canning recipes call for either hot-packing or raw-packing produce before it's canned. Some recipes allow for either hot-packing or raw-packing.

Raw-packing is the practice of filling canning jars with raw, uncooked foods and then filling the jars with boiling hot water or syrup right before canning them. Foods that are raw-packed may not last as long as foods that are hot-packed, but they'll generally stay crisper and retain more of their flavor. Raw-packing is usually reserved for vegetables and foods with a high acid content.

Hot-packed foods are brought to a boil and cooked for up to 5 minutes before they're packed into canning jars. Boiling water or syrup is then poured over the food being canned right before the lid is placed on it. This method helps remove air pockets from the food being canned and improves shelf life. It also shrinks the food a bit, so you'll be able to add more food to each jar.

Canning Fruit

Fruit is usually canned in syrup made by mixing water and table sugar together. Syrup doesn't help preserve fruit or prevent spoilage. It's used to help fruit retain some of its color and its structure.

Up to half of the sugar in canning recipes can be replaced by raw honey. In order to make syrup, heat the water up first and stir the sugar (and honey, if you're using it) into it until it dissolves. For hot-packed vegetables, bring the water and sugar to a boil and add the fruit to the pot. Bring it back up to a boil and let the fruit cook for 3 to 5 minutes before placing it and the syrup into the jar. For raw-packed fruit, bring the syrup to a boil. Add raw fruit to the jar and pour the boiling syrup over the top.

The type of syrup used for canning runs from very heavy syrup that's 50% or more sugar to very light syrup that's only around 10% sugar. Use the following chart to determine how much water and sugar you're going to need to make various thicknesses of syrup:

Type of syrup	Water (cups)	Sugar (cups)
Plain water	10	0
Very light (10%)	10	1
Light (20%)	10	2
Medium (30%)	10	3
Heavy (40%)	10	4
Very heavy (50%)	10	5

Most fruits are naturally sweet and can be packed in very light, light or medium syrup. The heavier syrups are thick and overpowering. Reserve them for all but the sourest of fruit. Even then, you might want to try lighter syrup first to see if it works.

Fruit should be canned according to USDA recommendations. The following chart sums up the recommended processing times (in minutes) when using a boiling water canner at various altitudes for the listed fruits:

Fruit (packing method)	Jar Size	0 to 1,000 feet	1,001 to 3,000 feet	3,001 to 6,000 feet	Above 6,000 feet
Apples (Peeled, cored, sliced and hot-packed)	Pints or quarts	20 min.	25	30	35
Applesauce (Hot-packed)	Pints	15	20	20	25
	Quarts	20	25	30	35
Apricots (Sliced or	Pints	20	25	30	35

halved and hot-packed)	Quarts	25	30	35	40
Apricots (Sliced or halved and raw-packed)	Pints	25	30	35	40
	Quarts	30	35	40	45
Berries (Hot-packed)	Pints or quarts	15	20	20	25
Berries (Raw-packed)	Pints	15	20	20	25
	Quarts	20	25	30	35
Cherries (Pitted and hot-packed)	Pints	15	20	20	25
	Quarts	20	25	30	35
Cherries (Pitted and raw-packed)	Pints or quarts	25	30	35	40
Oranges (Peeled & pith removed. Raw-packed)	Pints or quarts	10	15	15	20
Grapes (Stemmed, washed and hot-packed)	Pints or quarts	10	15	15	20
Grapes (Stemmed, washed and raw-packed)	Pints	15	20	20	25
	Quarts	20	25	30	35
Nectarines (Sliced or halved and hot-packed)	Pints	20	25	30	35
	Quarts	25	30	35	40
Nectarines (Sliced or halved and raw-packed)	Pints	25	30	35	40
	Quarts	30	35	40	45
Peaches (Peeled, sliced or halved and hot-packed)	Pints	20	25	30	35
	Quarts	25	30	35	40
Peaches (Peeled, sliced or halved and raw-packed)	Pints	25	30	35	40
	Quarts	30	35	40	45
Pears (Peeled, halved and	Pints	20	25	30	35

cored. Hot-packed)	Quarts	25	30	35	40
Pineapples (Peeled, sliced and hot-packed)	Pints	15	20	20	25
	Quarts	20	25	30	35
Plums (Washed, halved and pitted. Hot or raw-packed)	Pints	20	25	30	35
	Quarts	25	30	35	40

The following chart shows processing times and the pressure that needs to be used at various altitudes when using a dial-gauge pressure canner:

Fruit (packing method)	**Jar Size**	**Time (min)**	**0 to 2,000 feet**	**2,001 to 4,000 feet**	**4,001 to 6,000 feet**	**6,001 to 8,000 feet**
Applesauce (Hot-packed)	Pints	8 min	6 lbs	7 lbs	8 lbs	9 lbs
	Quarts	10	6 lbs	7 lbs	8 lbs	9 lbs
Apples (Hot-packed)	Pints or quarts	8	6 lbs	7 lbs	8 lbs	9 lbs
Apricots (Hot- or raw-packed)	Pints or quarts	10	6 lbs	7 lbs	8 lbs	9 lbs
Berries (Hot-packed)	Pints or quarts	8	6 lbs	7 lbs	8 lbs	9 lbs
Berries (Raw-packed)	Pints	8	6 lbs	7 lbs	8 lbs	9 lbs
	Quarts	10	6 lbs	7 lbs	8 lbs	9 lbs
Cherries (Hot-packed)	Pints	8	6 lbs	7 lbs	8 lbs	9 lbs
	Quarts	10	6 lbs	7 lbs	8 lbs	9 lbs
Cherries (Raw-packed)	Pints or quarts	10	6 lbs	7 lbs	8 lbs	9 lbs
Nectarines (Hot- or raw-packed)	Pints or quarts	10	6 lbs	7 lbs	8 lbs	9 lbs
Peaches (Hot- or raw-packed)	Pints or quarts	10	6 lbs	7 lbs	8 lbs	9 lbs
Pears (Hot-packed)	Pints or quarts	10	6 lbs	7 lbs	8 lbs	9 lbs
Plums (Hot or raw-packed)	Pints or quarts	10	6 lbs	7 lbs	8 lbs	9 lbs

Here are the processing times and pressures to use for the same fruits when using a weighted-gauge pressure canner:

Fruit (packing method)	**Jar Size**	**Time (min)**	**0 to 1,000 feet**	**Above 1,000**
Applesauce (Hot-packed)	Pints	8 min	5 lbs	10 lbs
	Quarts	10	5 lbs	10 lbs
Apples (Hot-packed)	Pints or quarts	8	5 lbs	10 lbs
Apricots (Hot- or raw-packed)	Pints or quarts	10	5 lbs	10 lbs
Berries (Hot-packed)	Pints or quarts	8	5 lbs	10 lbs
Berries (Raw-packed)	Pints	8	5 lbs	10 lbs
	Quarts	10	5 lbs	10 lbs
Cherries (Hot-packed)	Pints	8	5 lbs	10 lbs
	Quarts	10	5 lbs	10 lbs
Cherries (Raw-packed)	Pints or quarts	10	5 lbs	10 lbs
Nectarines (Hot- or raw-packed)	Pints or quarts	10	5 lbs	10 lbs
Peaches (Hot- or raw-packed)	Pints or quarts	10	5 lbs	10 lbs
Pears (Hot-packed)	Pints or quarts	10	5 lbs	10 lbs
Plums (Hot or raw-packed)	Pints or quarts	10	5 lbs	10 lbs

Canning Vegetables

While you can get away with using a water bath canner on many fruits because of the acid content, vegetables are a completely different story. You're going to need either a dial-gauge or weighted-gauge pressure canner to safely can most vegetables. Because botulism is more likely to develop in vegetables, they have to be cooked in a pressure canner for a longer period of time than most fruits. This is done for safety reasons, so don't try to cut canning times short.

Instead of using syrup to can vegetables, most canners use brine created by adding a tablespoon or two of salt to a quart of water and stirring it in. Most of the salt will be able to be rinsed off the vegetables when you're ready to eat them.

The following chart lists the time requirements and the pressures to use at various altitudes when using a dial-gauge canner to can vegetables:

Vegetable (packing method)	**Jar Size**	**Time (min)**	**0 to 2,000 feet**	**2,001 to 4,000 feet**	**4,001 to 6,000 feet**	**6,001 to 8,000 feet**
Asparagus (Hot- or raw-packed)	Pints	30 min	11 lbs	12 lbs	13 lbs	14 lbs
	Quarts	40	11 lbs	12 lbs	13 lbs	14 lbs
Dried beans (Rehydrated and hot-packed)	Pints	75 min	11 lbs	12 lbs	13 lbs	14 lbs
	Quarts	90	11 lbs	12 lbs	13 lbs	14 lbs
Beets (Hot-packed)	Pints	30	11 lbs	12 lbs	13 lbs	14 lbs
	Quarts	35	11 lbs	12 lbs	13 lbs	14 lbs
Carrots (Sliced or diced. Hot- or raw-packed)	Pints	25	11 lbs	12 lbs	13 lbs	14 lbs
	Quarts	30	11 lbs	12 lbs	13 lbs	14 lbs
Corn kernels (Hot or raw-packed)	Pints	55	11 lbs	12 lbs	13 lbs	14 lbs
	Quarts	85	11 lbs	12 lbs	13 lbs	14 lbs
Edible mushrooms (Hot-packed)	Pints or half-pints	45	11 lbs	12 lbs	13 lbs	14 lbs
Green beans (Hot or raw-packed)	Pints	20	11 lbs	12 lbs	13 lbs	14 lbs
	Quarts	25	11 lbs	12 lbs	13 lbs	14 lbs
Okra (Hot-packed)	Pints	25	11 lbs	12 lbs	13 lbs	14 lbs
	Quarts	40	11 lbs	12 lbs	13 lbs	14 lbs
Cherries (Raw-packed)	Pints or quarts	10	11 lbs	12 lbs	13 lbs	14 lbs
Peas (Hot-	Pints	40	11 lbs	12 lbs	13 lbs	14 lbs

or raw-packed)	or quarts					
Peppers (Hot-packed)	Pints or half-pints	35	11 lbs	12 lbs	13 lbs	14 lbs
Spinach (Hot-packed)	Pints	70	11 lbs	12 lbs	13 lbs	14 lbs
	Quarts	90	11 lbs	12 lbs	13 lbs	14 lbs
Sweet potatoes (Peeled, boiled and hot-packed)	Pints	65	11 lbs	12 lbs	13 lbs	14 lbs
	Quarts	90	11 lbs	12 lbs	13 lbs	14 lbs
White potatoes (Peeled, boiled and hot-packed)	Pints	35	11 lbs	12 lbs	13 lbs	14 lbs
	Quarts	40	11 lbs	12 lbs	13 lbs	14 lbs

Here are the processing times and pressures to use for the same vegetables when using a weighted-gauge pressure canner:

Fruit (packing method)	**Jar Size**	**Time (min)**	**0 to 1,000 feet**	**Above 1,000**
Asparagus (Hot- or raw-packed)	Pints	30 min	10 lbs	15 lbs
	Quarts	40	10 lbs	15 lbs
Dried beans (Hot-packed)	Pints	75 min	10 lbs	15 lbs
	Quarts	90	10 lbs	15 lbs
Beets (Hot-packed)	Pints	30	10 lbs	15 lbs
	Quarts	35	10 lbs	15 lbs
Carrots (Sliced or diced. Hot- or raw-packed)	Pints	25	10 lbs	15 lbs
	Quarts	30	10 lbs	15 lbs
Corn kernels (Hot or raw-packed)	Pints	55	10 lbs	15 lbs
	Quarts	85	10 lbs	15 lbs
Edible mushrooms (Hot-packed)	Pints or half-pints	45	10 lbs	15 lbs
Green beans (Hot or raw-packed)	Pints	20	10 lbs	15 lbs
	Quarts	25	10 lbs	15 lbs

Okra (Hot-packed)	Pints	20	10 lbs	15 lbs
	Quarts	25	10 lbs	15 lbs
Peas (Hot- or raw-packed)	Pints or quarts	40	10 lbs	15 lbs
Peppers (Hot-packed)	Pints or half-pints	35	10 lbs	15 lbs
Spinach (Hot-packed)	Pints	70	10 lbs	15 lbs
	Quarts	90	10 lbs	15 lbs
Sweet potatoes (Peeled, boiled and hot-packed)	Pints	65	10 lbs	15 lbs
	Quarts	90	10 lbs	15 lbs
White Potatoes (Peeled, boiled and hot-packed)	Pints	35	10 lbs	15 lbs
	Quarts	40	10 lbs	15 lbs

Drying

Drying is an easy way to preserve the harvest and when done right, it can be used to create dried foods that will last many months and possibly even years. There's a little more prep work with drying in comparison to some of the preservation methods, but you don't need a root cellar or a freezer to store dried foods, as they can be kept in a cool pantry or another cool, dry area of the house. Most fruits and vegetables can be dried for storage, so you'll have more of a selection to choose from should you decide to dry foods instead of using a selective method like root cellaring.

There are two basic method used to dry produce:

- **Solar drying.** The power of the sun is used.
- **Electric drying.** An electric food dryer or an oven is used.

Drying in the sun is the least expensive method, but is only viable if you live in an area that has enough consistently-sunny days in a row to dry food. A person living in Northern Oregon will have a tough time finding enough sunny days in a row to dry food in a safe amount of time. On the other hand, a person living in Southern California will have more sun than they need. Drying in the sun saves money because you don't need electricity, but it's a lot slower than drying using electricity. It's also harder to get dried food that's consistently of good quality because there are a number of variables that are beyond control.

Regardless of what drying method is used, the goal is to remove most of the free water from the produce. This slows the respiration rate, hampers enzymatic action and creates an environment in which harmful bacteria have trouble taking hold.

Dried Produce

Fruits and vegetables are easy to dry at home. As long as care is taken to ensure proper drying techniques are followed, drying is a safe way to preserve much of the harvest. Dried fruits and vegetables can go bad, but they're less susceptible to decay than fruits and vegetables left in their natural state.

The following tips will help you get the most from your produce drying efforts:

- **Only use high-quality produce.** Avoid using damaged produce or produce that's on the verge of going bad because it will result in dried food of poor quality. You aren't going to make damaged food better by drying it.
- **Faster drying methods are generally better than slower methods because they do less damage to the food being dried.** While this is true to a point, you don't want to use higher temperatures that cook the food instead of drying it.
- **Use fruits and vegetables that are in prime eating condition.** Allow the produce to ripen on the tree or vine before drying it.
- **Wash dirt and grime off of produce before it's prepared for drying.**
- **Expose more surface area to accelerate drying.** Cut or chopped produce will dry faster than whole produce. Shredded produce will dry even faster. More exposed surface area equals more opportunity for moisture to leave the items being dried. Peeled produce will dry faster than produce with the peel left on it.
- **It's best to use organic produce for drying.** The chemicals found in traditionally-grown produce are concentrated as it dries and shrinks. Since people tend to consume more dried fruit than they do regular fruit, going organic is important.
- **Pay close attention to pretreatment and blanching requirements.** Failure to properly prepare produce before it's dried can result in a final product that is discolored and contains less vitamins.

Preparation & Pretreatment

Produce needs to be prepared and pretreated before it's dried.

Preparation is usually simple and consists of washing each piece of produce under clean water and then removing stems, seeds, pits and/or peels. Cut, chop or shred larger pieces of produce in order to ensure they're able to properly dry before they start to go bad. Regardless of how produce is prepared, the pieces need to be of uniform size in order to ensure they dry evenly. Larger pieces will dry slower than smaller pieces, so unevenly-cut produce is difficult to dry in a uniform manner. You'll invariably end up with some pieces that are too dry and others that still have moisture in them while you're stuck trying to find a happy medium.

Pretreatment is a separate step from preparation and consists of treating the produce that's to be dried in a manner that ensures the final product is of as high of quality as possible. While most fruits and vegetables can be dried without pretreatment, many of them benefit from some form of pretreatment. Both quality and vitamin content can improve when produce is pretreated in an appropriate manner.

Certain thick-skinned fruits need to be "checked" before drying. **Checking** involves dipping the fruit into boiling water for 45 seconds to crack the skins and give moisture inside the fruit an avenue through which it can escape as the fruit dries. Transfer the fruit to cold water immediately after checking it in order to stop the fruit from continuing to cook.

The following fruits need to be checked:

- **Blueberries.**
- **Cherries.**
- **Dark plums.**
- **Figs.**
- **Grapes.**
- **Prunes.**

Alternatively, the skins of the fruit can be pierced multiple times, but checking is the preferred pretreatment method.

Some varieties of fruit need to be pretreated to prevent them from browning before, during and after they're dried. Browning occurs due to an enzymatic reaction that occurs when the flesh of the fruit is exposed to open air. Some fruits brown rapidly, while others brown slowly or not at all.

The following methods are commonly used to pretreat fruit to prevent enzymatic browning:

- **Sulfuring.** This method is the most common method used by manufacturers of dried fruits. It uses burning sulfur or a special sulfur dip to treat fruits like apples, apricots, bananas, cherries, nectarines, peaches and pears to prevent browning. It works well in regards to preventing enzymatic action and preserving nutrients,

but it's the most difficult pretreatment method to get right. The fumes can be nauseous and are dangerous in an unventilated area. Some people don't like the taste of sulfur and there's a small segment of the population that's allergic to it.

- **Ascorbic acid dip.** Most fruit can be dipped in a solution of ascorbic acid and water. **Ascorbic acid** sounds scary, but it's actually just vitamin C. Add 2 tablespoons of ascorbic acid to a quart of lukewarm water and stir it in. Dip pieces of cut fruit into the water and let them sit for 2 to 3 minutes before removing them and patting them dry.
- **Honey dip.** Apricots, bananas, nectarines, peaches, pears and strawberries can be dipped in a solution made by mixing 3 parts water with one part honey. Cut the fruit and let it soak for a few minutes before draining it and patting it dry.
- **Lemon juice dip.** This dip can be used on apples, bananas and pit fruits. Stir ¼ cup of lemon juice into a quart of warm water and soak the cut fruit in the solution for a few minutes. Drain the fruit and pat it dry.

Test the various methods to see which works best for you. Honey dips add sugar to the final product and make it sweeter, while ascorbic acid may add a marginal amount of vitamin C. My least favorite method is sulfuring, since it's the most difficult and has the most problems associated with it. Most home dryers will be better off leaving sulfuring to the manufacturers that use it as a fast and cost-effective way to treat large batches of fruit.

Vegetables typically aren't sulfured or treated with any sort of dip. Instead, they benefit from being **blanched**, which is a quick boiling or steaming that slows enzymatic action and prevents them from turning brown and expelling gases as they dry. Vegetables that are blanched retain their color and flavor better than those that aren't. If you're planning on eating dried vegetables right away, blanching may not be necessary. If you're planning on storing them, blanching becomes a much more important step in the process.

There are two common methods used to blanch vegetables. Boiling is the faster of the two, but there may be more loss of vitamins and nutrients. Steaming takes a little longer, but tends to preserve the nutrients better and doesn't do as much damage to the produce. Some guides state microwaves can be used for blanching, but they don't provide consistent results and change the inner structure of the food.

The following chart lists blanching times for a number of vegetables:

Vegetable	**Steam Blanching**	**Boiling**
Artichoke	Do not steam	7 to 8 minutes
Asparagus	4 to 5 minutes	3 to 5 minutes
Beets	Not required	Not required
Broccoli	3 to 4 minutes	2 to 3 minutes

Brussels sprouts	6 to 8 minutes	4 to 6 minutes
Cabbage	2 to 3 minutes	1 to 2 minutes
Carrots	3 to 4 minutes	3 to 5 minutes
Cauliflower	4 to 5 minutes	3 to 4 minutes
Celery	2 to 3 minutes	2 to 3 minutes
Cut corn	4 to 6 minutes	4 to 5 minutes
Eggplant	3 to 4 minutes	3 minutes
Green beans	2 to 3 minutes	2 to 3 minutes
Okra	Do not steam	8 to 10 minutes
Onions	Do not steam	4 to 8 minutes
Peas	3 to 4 minutes	2 to 3 minutes
Peppers	Not required	Not required
Potatoes	6 to 8 minutes	5 to 7 minutes
Summer squash	2 to 3 minutes	1 to 2 minutes
Sweet potatoes	7 to 10 minutes	7 to 10 minutes
Tomatoes	3 to 4 minutes	1 to 2 minutes
Turnips	6 to 8 minutes	5 to 6 minutes

Blanch vegetables after you've cut them to prepare them. Once they've been blanched, dip them in cold water to stop them from continuing to cook and pat them dry. They are now ready to be dried.

Solar Drying

Direct or indirect heat from the sun can be used to dry produce. This method requires no power other than the heat provided by the sun. Even if you plan on using an electric dehydrator, it's a good idea to learn solar drying just in case you ever need it. You never know when you'll be in a situation where electricity isn't available and solar drying is your only option.

The easiest way to dry produce using the power of the sun is to lay cut or shredded veggies out on a tray made up of a frame with a non-reactive screening material like nylon or cheesecloth stretched across it. Place the tray onto wooden or concrete blocks in order to allow air to circulate around the food being dried. Place a piece of cheesecloth over the top of the produce to keep insects and other animals away and to protect it from large particulate matter that may be blowing around in the air.

Solar dryers can be built that place the food behind glass or clear plastic in order to further protect it and amplify the amount of heat the drying food is subjected to. A fan can be added to the dryer to move fresh air into the solar dryer and to whisk moisture away from the fruit and vegetables. This accelerates the drying process and will result in dried produce that's of a higher quality. At a bare minimum, there needs to be holes at the top and bottom to allow air to circulate through the dryer.

Solar drying requires a hot, dry climate. Cool weather and/or high humidity may result in dried food that's of poor quality. It can take up to a week of sitting in the sun for certain types of produce to completely dry, so keep a close eye on the weather report. Bring your drying trays inside if inclement weather is on the horizon. You're also going to want to bring drying trays in at night in order to protect your food from marauding animals like raccoons, bears and deer.

Electric Dehydration

Electric dehydrators are faster and more efficient than solar drying. You can use an electric dehydrator year-round since you don't have to wait for clear, sunny days to use it. Most dehydrators can be run indoors, so you can continue drying produce when the weather turns wet as long as you have a well-ventilated room in which you can place the dryer. Avoid drying sulfur-treated produce indoors, as the fumes from the sulfur can irritate the nose, eyes and lungs.

Dedicated electric dehydrators are your best bet for electric dehydration. They're tailor-made for drying and the good ones have adjustable temperatures and timers that can be set to ensure foods aren't dried for too long. The larger dryers hold up to 8 large racks of food, so you'll be able to rapidly dry the entire harvest.

An oven can be used in a pinch, but really isn't the best option if you plan on doing a lot of drying. Set the oven to the lowest temperature it can be set to and prop it open a few inches with a fan in front of the opening. Place the produce on screened trays or baking sheets and place it into the oven. Rotate the trays and monitor the temperature inside the oven closely. You don't want to allow it to get much higher than 140° F or the food will cook instead of being dehydrated.

Drying Times and Temperatures

The following chart can be used to determine approximate solar drying times for various fruits and vegetables, along with the appropriate temperature for electric dehydration and the approximate time to leave the food in the dryer:

Produce Type	Solar Drying (days)	Electric Drying (hours)	Temp. (° F)
Apples	2 to 4	6 to 10	130 to 140
Apricots	2 to 4	12 to 36	130 to 140
Artichoke hearts	1 to 3	8 to 12	130 to 140
Asparagus	1 to 3	6 to 12	130 to 140
Bananas	2 to 3	8 to 10	140
Beets	2 to 4	10 to 18	130 to 140
Blueberries	2 to 4	24 to 36	130 to 140
Boysenberries	2 to 4	24 to 36	130 to 140
Broccoli	2 to 4	12 to 18	130 to 140
Brussels sprouts	2 to 4	12 to 24	130 to 140
Cabbage	1 to 3	8 to 12	130 to 140
Carrots	2 to 4	12 to 24	130 to 140
Cauliflower	2 to 4	12 to 18	130 to 140
Celery	1 to 3	12 to 24	130 to 140
Cherries	1 to 3	24 to 36	130 to 140
Citrus peels	2 to 3	24 to 36	140
Corn	1 to 2	10 to 18	130 to 140
Currants	2 to 3	12 to 24	130 to 140
Cranberries	2 to 4	24 to 36	130 to 140
Dates	1 to 3	18 to 24	130 to 140
Eggplant	2 to 3	12 to 24	130 to 140
Figs	5 to 7	36 to 48	130 to 140
Garlic	Don't dry in sun.	8 to 12	130 to 140
Grapes	4 to 6	12 to 24	130 to 140
Green beans	4 to 6	36 to 48	130 to 140
Herbs	1 to 2	6 to 12	90 to 100
Kiwi	Don't dry in sun.	12 to 24	140
Mangoes	2 to 4	24 to 36	130 to 140

Nectarines and peaches	4 to 6	18 to 36	130 to 140
Okra	1 to 3	8 to 12	130 to 140
Onions	2 to 4	12 to 24	130 to 140
Papayas	3 to 4	24 to 36	130 to 140
Peas	2 to 4	12 to 24	130 to 140
Pears	2 to 4	12 to 24	130 to 140
Peppers	1 to 3	12 to 24	130 to 140
Pineapples	4 to 5	24 to 36	130 to 140
Plums	3 to 5	12 to 24	130 to 140
Potatoes	2 to 3	12 to 24	130 to 140
Strawberries	2 to 4	24 to 36	130 to 140
Sweet potatoes	2 to 3	12 to 24	130 to 140
Tomatoes	1 to 3	6 to 12	130 to 140

Once you're done drying produce, condition it by packing it loosely into a glass container and letting it sit for up to a week. This will level out any moisture that's left in the dried food as the pieces that are drier wick moisture away from the damper pieces. This is more of a necessity with dried fruit as opposed to dried vegetables because fruit will have more moisture left in it once drying is complete.

After conditioning is complete, pack dried produce into airtight containers with tight lids. Store in a cool, dry place with an ambient temperature of around 60° F. Dried foods that are stored in the freezer will last longer than dried foods stored at room temperature.

Using Dried Produce

Dried produce can be consumed in its dried state or it can be reconstituted by soaking it in water until it rehydrates.

Dried fruit is typically consumed in its dried state, while vegetables are usually rehydrated before use. Rehydrated vegetables are softer than undried vegetables and are rarely good to eat on their own. They're more often than not used in dishes that call for vegetables, but don't place them front and center as the main feature of the dish.

Occasionally, vegetables like eggplant, carrots and potatoes are thinly-sliced and made into chips. These chips don't need to be rehydrated before consumption and are a great alternative to grease- and salt-filled commercial potato chips.

Other Foods that Can Be Dried

While fruits and vegetables are the most common foods dried by homesteaders, produce isn't the only type of food that can be preserved through drying.

The following foods can also be dried as a method of preservation:

- **Bouillon.**
- **Eggs.**
- **Fish.**
- **Grains.**
- **Leftover bread (to make bread crumbs).**
- **Legumes.**
- **Meat.**
- **Mushrooms.**
- **Noodles.**
- **Oats.**
- **Tofu.**

In fact, most food items that contain water can be dried using a dehydrator. You may not want to eat some of them, but they can be dried.

Freezing

Aside from putting food in a root cellar, freezing is the easiest way to preserve food. Most foods require minimal preparation before they're put into the freezer. Meats, fruits, vegetables, soups, fish, poultry, whipped cream, milk and even entire meals can be frozen and later thawed when you want to consume them.

Freezing is a quick and easy way to extend the life of foods you aren't going to be able to eat before they go bad. If you've just made a large purchase or have harvested a large amount of food, it's best to get the food in the freezer sooner rather than later. Food quality isn't going to improve when it's frozen and it's much better to freeze fresh food than it is to freeze foods that are right on the verge of going bad.

Foods should be frozen at a temperature of 0° F or lower. If you know you're going to be adding foods to the freezer, turn the thermostat down lower to ensure they freeze quickly. Once the foods have frozen, the thermostat can be turned back up. Pack foods that are to be frozen into containers or trays, seal the containers and get them into the freezer as quickly as possible.

Be careful not to overfill a freezer with warm food. It can cause the temperature inside the freezer to drop low enough to where the frozen foods that are already in there will start to thaw. This can allow bacteria time to start growing in both the foods that are being frozen and the already-frozen foods and can reduce the quality of everything in the freezer. If you're freezing foods that have come straight off the stove or are fresh out of the oven, place them in the fridge until they've cooled.

There is a downside to frozen foods. Freezing can negatively impact the quality of certain foods and you can almost always tell the difference between fresh food and food that's been frozen and thawed. Sometimes it's minor and sometimes it's hard to ignore. Another downside—and this one's a biggie—is you're tied into the electric grid and an extended power outage can result in the loss of much of your stored food.

The key to quality when it comes to frozen foods is proper packaging. The more care taken to ensure air can't get into or out of the packaging, the longer the food will last. No food will last forever in the freezer, but you can make sure your food lasts a long time by wrapping and/or packaging it so it's airtight. Allowing air to come in contact with frozen food can result in freezer burn, which is a dry spot on the food where moisture has been pulled out of it.

The following chart lists the length of time food lasts in the freezer before quality becomes an issue. To be clear, you may be able to eat food after this timeframe has passed, but it may have degraded to the point where you'll no longer want to eat it:

Food	**Months in Freezer**
Produce	6 to 12 months
Poultry	6 to 8
Fish	3 to 6
Ground Meats	3 to 4 months
Cured Meats	1 to 2 months
Other Meats	1 to 3 months

This assumes a constant temperature of 0° F and that the food was properly prepared and then packaged in an airtight container.

Freezing Produce

Most vegetables will need to be blanched before they're frozen. Follow the blanching directions in the "Preparation & Pretreatment" section of the previous chapter to prepare vegetables for freezing.

Fruit can be packed in syrup or sugar before freezing and most fruits can be **dry-packed**, which simply means packing the entire piece of fruit into a container and freezing it. Fruit can also be **wet-packed**, which involves packing it in water, fruit juice or pectin syrup before freezing. **Sugar-packed fruits** are usually firmer and of better quality when thawed. Fruits that are prone to discoloration can be dipped in an ascorbic acid bath prior to freezing.

Vegetables and fruit will lose some of their crispness and may lose a bit of flavor when they're frozen. Frozen vegetables are best when used in recipes where they aren't the main feature. Frozen fruits can be used in smoothies, pies and other dishes where texture doesn't matter.

Freezing Meat, Fish & Poultry

Meat, fish & poultry can all be frozen as a means of preservation.

Select high-quality meats for freezing and get them in the freezer as soon as possible. You don't want to leave most meats in the fridge for a few days before putting them in the freezer. It's best to get them in there while they're fresh. The exception to this rule is freshly-slaughtered meat, which may need to be cured in the fridge before it's frozen. Freshly-slaughtered lamb, pork and veal can be moved to the freezer after 24 hours, while freshly-slaughtered beef can be aged for up to 7 days. Meat that's purchased from the grocery store has already been aged and should be cut and packaged immediately.

Package meat in meal-sized portions. Wrap it in freezer paper and then place it inside a freezer bag. Meat should not be frozen in the tray it was packed in when it was purchased because grocery store packaging isn't airtight. Repackaging meat into airtight packages will extend the shelf-life and will help prevent freezer burn. Ground meats can be formed into patties. Place a sheet of freezer paper between each patty and place them in a freezer bag.

Poultry should be wrapped in freezer paper, placed into a freezer bag and stored in the freezer. Don't stuff poultry before freezing it because bacteria can grow in the stuffing while it's freezing and again while it's thawing. Wait until you're ready to put poultry into the oven to stuff it.

Fish should be frozen while it's as fresh as possible. Wash the fish and filet it or cut it into steaks. Fatty fish like mackerel, trout and salmon should be soaked for 20 seconds in a solution made of 2 tablespoons ascorbic acid to 1 quart of water. Lean fish like cod, flounder and most freshwater fish can be soaked in a saltwater solution made of ¼ cup salt to 1 cup water. Freeze the fish and then dip them in near-freezing ice water and return them to the freezer. Repeat this process until an ice-glaze has formed around the fish and then wrap the fish in freezer paper and store it in the freezer.

Foods That Shouldn't Be Frozen

While almost any food can be frozen, there are a handful of foods that change so much once they've been frozen and thawed you probably aren't going to want to eat them. Most people don't care for the taste and/or texture of the following foods after they've been frozen and thawed out:

- **Salad greens.** Lettuce, cabbage, spinach and pretty much every other green goes limp and loses flavor after being frozen. You may still be able to use them in soups and cooked dishes, but forget about putting them on a salad.
- **Potatoes.** They become soft and crumbly. They may be able to be frozen as an ingredient in soups and stews.
- **Cooked pasta.** Instead of freezing cooked pasta, make the sauce in advance and freeze it and cook the pasta the day you want to eat it.
- **Eggs.** Cooked eggs become rubbery when frozen.
- **Herbs and spices.** They can be frozen, but the flavor will probably change. Some herbs and spices are muted after freezing, while others become stronger. This effect isn't as pronounced when they're frozen as part of another dish.
- **Custards and puddings.** They separate and become lumpy.
- **Milk sauces and gravies.** The milk separates and may start to curdle.
- **Cheese.** Can be frozen and used as an ingredient in cooked recipes, but you aren't going to want to eat it plain.
- **Mayonnaise.** It separates and may start to curdle.
- **Fried foods.** They lose their crispness and will be soggy and limp when reheated.

You may find you're able to tolerate some of the foods on this list after they're frozen. If you aren't sure about whether a food should be frozen, try freezing a small amount and leaving it in the freezer for a week. Thaw it out and try it to see if it's up to par.

Fermenting

Fermenting ranks right up there with canning when it comes to difficulty, but there's good reason to learn how to ferment. It's the only method of food preservation that actually makes the food being preserved better. It enhances the flavor, adds nutrients to the food, makes vitamins and minerals more accessible and adds a healthy dose of probiotic bacteria to the mix.

The art of fermenting seems a bit strange to those who aren't familiar with it. In the Western world, we're constantly at odds with bacteria. We have antibacterial soaps, antibacterial detergents and our foods are largely devoid of bacteria. We're taught bacteria are the reason we get sick and keeping them at bay is the key to good health. Why then, would anyone want to leave food sitting at room temperature in order to promote the growth of bacteria?

When food is fermented under certain conditions, good bacteria that benefit the body in a number of ways will start to grow instead of the bad bacteria we've been taught to hate. **Lactofermentation**, which is the process used to ferment vegetables and some fruit dishes, creates an environment in which beneficial lactobacteria can grow and thrive. As the bacteria populate the food, they produce lactic acid, carbon dioxide and a handful of acids and chemical compounds, most of which benefit the body in one way or the other. When consumed, the lactobacteria in the food populates the gut, setting up residence and crowding out bad bacteria.

Many years ago, much of the food we ate was full of bacteria, both good and bad. Now, most of the foods we consume have been pasteurized or otherwise treated to eliminate all bacteria. We've replaced healthy foods full of living organisms with foods that are literal dead zones. Is it a coincidence our health has suffered as a result?

Fermenting Vegetables

Most homesteaders get started by learning to ferment vegetables first. They're one of the easiest items to ferment and all that's needed is a handful of supplies, most of which you probably already have sitting in a cabinet or drawer somewhere. The basic steps for fermenting most vegetables are the same and will be covered in this section.

Before you get started, you're going to want to gather the following items:

- **A glass fermenting jar.** You don't need anything special. As long as the jar can be sealed airtight, it should work. Specialty jars and crocks are available that'll make like easier, but you don't need them to get started. When I first learned to ferment, I was taught to use Mason jars.
- **A sharp knife.**
- **Filtered water.**
- **Unrefined sea salt or pickling salt.** Don't use salt that has iodine or anticaking agents added.
- **Starter cultures.** These are bacterial cultures that are used to get the vegetables headed in the right direction. They're optional in most recipes, but will speed up fermentation. Once you have a jar or two of fermented vegetables, you can use brine from those jars as starter culture for future ferments.
- **A glass or smooth stone weight that can be used to hold the vegetables beneath the surface of the brine.**

In addition to the supplies, you're also going to want to choose a vegetable to ferment. I suggest starting with cabbage since it's one of the easiest to ferment and most people are at least passively familiar with fermented cabbage, also known as sauerkraut.

Here are the directions for making sauerkraut using a head of cabbage and a couple carrots:

1. Chop the cabbage into thin strips. Place the cabbage into a bowl as you chop it.
2. Once all the cabbage is chopped, add a couple tablespoons of salt to the bowl and knead it into the cabbage by hand until the cabbage is bruised and is starting to release its natural moisture. The salt will pull water out of the cabbage and will create brine in which the cabbage can be fermented in.
3. Peel the carrots and add them to the bowl.
4. Mix the carrots and cabbage together and pack them into the fermenting jar. Add the carrots and cabbage a little bit at a time and really pack it into the jar. Make sure there are no air bubbles

left in the sauerkraut. Air bubbles create little pockets in which the kraut can spoil.

5. Place the weight into the jar and press it down until the carrots and cabbage are held beneath the surface of the brine. If there isn't enough brine to cover the weight, combine a tablespoon of unrefined sea salt with a quart of filtered water to make brine. Add brine until the weight is covered. Leave ½" of headspace at the top of the jar.
6. Place an airtight lid onto the container and ferment the sauerkraut for up to 2 weeks in a cool, dark location in your house. After a week has passed, start checking the sauerkraut daily and transfer it to the fridge once it has fermented to your liking. It will take on a sour smell and flavor once it's ready. The longer you let it ferment the sourer it'll get. Once you move it to the fridge, fermenting will slow to a crawl and you'll be able to eat it at your leisure.

This same basic technique can be used to ferment most vegetables. The only difference is you're probably going to need to make more brine and starter culture may need to be added. Combine 2 tablespoons of salt with a quart of water to make brine that can be used for fermenting. Starter culture can be brine from a previous ferment, whey from buttermilk or a packet of vegetable starter culture.

Here are the basic steps required to ferment vegetables:

1. Chop or slice the vegetable into smaller pieces.
2. Place the vegetable into the fermenting jar.
3. Add any herbs and spices you'd like to the jar. Garlic, dill, peppercorns, caraway and cardamom are all spices that are commonly added to fermented foods.
4. Create brine by stirring 2 tablespoons of unrefined sea salt into 1 quart of water. Pour the brine over the vegetables.
5. Add starter culture to the jar and stir it in.
6. Add a weight to the jar and press it down until it's holding the vegetables beneath the surface of the brine.
7. Place an airtight lid onto the container and leave it to ferment in a cool, dark place.
8. Fermenting can take anywhere from a few days to a couple weeks. Start checking the container after a few days and move it to the fridge when it's fermented to your liking.

The following vegetables are just some of the many vegetables that can be fermented:

- **Asparagus.**
- **Brussels sprouts.**
- **Cabbage.**

- **Carrots.**
- **Celery.**
- **Cucumbers.**
- **Green beans.**
- **Horseradish.**
- **Jalapenos.**
- **Kale.**
- **Kohlrabi.**
- **Onions.**
- **Parsnips.**
- **Peppers.**
- **Pickles.**
- **Salsa.**
- **Shredded beets.**
- **Tomatoes.**
- **Turnips**
- **Zucchini.**

There are a handful of safety concerns you need to be aware of when fermenting vegetables (and any other food, for that matter). It's rare, but fermented foods can spoil. Your best defense is your senses. If the food looks, smells, feels or tastes likes it's spoiled, throw it out. Mold will sometimes grow in a container. Some experts recommend getting rid of just the vegetables with mold on them and keeping the rest, but I've never been able to bring myself to do this because mold can spread through food and will send out invisible tendrils long before it's seen. It may be overly cautious on my part, but I discard any vegetables that grow mold.

Root Cellars

Root cellars predate electricity and were around long before modern refrigerators and freezers were used to keep foods cool. The first recorded use of a technique similar to a root cellar dates back 40,000 years when yam harvests in Australia were buried to preserve them. Historically, they were used by homesteaders to ensure root vegetables and a handful of other items would remain fresh through a long winter. This time-tested method fell out of favor when fridges became popular, but root cellars are still nice to have because they can be used to preserve certain foods without having to be tied into the power grid.

While root cellars used to be a must for every house, the only houses you'll find them in now are older houses and the homes of homesteaders who've installed them on their own. Root cellars are typically located in the basement of one's home or in a structure buried in the ground outside the home. Other methods of creating root cellars involve digging them into the side of a hill or burying shipping crates, empty septic tanks or other items in the ground and making them accessible from the surface.

If you don't have an existing root cellar, they can cost a good bit of money to build, but they're the easiest and least expensive way to store produce. You don't need electricity, water, canning jars or any other supplies to store produce in a root cellar. Once it's built, all you have to do is place items in the cellar and retrieve them when you're ready to eat them.

There are three conditions that must be kept under control in a root cellar:

- **Humidity.** Root cellars need high humidity, with the ideal humidity being in the range of 90% to 95%. Humidity can be controlled by having a dirt floor covered with a light layer of gravel that can be sprinkled with water if the humidity drops too low. Alternatively, open trays of water can be placed on the floor of the root cellar and left to evaporate. As the water evaporates, the humidity will rise. If you're having trouble keeping the humidity high enough, pack the vegetables into damp sand or sawdust to ensure they have enough moisture and won't start to dry out.
- **Temperature.** The ideal temperature for a root cellar is between 32° and 40° F. You may be able to store vegetables for shorter durations at slightly higher temperatures, but ideally you want to keep temperatures in this range. Allowing the temperature to fluctuate outside of this range or to rise and fall rapidly can cause moisture to build up on the walls and on the vegetables and may accelerate spoilage. It's best to keep the temperature as constant as you can keep it.
- **Ventilation.** Root cellars typically have vent pipes that can be opened at night to let cool evening air into the root cellar. These vents can be closed when the weather gets too warm or temperatures drop below freezing. Proper ventilation is a must for

preventing ethylene gas from building up in the root cellar and causing the produce to go bad and it helps regulate humidity by keeping it from building up too high. There should be two vent pipes—one located near the top of the cellar and one near the bottom. This will allow warm air to circulate out of the room through the top pipe, while cool air enters through the bottom one.

Because root cellars rely on the temperature of the soil and the temperature of the air entering the cellar through the vents, they tend to work better in areas with colder winters. If you live in an area where average winter temperatures are above 35° F, it's going to be difficult to get temperatures down to the ideal range inside an underground root cellar.

Not all produce will store well in a root cellar. The following chart lists some of the best fruits and vegetables to store, the best way to store them, their ideal storage temperature, the humidity they prefer to be stored at and the length of time you can expect them to last under ideal conditions:

Item & Best Storage Method	**Storage Temp (°F)**	**Humidity (%)**	**Storage Life**
Apples (wrap in newspaper)	32 to 40	90 to 95	3 to 7 months
Beets (cut off greens and store in damp sand or sawdust)	32 to 40	95	1 to 4 months
Broccoli (store in perforated plastic bags)	32	95	2 weeks
Brussels Sprouts (store in perforated plastic bags)	32	90 to 95	2 to 4 weeks
Cabbage (wrap each head individually)	32 to 40	90 to 95	3 to 6 months
Carrots (cut off greens and store in damp sand)	32 to 40	90 to 95	4 to 6 months
Celery (plant in a bucket of damp sand at the same level the plant was in the soil)	32 to 40	90 to 95	2 to 4 months
Garlic (cure for two weeks and hang them in mesh bags)	50 to 60	60 to 70	6 to 8 months
Jerusalem	32	90 to 95	2 to 4

Artichokes (store in damp sand)			months
Kohlrabi (trim leaves before storing in damp sand)	32 to 40	90 to 95	2 to 3 months
Leeks (store in damp sand or soil)	32 to 40	90 to 95	2 to 4 months
Onions (cure for two weeks, cut off tops and store in ventilated containers)	32	60 to 70	6 to 8 months
Parsnips (cut off tops and store in damp sand)	32	90 to 95	2 to 4 months
Pears (wrap each pear in newspaper)	30	90	1 to 3 months
Potatoes (cure at 60° F for 2 weeks and store in ventilated containers)	42 to 50	90 to 95	6 to 8 months
Pumpkins (cure at 80° F for 2 weeks before storing)	50 to 55	65 to 75	2 to 4 months
Radishes (Store in damp sand)	32 to 40	90 to 95	2 to 4 months
Rutabagas (store in damp sand)	32	90 to 95	2 to 4 months
Squash (cure at 80° F for 2 weeks before storing)	50 to 55	65 to 75	2 to 4 months
Sweet Potatoes (cure at 80° F for 2 weeks before storing)	55 to 60	60 to 70	4 to 6 months
Tomatoes (pick while green and allow to ripen in storage. Hang entire vine in root cellar.)	55 to 60	60 to 70	2 weeks to 2 months

When selecting produce to store in a root cellar, it's important to choose only pieces that are in tip-top shape. Any bruises, scrapes or other damage to the produce will rapidly accelerate degradation.

Most fruits and vegetables should be moved to the root cellar shortly after they've been harvested. Don't wait until they're starting to go bad to try to store them. There are a handful of vegetables like potatoes, squash and sweet potatoes that need to be cured at warm temperatures prior to storage. **Curing** toughens up the skin and prepares them to be stored for a longer period of time.

As far as preparation goes, most vegetables can go straight from the soil into the cellar. Trim away any greens, leaving about an inch of the stem above the root on root vegetables. Don't cut into the actual root, as any penetration into the root can cause spoilage. No need to clean most of the produce you're storing. Most vegetables do best when you leave them nice and dirty. Knock off any large clumps of dirt and wash them off when you pull them out of the root cellar.

Keep an eye on the produce you have stored in the root cellar. Get rid of any produce that starts to rot. A single piece of produce going bad can accelerate degradation in the entire cellar.

Raising Livestock

Raising livestock can be rewarding, but to say it takes a lot of work to raise enough livestock to meet the needs of a family is an understatement. While most homesteaders don't have much trouble keeping a small flock of chickens for eggs and meat, add a handful of other animals to the mix and you may be looking spending long hours every day making sure their needs are met. In order to raise happy and healthy animals for meat, eggs and/or milk, you're going to need quite a bit of knowledge and more than a little luck when first starting out.

It's best to start off small and expand as you learn the ropes. Start with a small brood of 5 to 10 hens. Once you've learned to care for them, you can either expand your flock or add other animals a couple at a time to the mix. Slow and easy wins this race. Buy a whole farms' worth of animals at once and you're going to quickly feel overwhelmed.

This chapter gives you the basic information required to decide whether a certain type of livestock is for you. It doesn't tell you everything you need to know in order to raise each type of animal. Entire books can be (and have been) written on each of the animals we're about to discuss.

Be sure to check your local codes regarding what can and can't be raised in your locale. Most cities ban raising livestock in the city, save for a handful of chickens or maybe a couple goats. Some areas require permits to raise livestock, while others place limitations on what and how many of each animal you can raise. Falling afoul of local code is never a good thing, so do your due diligence before you purchase any animals.

Cattle

While you probably aren't going to be able to raise your own beef or dairy cows in a backyard in the suburbs, those who have a little bit of property may want to consider raising cattle. If you're planning on grazing cattle on pasture, you're going to need a couple acres per animal. Those with smaller patches of land will have to provide food for their cattle year-round instead of just during the winter months when natural forage gets scarce.

Cattle don't need much shelter and can live outdoors in all but the coldest of weather. They'll appreciate a barn or some sort of shelter they can hang out in when the weather turns ugly. Calves will require a place to hide and get out of the cold.

Cows have a bad habit of pressing up against fences and will make short work of a flimsy fence. Unless you want to come home one day to find your cattle roaming the countryside, you're going to need strong fences. An electric wire can be added to fences as an inexpensive way to keep cows off the fence. You might want to include a chute or two in your plans, as it makes managing the cows a lot easier, especially when they need medical care.

Beef Cattle

Beef cattle are cattle that are raised for meat. If you look at a herd of cattle and see nothing but tasty steaks, beef cattle may be your best option.

Beef cattle have hardy appetites and can consume up to 3% of their body weight in feed every day. They also need a lot of water. A mother cow with a calf will need nearly 20 gallons of water. The cost of providing feed can be offset by pasturing your cattle. If you have enough land, you can set up two separate pastures and feed the cattle on one pasture while growing feed on the other. When one pasture is cleared out, you can move the cattle to the other pasture.

Cattle aren't cheap to buy or raise, but if you have the room, you may be able to raise extra cattle every year to sell to offset the cost. The price you pay is worth it when you consider you'll be getting good beef that you know was raised with minimal use of antibiotics and no growth hormones instead of the chemical-laced most stores try to pass off as beef today. If you've priced organic, grass-fed beef lately, you know how expensive it is.

Most beef cattle are butchered between 1 and 2 ½ years of age. It'll cost you at least a couple hundred bucks to have them processed unless you decide to do it yourself. It's possible, but things can get messy and butchering cattle isn't for the weak of heart. There's going to be a lot of blood and a lot of guts that'll need to be dealt with. That said, if you can butcher a deer or an elk, processing beef shouldn't be too much of a stretch.

Dairy Cows

A couple hundred years ago, you'd be hard-pressed to find a homestead that didn't own a dairy cow or two. Now, they're the exception instead of the rule. If you ask me, there's nothing more satisfying than raising a dairy cow and collecting fresh milk from it in the morning and again in the evening.

Dairy cows aren't cheap. You'll pay anywhere from $800 to as much as $3,000 for a single cow. The cheaper cows are riskier because they're usually first-calf cows that come from a heifer that hasn't proven her worth. It may be worth it to spend a little extra to get a cow from a proven heifer that has previously produced good cows or to buy a slightly-older cow that's already giving milk.

The cost of feeding a dairy cow varies depending on how much feed costs in the area where you live and how much foraging the cow is going to be able to do on your property. It also depends on what you're feeding the cow. While most dairies feed their cows grain in order to maximize milk production, most families don't need to maximize milk production by feed their cow grain. You can save money by feeding your dairy cow grass or hay and giving them a small amount of grain once in a while as a treat. The milk output will be reduced to a few gallons a day, but that's probably all you're going to need unless you have a huge family.

The average dairy cow is going to need 30 to 40 pounds of hay per day. Hay can run as much as $300 a ton (2,000 pounds). If you're feeding a cow year-round, just the hay alone could cost you upwards of $2,000 a year. Hay is significantly cheaper than this in some areas, so it's a good idea to check hay prices in advance of getting a cow so you know what you're in for.

Dairy cows produce milk day-in and day-out, 365 days a year. They need to be milked twice a day, every single day of the year. The only way you can leave for vacation is by making arrangements with someone to come milk her for you or to leave a calf with her. It's a huge commitment, but one that will net you fresh milk that you know where it came from.

Milk is one of the few items you're probably not going to be able to sell to help offset costs around the homestead. Raw milk is heavily regulated in most areas of the United States and can't legally be sold.

Chickens

Chickens are one of the easiest and least expensive livestock animals to raise. They're fun pets to have around, but you've got to be careful not to get too attached to them if you're raising them for food. My youngest daughter had a meltdown when she found out "Clucky" was being raised for the dinner table. Needless to say, Clucky's still around and is well past the point of good eating.

While chickens are allowed in most cities and towns, there are often laws against having roosters because they tend to get a bit noisy. Even when you don't have a rooster present, laying hens can raise a minor racket when they're laying eggs and will softly cluck while going about their daily business. If you have neighbors living in close proximity, they might not be too happy about your decision to raise chickens. You may be able to placate the neighbors by offering to provide them with free eggs from time to time, but some neighbors are going to be unhappy no matter what.

Raising Chicks

Most chicken owners buy their chickens as day-old chicks and raise them to adulthood. This is a rewarding experience, as you get watch the chickens develop and grow, but it does require some special equipment. When you buy chicks, **pullets** have been sexed by the hatchery and are usually guaranteed to be 90% accurate. **Straight-run chicks** aren't sexed and will usually be a 50-50 mix of male and female birds.

You'll need a **chicken brooder**, which is a heated place used to keep chicks warm and dry, that provides at least 2.5 square feet of space per chick. When chicks are crowded in too small of an area, they'll peck at one another and can end up looking pretty ragged. You can buy a prebuilt brooder, but they're fairly easy and inexpensive to make at home. All you need is a container with walls that are at least a foot high so the chicks can't hop out and an infrared heat lamp with a reflector that can be mounted to the brooder. Lay pine shavings in the bottom and set the lamp at the proper height to maintain a temperature of 90 to 95 degrees. Lower the lamp enough to raise the temperature by 5 degrees each week until the chicks have their feathers and are ready to be moved outside.

It's easy to tell when chicks are uncomfortable. If they're are panting and hiding in the corners of the brooder, they're probably too hot. If they're huddled together and are shivering, they're too cold. Adjust the heat lamp accordingly.

Keep fresh water in the brooder at all times. Chicks can and often do fall into water containers and drown. This can be prevented by filling the container with smooth pebbles the chicks can walk around on. If they do fall into the container, they'll be able to stand up and walk out.

Chicks should be fed **crumbles**, which is specialized feed designed to make sure the dietary needs of the chick is met. Place the crumbles into a feeder with walls designed to keep the food in the feeder as the chicks scratch around. After a few weeks, provide the chicks with a small amount of coarse sand or chick grit and start giving them treats like small crickets and mealworms. Chicks also enjoy yogurt and a variety of fruits and vegetables.

Keep a close eye on the chicks and make sure their vents don't get clogged up with droppings. Also watch for chicks that are getting picked on and pecked by the other chicks. You may need to separate them out to a separate brooder before they're injured badly.

The Coop

It can take chicks up to 8 weeks to develop their feathers. Once they do, it's time to move them out to the coop, which is where they'll be spending most of their adult lives.

The coop consists of a henhouse and a contained outside run that can be as simple or as complex as you want to make it. The coop should be designed to provide shelter at night and protection from the elements. The outside run is generally fenced or screened in on all sides and is attached to the coop, so the chickens can move freely about without you having to worry about predators getting in. Coops can be purchased for a couple hundred bucks or you can design and build your own. The only limit is your imagination and there are literally tens of thousands of different coop designs out there.

If you decide to build your own coop, here are some general rules you should follow:

- **Provide at least 3 square feet per chicken inside the henhouse and at least 10 square feet per chicken in the outside run.** If you're planning on expanding, it's easier to build a bigger coop than you need now, rather than attempting to expand an existing coop later.
- **Most coops are fenced in with chicken wire.** Make sure the chicken wire is securely attached to the coop and there are no gaps through which wily predators can enter the coop. The coop should be built strong enough to where it'll keep the strongest predator in your area out. If you live in an area where bears are a problem, electric wire may have to be strung to keep them out.
- **Provide ventilation.** Air holes that can be covered or opened as necessary should be included as part of the coop design.
- **Provide nesting areas for each of the chickens you plan on keeping.** The hens will use the nesting area to lay eggs. Nesting areas should be elevated off the ground and should be filled with straw or some other type of bedding.
- **Provide a perch.** Chickens sleep best when they're standing on a perch. Make sure there's enough perch space to accommodate all of your chickens.
- **Include a light.** Chickens will stop laying eggs when the days get shorter if there isn't a lamp in the henhouse. In order to keep the hens laying eggs, the light must cast a warm glow.
- **Insulate the henhouse appropriately.** The amount of insulation needed depends on the amount of cold the chickens are likely to be exposed to. Coops in Northern Maine are going to need more insulation than coops in Southern Alabama.
- **Keep food and water separate and elevate it off the ground.**

- **Don't forget the door.** You're going to need to get in and out of the coop to clean it, collect eggs and to feed and water the chickens. Build a big enough door to where you can easily access the entire coop. Make sure the door and any other access areas are secured with hardware that local predators won't be able to pop open.
- **Use pine shavings as litter.** There are a number of types of litter, but the tried and true pine shavings still seem to work the best.

Happy and healthy hens will lay more eggs than sick and unhappy hens. Providing ample coop space and proper nesting and perching spaces will go a long way toward keeping hens happy.

Feeding Chickens

Chickens are omnivores and will eat pretty much anything that isn't tied down. That's not to say they should be eating anything and everything, but that's just what chickens do. They're scavengers and will peck and scratch around everywhere they're allowed to roam looking for a meal. I've seen chickens attempt to eat snakes, baby frogs and even an army man my son left sitting outside.

Commercial chicken feed is designed to give hens everything they need to produce eggs. If you decide to feed your hens commercial feed, it's a good idea to supplement it by adding calcium in the form of broken-up oyster shells. The problem with relying on commercial feed is you're going to be in trouble if there's ever an emergency. Homesteading is all about becoming self-sufficient, so you're going to want to at least know about the other foods your chickens can be fed.

If you have a decent-sized area in which to raise your chickens and there aren't too many predators around, you can allow your chickens to **free-range**. They'll roam your yard, pecking and scratching and will find plenty of food to eat. You can supplement their diet with garden clippings and table scraps and your hens will be well-fed. Don't feed them too much of any one food and try to keep their diet balanced. If you do free-range your chickens, put up fencing to keep them out of your garden. They'll pick at and peck at your plants and leave them looking beat up.

You'll also want to take steps to keep your chickens away from busy roads and highways. I live near a man who free-ranges his chickens near a busy street. I've personally witnessed at least three of his hens and one rooster get run over by cars in the last couple years. I can't help but wonder how he has any birds left when they're constantly getting hit on the highway, not to mention the fact that it creates a traffic hazard and undoubtedly traumatizes some of the people who hit the birds.

Here's a list of the many foods that can be fed to chickens:

- **Apples (minus the seeds).**
- **Applesauce.**
- **Asparagus.**
- **Bananas (minus the peel).**
- **Beet greens.**
- **Beets.**
- **Bell peppers.**
- **Berries.**
- **Bread.**
- **Broccoli.**
- **Cantaloupe.**
- **Carrots.**
- **Cauliflower.**
- **Cereal.**
- **Cheese.**
- **Cherries.**

- **Cooked beans.**
- **Cooked fish.**
- **Cooked pasta noodles.**
- **Cooked rice.**
- **Corn.**
- **Crickets and other insects.**
- **Cucumbers.**
- **Eggs.**
- **Fresh leftovers from dinner.**
- **Grains.**
- **Grapes.**
- **Lettuce.**
- **Meat scraps.**
- **Melons.**
- **Oats.**
- **Peaches.**
- **Pears.**
- **Peas.**
- **Pumpkins.**
- **Raisins.**
- **Some flowers and flower greens.**
- **Sprouts.**
- **Squash.**
- **Sunflower seeds and other seeds.**
- **Tomatoes.**
- **Yogurt.**

Chickens also enjoy **scratch**, which is a mixture of cracked corn and grains that can be tossed into the coop, so they can root around for it. It shouldn't be their only feed, but can be used to supplement their diet.

Grit

In addition to food, your chickens are going to needs a source of **grit**, which is material they can swallow that will grind up food. Chickens don't have teeth they can chew with, so without grit they'll have trouble digesting food. If your chickens are free-ranging birds, they'll usually find enough grit on their own. If they're kept in a coop all the time, they're going to need a supply of grit.

The following items can be used as grit:

- **Coarse sand (for chicks).**
- **Ground oyster shells.**
- **Insoluble grit.**
- **Small pebbles (for larger chickens).**

If you provide an assortment of sand and smaller pebbles, your chickens will pick and choose the pieces that are the right size.

Gathering Eggs

If everything goes as planned, most hens will start laying eggs somewhere in the 4 to 6 month range, give or take. If your hens aren't laying after 6 months, don't give up hope. Some hens decide to wait until the following spring to begin laying eggs.

Once hens begin laying, you'll get an egg per hen, on average. It's best to gather eggs twice a day, whenever possible. If you can't manage twice a day, gather them in the evening before the hens roost for the night. I have a couple hens who refuse to roost anywhere other than the nesting box and they'll poop on any eggs left in the box overnight.

Eggs are covered in a natural antibacterial coating known as **bloom**. If the eggs aren't too dirty, it's best to just brush them off with something abrasive to get rid of surface dirt and poop. If they're really dirty and you can't resist cleaning them, use slightly-warm water to wash them. Don't use cold water because it can cause the eggs to pull surface bacteria into their shell. Once the eggs are clean, they can be stored in the fridge and will last up to a month.

If you're cleaning the eggs to sell them, you need to be well-versed in your state's regulations regarding cleaning eggs for sale. Check with your local County Extension Office to find out what rules you need to follow.

Other Poultry

Once you've got the hang of raising chickens, the next logical step is to move on to other types of poultry. You can choose to raise other food birds or you can explore raising exotic birds that can be sold for a profit. **Poultry** is a broad term that refers to any domestic fowl raised for meat, eggs, feathers or work purposes.

Here are some of the more common types of poultry:

- **Turkeys.** These large birds are raised for meat. They do lay eggs, but haven't been bred to lay a lot of them and aren't raised for laying purposes. **Heritage turkeys** are breeds that are indigenous to the Americas and are prized for their meat and flavor.
- **Ducks.** These waterfowl can be bred for meat, eggs and exhibition purposes. Some duck breeds are prolific layers and will outperform chickens. Contrary to what you might think, ducks don't need a lake or a pond. A sunken trough or a kiddie pool will provide them with all the water they need.
- **Geese.** These large waterfowl are raised for meat, feathers and down and are a source of **foie gras**, which is a delicacy made from the fatty livers of ducks or geese. You can even keep a goose or two around to guard your yard, as they'll loudly warn you of any intruder's presence.
- **Quail.** There are species of quail that can be raised for eggs and meat. There are also smaller birds that are raised as pets.
- **Ostrich.** If you've got a lot of space, an ostrich or two can really liven things up. Be aware that these extremely large birds don't make good pets and can be dangerous to have around children and pets. They can be raised for eggs, meat, feathers and leather.

Goats

If you don't have room for cows, but still want to produce meat and milk on your homestead, goats might be the ticket. There are dairy and meat breeds of goat available, as well as specialty breeds like Fainting Goats that make entertaining pets. When buying goats, you're going to want to purchase at least two. They're herd animals and will raise a racket if you try to raise them on their own.

Goats like to eat and can be used to keep weed growth down on your property. They'll also mow through your garden, so you're going to want to keep them away from the plants you don't want them to eat. Goats require 2 to 4 pounds of feed a day. They can be fed alfalfa hay, pellets and/or grains. Dairy goats require 5 to 7 percent of their body weight in feed per day, as it takes a lot out of them to produce a constant supply of milk.

It takes a long time to raise baby goats to the point where a doeling will produce milk. Goats have to be bred before they'll produce milk, so you have to wait until a doeling is mature enough. If you buy a freshly-weaned doeling, you'll have to raise her for at least a year before she can be bred. Then it takes another 5 months before the babies are born and the mother will start producing milk. That's at least a year and a half before you ever see a drop of milk. Another option is to purchase an older doeling that's ready to breed or has already been bred. It'll cost you more money, but may be worth it because then you'll only be looking at 5 to 6 months before you get milk. The last option, and the most expensive, is to buy an older doe that's already producing milk. The problem with buying older does is most older does that are for sale are being sold because they're less than ideal milk producers and you'll invariably end up with someone else's problem.

When it comes to the milk, different breeds of goat can have wildly different flavors of milk. Some goat milk has a strong flavor that can be a bit off-putting to someone used to drinking cow milk. It isn't bad inasmuch as it's something different. If you've tasted goat's milk and didn't like it, the milk probably came from one of these goats. Other breeds have milk that tastes fairly close to cow's milk. Small farmers and breeders may be willing to let you taste-test the milk before you buy a goat if you ask nicely.

Goats will produce anywhere from ½ a quart of milk per day to a gallon or more, depending on the breed of the goat and whether they've recently given birth. Most does produce a lot of milk right after kidding and milk production gradually tapers off after that. A good goat will be able to produce milk for up to 10 months of the year, while a lesser-quality goat will only produce for 4 to 6 months or less.

Milk goats can be bred for meat, but you'll get less meat from them when they're butchered. A friend recently butchered a milk goat and got right around 20 pounds of meat. You can get twice that or more from a meat goat breed, but the downside is milk production will be reduced. There are goats that are bred to produce both meat and milk, but you'll have to settle for less meat and less milk than you'd get from a dedicated meat or milk goat.

Pigs

Aside from kids raising them for 4H and large-scale agricultural farming, pigs have largely disappeared from homesteads in rural America. It's too bad, really, because the pigs that are raised in commercial farming operations pale in comparison to pigs that are raised on a homestead. You haven't tried pork until you've tried pork you've raised and properly cared for.

Contrary to what most people think, pigs don't require nasty, muddy pens. In fact, pig pens are breeding grounds for disease and pigs are generally healthier when allowed to roam a pasture. Most pigs are foraging animals that can be fenced in and allowed to roam free. Make sure you have a sturdy fence because pigs are well-known escape artists and a wily pig will give Harry Houdini a run for his money. We actually had a pig we nicknamed Houdini because he was able to escape any fenced-in area we put him in.

You don't want a call from an angry neighbor who just caught your pig rooting around in his garden. Woven wire or barbed wire work equally well and it's a good idea to electrify the fence to further deter your pigs from sticking their snouts where they don't belong. Foraging pigs will have less fat and more muscle than pigs that spend their entire lives in a pen. Be aware most pig feed sold at the feed store is medicated. I've found medicated feeds are the norm and many of them aren't labeled as having medications in them. I guess they just assume people will know. You have to ask for unmedicated feed, and even then it's hard to find.

If you have a big enough area for the pigs to roam, they'll get much of what they need to eat while foraging. If you aren't sure if there's enough food for the pigs on the pasture, leave food out for them and allow them to self-feed. If they eat all of it and appear to want more, their needs probably aren't being met. If they're uninterested or only eat a little bit of the food, they've probably been gorging themselves on all the tasty treats they can find in the pasture.

Properly-fed pigs should reach a couple hundred pounds by the time they reach 6 months of age. Once they reach this wait, it's time to process them. If you have the stomach for it, you can process the pig yourself or you can take it to a processor. Expect to pay a per-pound fee as well as a slaughter fee. Larger pigs will cost upwards of a hundred dollars to have processed.

In addition to a fenced-in area, pigs require shelter from the elements. A three-sided shed with a roof will suffice as a place your pig can head when it gets too hot outside or the weather takes a turn for the worse. Leave a pig in the sun for too long and it can get a nasty sunburn. Pigs enjoy a nice, cool pool of water they can jump in to cool off when the weather turns warm. The only other items you'll need are feed and water troughs and you're ready to bring home a pig or two.

Rabbits

Rabbits are one of the few livestock animals that can be raised in pens in the city, so if you're in an area with livestock restrictions, they may be the only game in town. They're quiet and won't bother sensitive neighbors and a rabbit hutch or two won't take up much space at all.

Rabbits reproduce rapidly. Buy just one buck (male rabbit) and two does (female rabbits) and you'll soon have more meat than you know what to do with. A single doe can have 8 or more babies per litter and will have at least 2 litters per year. Does are protective of their territory, so always bring the doe to the bucks cage to be bred. Once you've bred your doe, a litter of rabbits won't be far behind. It only takes 31 days before a doe is ready to give birth.

Let rabbits nurse until the mother won't nurse them anymore and then move them into a separate cage. Fryer rabbits should be butchered when they reach 3 to 5 pounds, which takes 8 to 10 weeks. Roaster rabbits can be allowed to reach 8 pounds, but don't let them grow past the 12-week mark and they get tough.

Sheep

People keep sheep for three reasons. They either keep them for meat, wool or for weed control. Milk can be harvested from sheep, but they're rarely kept solely for that purpose. Sheep are easy animals to care for, but you're going to need to provide basic care for them.

When first getting started, make sure you buy at least a pair of sheep. They're herd animals and can't stand to be alone. They can be pastured with other species and get along well with horses and other livestock. I've even seen sheep pastured with chickens and they seemed to get along just fine.

Sheep will graze on almost anything and are known to eat weeds and plants other animals won't touch. They're prolific feeds and will roam the area in which they're kept looking for edible plants. One thing's for certain. If you keep sheep fenced in an area with lawn, you'll never have to mow the lawn again.

Make sure the fenced-area in which you keep sheep is secure because they'll quickly find small holes or gaps in the fence and make their escape. If one sheep gets out, you can almost bet the rest of them won't be too far behind and they can be a real hassle to hunt down and round up.

Make sure you select a breed of sheep that's appropriate for the climate in which you live and is accustomed to the type of pasture it'll be kept in. **Hair sheep** are raised for meat and milk. **Fine-, long- and medium-wool sheep** are raised for their wool. Fine- and long-wool sheep produce higher-quality wool and are generally more expensive than medium-wool sheep.

The biggest concern with raising sheep is the fact that they're easy prey to pretty much every predator bigger than them (and some that are smaller). Mountain lions, coyotes, wolves and even roaming dogs will make short work of sheep. To combat this, keep guardian animals like friendly dogs or donkeys nearby and keep the sheep in well-lit corrals at night that have sturdy fences.

Beekeeping

As long as you've got enough space on your homestead to keep the hives away from your house (and from your neighbors), bees can be kept as both a source of honey and a means of keeping the flowers in your garden pollinated. Basic beekeeping can be practiced anywhere there's enough blooming flowers to keep bees happy. Your garden and the gardens of all of your nearby neighbors will be healthier as a result of the bees that are out and about.

A few thriving hives will provide you with all the honey you need to supply your family and most of the neighbors. You'll probably even have enough to set up a stand at a local farmer's market to sell some for a profit. People love raw honey and good raw honey is hard to find in some areas.

Before you get started, check to see if bees are prohibited in your area or whether you need a permit to keep them. Some communities disallow the keeping of bees in a misguided attempt to keep neighbors safe. Other communities charge a nominal fee for permitting and may require an inspection of the area where they'll be kept before a permit is granted. You may be able to keep a certain number of hives before you need a permit.

The ideal spot for a new apiary is somewhere that gets plenty of sunlight, but is shaded during the hottest part of the day. Apiaries should have good air circulation and they should be in relatively dry areas. Aim the openings of the hives away from neighbor's houses and high-traffic areas of your property. If there isn't a natural water source nearby, provide a source of clean water for the bees. You don't want them finding a water source near your neighbor's house!

The best part about honeybees is, after the initial expense of the hives, buying a bee suit and purchasing bees, there's no expense for food or much by way of recurring expenses. The hive, equipment and tools you need will set you back around $200. As odd as it may seem, you can have a package containing 11,000 or so honeybees shipped directly to your doorstep for around $80. Honeybees go out and find their own food, they take care of their colony and they give you honey in return. Not too bad of a deal.

Your best bet is to start with one hive until you learn basic beekeeping and then expand to two or more hives. You might find you enjoy beekeeping and want to do it as more than a hobby.

As far as stings go, the occasional bee sting is par for the course while beekeeping. Bee suits provide protection, but they aren't completely sting proof. Double check your suit to make sure everything is zipped up and sealed correctly. Most stings come as a result of a bee working its way into a chink in the armor. The good news is bees can only sting once, so a bee getting inside the suit and stinging you isn't going to turn into multiple stings unless other bees get in there. Unless you're allergic to bee stings, the sting will hurt a bit and may swell up, but you'll be OK. If you are allergic to bee stings, you shouldn't be anywhere near an active bee hive. Choose a different hobby!

The reward for suffering the occasional sting is all the honey you need and then some. A healthy established hive can produce as much as 100 pounds of honey. You're going to need a machine known as an **extractor** to harvest the honey from the comb. This machine is costly, but they can be rented to cut down on costs.

Rainwater Collection

If you live in an area that allows it, rainwater can be collected and used for watering gardens, lawns and a number of other purposes.

This boggles the mind, but there are restrictions on rainwater collection in some states. The argument made by areas restricting the collection of rainwater is that collected rainwater doesn't make it into the streams, rivers and lakes that need it. While collecting huge amounts of rainwater in large reservoirs on your property might marginally impact the amount of rainwater that reaches these destinations, I find it hard to believe a person collecting a few barrels of rainwater a year will have any impact, especially when most rain that hits the ground either soaks into the ground or evaporates. There's also the argument to made that the collected rainwater is used *instead* of the water that's running into lakes, rivers and streams, so it might actually be conserving that water in the long run.

Some areas have banned collection of rainwater altogether, while others ban collecting it once it's hit the ground. This makes more sense, as it prevents an overzealous landowner from blocking a seasonal stream in the name of collecting rainwater. Check your local code before attempting to collect rainwater to see what restrictions are in place.

If you are able to collect rainwater, there are a number of systems you can use. Most rainwater collection systems are tied into the downspouts of your house. A large barrel or cistern is attached to the spigot and as the rainwater pours into your gutters and heads down the downspouts, it's diverted into the barrel. 600 gallons of water hit the average roof after just an inch of rainfall. You won't be able to collect all of it, but you should be able to collect enough rainwater to cover at least some of your non-potable water needs.

Collected rainwater can be used for the following tasks:

- **Landscape irrigation.** Grass, trees and decorative plants can all be watered using collected rainwater.
- **Garden irrigation.** Rainwater can be used to water your garden.
- **Livestock.** Rainwater can be used for livestock. You probably won't be able to meet all of their water needs with rainwater, but you may be able to collect enough of it to put a dent in your water bill.
- Protection from fires. Some areas harvest large amounts of rainwater and store them in tanks that can be used to put out fires in case of emergency.

Some states even allow harvesting rainwater for drinking purposes, but I'd be hesitant to go that far. Who knows what contaminants rainwater picks up while rolling down the roof?

Greywater Collection and Reuse

Greywater is water that's been used for tasks like dishwashing, laundry, sink water and showers. These tasks don't completely contaminate the water, but they do make it so you wouldn't want to drink it. Greywater doesn't include toilet water or water from a washing machine that's been used to wash diapers. Any water that comes in contact with fecal matter is considered contaminated and should be disposed of. Greywater is allowed to contain bits and pieces of hair, food, dirt, grease and even some natural household cleaning products, but chemicals are a big no-no.

Like rainwater, greywater collection is heavily regulated and some areas completely ban collection and reuse of greywater. In areas where greywater collection is allowed, the main use for it is to water gardens and landscaping. This prevents the water from being sent into the sewage systems and returns it to the soil. If you have a greywater collection system, it's important to closely monitor what goes down the drain. Only all-natural soaps and household cleaners should be used and extra care must be taken not to use products that contain chemicals like bleach and boron that will contaminate the soil in your garden.

Greywater collection systems can be simple systems that rely on gravity to collect greywater and transport it directly to the garden or they can be elaborate systems with electric pumps and all the bells and whistles. It's best to use simple gravity systems whenever possible because there's less that can go wrong and they're easy to troubleshoot and repair.

The following guidelines should be followed when setting up a greywater collection system and using it:

- **Storage of the water is bad.** The water will start to smell if stored for more than a day. Most greywater systems transport the water to the garden right after it's collected.
- Don't touch the greywater. It won't hurt your plants, but it might contain pathogens that are harmful to humans. Don't allow greywater to pool up to where other people and animals can come in contact with it.
- Install a valve that allows you to switch between collection and sending water into the sewer. If you ever have to use chemicals you don't want in your greywater, all you'll have to do is turn the valve.

Greywater is not potable and should not be consumed. You can get very sick from coming in contact with greywater if it has pathogens in it.

The End of the Book, the Beginning of Your Journey

The life of a homesteader isn't always an easy life, but it is a simple one. Homesteading takes you back to the days of old, when people were self-sufficient and often had no one to rely on but themselves. Growing and raising the food you eat, learning to preserve that food and simplifying life are the basic tenets of the homesteading lifestyle.

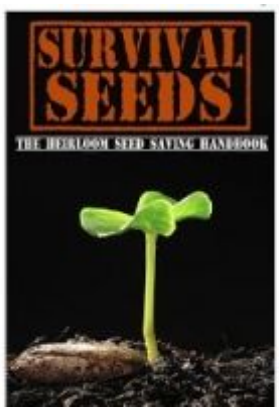
Learn homesteading and you'll learn to get by on less. You won't need as much money to live on and you'll be able to take a step back and enjoy the simple things in life. This book was designed to be a gentle first step into the world of homesteading. It's intended to provide a broad overview of many of the basic concepts of homesteading in order to allow the beginning homesteader to see what they're in for and to help them pick a starting point.

Future volumes of the "Homesteading Handbook" series will delve deeper into the finer points of the topics covered here and many other topics dear to the hearts of homesteaders. Stay tuned. This is the end of the book, but hopefully it's only the beginning of your journey.

Until next time, homesteaders…

Additional Reading

If you enjoyed this book, you might enjoy the following book about survival seeds and heirloom gardening:



http://www.amazon.com/Survival-Seeds-Heirloom-Saving-Handbook-ebook/dp/B00J2I0416/