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BECOME UNGOVERNABLE

A back-to-basics guide to
improve abundance & self-sufficiency



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Introduction

The definition of 'Homesteading' is "any dwelling with land and buildings where you make a home." Sounds simple, right? Today, homesteading is used as a term for those who try to be self-sufficient, although it is still your home.

Different Types of Homesteading

Homesteading isn't just a plot of land with a building on it; there are four different primary types of homesteading:

Apartment Homesteading

Think of a traditional homestead and then pare it down to apartment size. Homesteading is all about self-sufficiency, and you can do that in an apartment:

- Container Gardening—if you have a balcony, pop some containers out there and plant some vegetables and fruits. If your balcony is big enough, you could even have a small greenhouse.
- Small Livestock—got a big enough balcony? Ask your landlord for permission and keep a couple of hens or rabbits—fresh eggs and meat every year.

- **Preserve Food**—you don't need a ton of space to do this, just a freezer and some canning knowledge. Even if you don't grow your own food, you can buy it when it's on sale and store it for yourself.
- **Grow Herbs**—you can do this in the kitchen or on the balcony and have fresh herbs all year round.
- **Make Pantry Staples**—buy things like flour and sugar in bulk and make cookie mixes, pancake mixes, and so on. You can make your own stuffing, sauces, butter, cream, etc., with just a little bit of knowledge and getting the ingredients at the right price.

Small and Large Scale Homesteading

These are the typical homesteads, usually found in rural areas and with land to grow crops and raise livestock. Even in a small garden, you can have a greenhouse, grow vegetables, have fruit trees, raise some livestock, and more. With a larger garden, you can do it all on a much larger scale.

On a small homestead, you may not be able to grow enough food for livestock for the winter months, so you may have to purchase hay from a local farmer. A larger homestead will give you the land you need to do this yourself, and you can keep larger livestock too, including cattle as well as goats.

Urban Homesteading

Urban homesteaders have smaller gardens, usually in subdivisions, where they grow some produce, keep smaller livestock, like hens and ducks, and if they can get permission, rabbits, and goats too. All it takes is permission to do it, a creative mind, and the get-up-and-go to make it work.

Basic Homestead Steps

To start a small homestead today, there are some important things to keep in mind:

- Plan ahead—don't just get up one morning and decide to do it. You need a plan and short-term and long-term goals. Are you going to be entirely or partly self-sufficient for food? Are you going off-grid? And more. Try and do it without a plan, and you will run into trouble.
- Energy Sources—if you plan to go off-grid, pick a renewable energy source like solar, hydropower, wood, wind, and so on.
- Learn to Winterize—your home must be livable and comfortable in the winter, so learn how to winterize: cleaning gutters, cleaning woodstoves and pipes, cutting and stocking wood, caging your trees and plants to keep them safe, what to do with your livestock, and so on.
- Start Gardening—if you are going to be self-sufficient, you need to know how to garden. You can, if you do it right, keep

your produce supply going all year round. And if you grow too much, you can always sell or trade it. Learn what vegetables and fruits ripen when so you can have a year-round garden, grow herbs for cooking and medicine, and learn about crop rotation and companion planting to get the best out of your garden.

- **Have the Right Pet**—many homesteaders have a large dog, not just as a companion but for protection for you and your livestock. You can also consider cats to keep rodents and snakes down and minimize the damage done to your garden.
- **Choose your Livestock Wisely**—chickens are dead simple to keep, and you get eggs and meat from them. Rabbits are a good choice too; bred right, you get a good source of meat and fur. Geese and ducks make great homesteading pets, and if you have the time and space, a cow or two, goats, sheep, even a pig. All of these create food and other byproducts that will help you in your sustainable lifestyle.
- **Don't Neglect Tools and Weapons**—a knife is a must as it can be used for multiple jobs. Be aware that you will also need to do work around your homestead, so you will need a variety of tools: screwdrivers, saws, hammers, nails, screws, and so on. And don't forget weapons—a gun for hunting and security is a must, along with plenty of ammunition.

- Make Your Own—learn how to make basic items such as clothes, soap, candles, and so on. That way, you are not reliant on anyone else for your household goods.
- Never Waste Anything—people tend to waste food and water because it's easy to restock, but when you become self-sufficient, you can't do that. Every egg, scrap of meat, vegetable, fur, and so on must be used. Gather all the water you can, use every inch of your garden, and never let anything that can be used for something go to waste.

These are the basics. To be fair, one of the easiest ways to start being self-sufficient is to start with a small garden. You don't have to grow everything from scratch – get cuttings from others and grow things that reseed and shoot up extras every year, multiplying your crops easily. Here are some examples:

- Raspberries—these fruit bushes send new shoots up yearly. With just one plant, you could soon have a whole row, although you will need to cull the older ones within a few years.
- Strawberries—these send out runners which root themselves, growing new plants. Do be aware, though, that the more runners your plants send out, the less likely you are to have much fruit, so do cut some out, or replot them and sell/swap them.

- Willow trees—if these grow in your area, simply snip off a baby branch, put in water, and wait for the roots to sprout. It won't take long to get a few trees going like that.
- Quaking aspens—these are constantly dropping babies and multiplying all over the place.
- Potatoes—if you bought a sack of spuds and didn't eat them all, leave them to grow shoots and then pop them in some dirt. You can even grow these in tubs indoors, so long as they get natural light and don't freeze.
- Herbs—most herbs are simple to grow and require nothing more than digging a bit of the plant up and popping it in another patch of dirt.

Is Your Land Suitable for Homesteading?

There is also no need to shun technology and the realities of modern life. In fact, you should embrace the same because it will allow you to be a better homesteader. For example, you can use new and improved farming techniques like hydroponics (planting in nutrient-rich water), vertical gardening, solar power, methane gas storage and converter, etc. Remember, the primary goal of a homesteader is to live off the land and to be as self-sufficient as possible. It is not a lifestyle where you cut yourself off from people or need to be 100% autonomous.

Homesteading is a lifestyle choice. In the back of your head, you might be thinking “I’ll just half-ass it anyway I might end up dropping the whole project after several months.” Please stop and think about it, taking a week or two to formulate a proper plan isn’t going to cost you much. On the contrary, it might end up saving you a lot. You should think of what will happen if you really decide to get serious and realize, you just wasted your hard-earned money on something stupid. This can be anything from a poorly made solar panel, a poorly constructed catchment tank, or even several acres of land that is facing the wrong way.

Land Area

Land area and location are arguably the most important part of homesteading. This is because the size and location of your land determine in large part how effective a homesteader you can be and what type of crops you plant. There are also numerous considerations that have to be ironed out before buying a piece of land, or before you decide to use a piece of land that you already own. Simply put, this is the most basic of basics! In some cases, it would be cheaper to buy another or adjoining piece of land than to stubbornly try to develop one you already own. However, there are also cases where you can slow things down and enjoy the development of the virgin ground.

The popular misconception is that you need a large tract of land, say several acres, to be an effective homesteader. While this is true for hardcore homesteaders; it is not a cardinal rule for all. Yes, 12 or more acres of land to cultivate crops, veggies, fruits, trees, and herd cattle, chicken, pork, fish, etc., is a very big plus. But some homesteaders can do with 2 acres and still realistically become effective and independent. There have even been instances where 1 acre was enough, provided you make use of cutting edge cultivating and breeding techniques i.e., vertical gardens, selective breeding, etc.

Land Not Suitable for Homesteading

If you live in a condominium in the city, homesteading is not realistic. Even if you live in an apartment complex with a couple of hundred square meters of potable land, it still does not qualify you as a homesteader. At best you are a recreational/hobby/home gardener.

Minimum Requirements for a Homestead

As mentioned earlier, you need at least 2 acres or roughly 4/5 hectares of land suitable for planting. It would be best if you buy land someplace where adjoining lands are for sale or at least owners are amenable to hear an offer to buy, just in case you decide to expand. You need to have the necessary permits or are allowed to get the necessary permits whenever necessary. There are also concerns specific to homestead lands that you won't think to consider when buying a residential plot of land. As a general rule, homestead considerations and requirements include:

- **Contract of Sale:** are you buying from the absolute owner? Check the original certificate of title to make sure there are no disputes on the same. Ask your potential neighbors as well. Do it in person. Don't rely solely on your real estate agent or say so to the seller.

- Designated farmland: This allows you to plant and raise livestock, without violating any laws, regulations or ordinances. If you are buying forest/mountain land, make sure you are allowed to convert the same into farmland; know the restrictions; and who owns the timber, etc.
- Renewable source of water: i.e., stream, river, lake, underground water reserves, nearby to aid you in irrigating your land. By the way, you should be familiar with water rights laws in the area you want to establish a homestead in. For example, in Utah, you need a permit to collect rainwater.
- Drainage permit: Where does the water naturally drain towards? Are you allowed to drain there? Remember, a homestead not only drains clean water but also liquefied manure and wastewater. How much will it take to reroute natural drainage?
- Sewerage permit: if you want to keep livestock and, of course, live on your homestead i.e., herding pens, outhouses, etc.
- Soil suitable for planting crops. This means no excessive clay-type soil. Of course, you have the option to fertilize and dump richer topsoil, but this is only a last resort, for the land you inherited or already own.
- Sunlight is key. You want a plot of land, with direct access to the southern skies and gets at least 6 hours of direct sunlight.

- Flatlands: you want a land that is relatively flat with a slope that does not exceed 10 degrees. Anything higher and it very expensive to flatten and/or will limit the type of plants you can grow.
- Temperature is also an issue. At the very least you want a majority of the months to be sunny within 20 to 32 degrees Celsius.
- Property Access Rights: you need a suitable place to go to and from the land, without it, even the best land is unsuitable. The operative word is suitable. This is because, what is allowed you by law via right of way, might not be suitable for your needs.
- Who owns what: as a general rule, you have ownership, possession and enjoyment of everything found on top, above and below? However, there are several exceptions. Who owns mineral rights, who owns the timber, who owns the rainwater, who can access the waterways, are there limitations on easements and rights of way? If you do not consider these now you might get screwed later. For example, if the state owns mineral rights such as coal, you might end up having your entire homestead bulldozed and dug for a minimal recompense subjecting you to huge losses.
- Existing Utility: are there electric lines, water lines, gas, etc. from which you can get access to utilities. For example, an

electric company won't put up an entire network of lines just to provide 1 or two land owners' power. In other words, there are instances where they can refuse to provide you with utilities at their own expense if the same is too far or too costly.

- **Forces of Nature:** as much as possible avoid land areas within fault lines, tornado alleys, sinkhole havens, etc. Make sure to check for local wildlife so you know who you are sharing your land with i.e., bears, alligators, crocodiles, wolves, etc.
- **Community Matters:** how's the community in general? You want to make sure that you and your plan to create a homestead farm are accepted by the community. Be realistic. For example, you don't want to buy the perfect plot of land in the middle of nowhere, if you are African American, and your initial trip to the community was hostile, smelling like white power. Yes, it is within your rights to do so, but do you really want to take the risk, in the middle of nowhere?

Site Inspection

Never close a deal without personally inspecting the land! Don't just go where the realtor guides you. Be ready to inspect the totality of the land, get to know adjoining landowners, the community, and determine if there are any pollutants that could ruin you i.e., waste disposal sites, factories, plants, etc. Also, make

sure there are no endangered species on your land, or you might just find your lot being sequestered by the government or at least your use will be severely limited. Bring your own surveyor and geological expert.

Is it Suitable for Your Purposes?

What are you going to plant? A steady slope may seem picturesque, but you aren't going to plant grapes on the whole property! You want to plant crops and vegetables, raise livestock, etc. Perform a soil test, water ph test, and drainage test to determine what types of plant you can grow. Look up the weather registry for the town to see the daily weather conditions for the past several years.

Work with What You've Got

I suggest that you minimize the impact of your homestead on the natural ecology and topography. True, if you bought mountain and/or forest land, you will need to cut lots of timber. But try to leave as much as you can especially the older and bigger ones. Keep the trees bordering your land and as natural markers. You can also utilize trees to reinforce the soil, especially when the land slopes down in ridges, and near rivers. Have a general plan that is useful and picturesque. For example, leaving that old elm tree may lose you around 30 square feet of tillable soil but it can serve

as a very useful shade while you are farming in the middle of your land.

Brand New or Used Soil

This is a very important consideration when determining the size of your homestead. Has your land been used for growing crops or has it lain dormant for years? In the case of the former, you will have to consider fertilizing and resting the soil. Some farmers use half and the rest half of the land so they can alternate every couple of years. If it's relatively virgin ground, you can initially plant the whole breadth of the land, but after a season, you should rest half of your land. By doing so, after the first season, you have a larger bumper crop to sell and barter for farm animals. In the second season, the land you are resting can serve as grazing grounds for cattle, pigs, poultry, etc.

Prepare the Land

Starting a homestead is exciting, but it's important to lay some groundwork before you jump in. This helps you create a plan for your property so you can visualize your projects and determine the most efficient use of your space. You'll also learn about soil type, growing zones, and seasons, all of which affect what you can raise on your homestead. These strategies and tips will help you make the most of what your backyard has to offer, and they will help you customize a plan to fit your needs.

Map Out Your Homestead

Planning your homestead on paper can help you prevent costly mistakes. If you map out your existing property features and growing conditions, it will be easier to determine which projects will fit. First, draw your property on graph paper. Check online for an aerial view or request a copy of your plat map, which shows the size and shape of your land, from the county assessor's office. If you can't find this information, measure your lot lines, mark the direction of north, note the scale, and sketch out the following features:

- House, patio, sidewalk, and driveway

- Sheds and other outbuildings
- Existing landscape features (trees, gardens, shrubbery)
- Property lines
- Septic field
- Utility lines (underground and aboveground)

Once your map is complete, lay a sheet of tracing paper on top. Sketch out projects that interest you, taking care to plan around utility lines and septic fields. Make several drawings, moving features around to see how well the layout works.

Your homestead plans may change significantly as you read through the rest of the book. It's better to start out small and add more features later, but the map will give you a much better idea of what will fit on your land.

Learn More About Your Soil

Before you start planting crops, it's important to learn about your soil, which has a significant impact on crop growth. You need to understand your soil's health, texture, and pH to ensure successful harvests, particularly if you're thinking about investing in picky crops like blueberries and cherries. It's common to find several soil conditions on your property. Note the soil types on your homestead map for future reference.

Soil Texture

To start, dig a hole in each garden area that's 12 inches deep and 12 inches wide. Examine the soil for worm tunnels and rotting plants. Soil that contains signs of life is healthiest for plant growth. There are three main types of soil: clay, silt, and sand. Soil texture affects water drainage and available nutrients. Follow these steps to determine your soil texture:

- Gather a handful of soil a few inches below the turf.
- Remove any stones or debris.
- Add some water and work the soil until it sticks to your hands.
- Try to roll the soil into a ball. Sandy soil won't form a ball easily, whereas clay rolls into a smooth ball. Press the soil between your fingers and assess whether it is sticky (clay), silky (silt), or gritty (sandy).

Troubleshooting Tip: Sandy soil doesn't hold nutrients or moisture, and heavy clay soil retains water too long. To find out how well your soil drains, fill the hole with water. Allow it to drain overnight, then fill with water again. Use a yardstick to check the water levels every hour. If the water drains at a rate of 1 to 3 inches per hour, most plants will grow well. If the water drains faster or slower, you will need to amend the soil with compost.

Soil pH

On the pH scale, 0.0 is acid, 14.0 is alkaline, and 7.0 is neutral. Most plants need soil with a pH of 5.5 to 6.5, which is slightly acidic. If your soil has a pH outside this range, you will need to amend it. You can purchase a reusable pH meter or a soil test kit from a garden center or online. The kit should contain tables for lime and sulfur application rates. Alternatively, your local Cooperative Extension Service office will likely perform a pH test for a minimal fee. Expect your pH test to run between \$7 and \$14, or you can pay a bit more for the reusable meter.

Understand Your Zone and Seasons

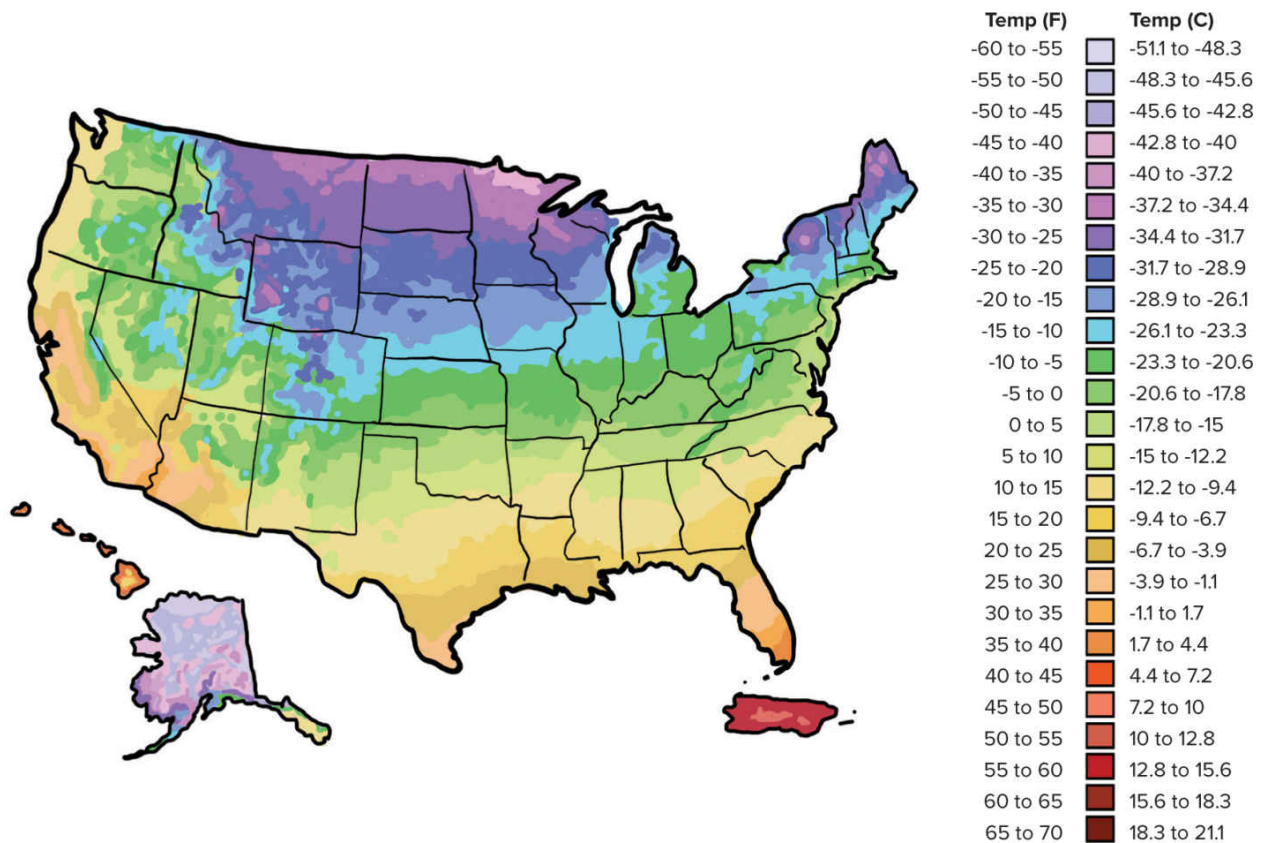
It's important to familiarize yourself with your climate and conditions. Your growing zone and seasons will determine which crops will survive and produce a harvest on your homestead, as well as the best times for seeding and harvesting. You're probably aware that citrus fruits won't survive in northern climates and apple trees won't fruit without cold weather. Additionally, the average date of your last frost in spring will guide your planting dates for a successful harvest.

Zone

Take a look at the USDA Plant Hardiness Zone Map for more information about your growing zone. It outlines the 26 growing

zones in the United States and notes each zone's average minimum temperatures. Use the map to guide your choice of trees, shrubs, and perennials.

When planning for fruit trees, berry bushes, and other perennial plants, look for varieties that thrive in your area. Reputable nurseries list the hardiness zones for each plant they sell. Don't try to cheat a plant's requirements. If you live in zone 4, a tree hardy to zone 5 won't survive a hard winter.



Seasons

It's important to know the average date of your last frost in spring and first frost in autumn. Use an online frost date search, such as freeze/frost data from the National Oceanic and Atmospheric

Administration climate normal. This information will help you decide when to plant tender crops and gives you an idea of how long your growing season lasts. Keep in mind these dates are averages, and you could experience frosts later or earlier than those listed.

Check for microclimates, that is, places on your property where conditions are warmer or colder than normal. Tender plants may grow well along south-facing walls, so note these areas on your map. Also, mark any low-lying or exposed areas where hardier plants will survive best.

Seasonal changes in temperature and rainfall can be challenging for gardeners. In southern areas, summer heat presents problems, just as cold winters do in the north. Southern gardeners may plant cool-season crops in fall and main crops in late winter to harvest before summer heat sets in. In northern zones, cool-season crops are planted early and main crops go in the ground after the frosts.

Plan to extend your harvests with cold frames in the north and shade in southern summers. Check with your local Cooperative Extension Service office for a wealth of information on common pests and diseases, as well as the best crops and varieties for your area.

Assess Your Space

It's exciting to dream about raising your own vegetables, fruits, and laying hens. You probably want to dig right in and grow all of your own food. But just how much can you produce on your homestead?

There's no easy answer to this question. Your projects depend on your local ordinances, growing conditions, time constraints, and budget. But there are a variety of ways to increase the abundance of your land. As you gain experience, you'll find that each year brings new challenges and opportunities to your homestead.

Let's get a general idea of what's possible. Your projects will depend on the nuances of your property. An average lot in the United States is about a quarter acre, and the home, driveway, and patio take up 2,200 to 3,000 square feet. This leaves roughly 8,000 square feet for raising crops and livestock, although you have to account for paths, play areas, and utilities.

With an average backyard on a quarter acre, you have the potential to raise quite a few fruits, vegetables, and herbs, as well as chickens for meat and eggs, bees for honey, goats for milk, grains for flour and livestock feed, and a couple of turkeys for the holidays.

Each gets into more depth concerning the average harvest size and space needed. For the purpose of estimating your potential homestead projects on a sunny quarter-acre lot with decent soil, take a look at our sample harvest plan.

Of course, each property is unique. For example, urban homesteaders might raise bees on a rooftop, keep two or three hens, and grow vegetables and herbs in containers on a balcony. Prioritize the most productive projects and add others as you gain experience. In rural areas, you might raise pigs, scale up your grain plantings, and tend a market garden. Read through the rest of the book to get a feel for what you can grow.

Here are some things to keep in mind as you estimate the size of your potential harvest:

- Local ordinances. Check these before you begin. Some areas allow chickens and gardens but prohibit larger animals, even on rural properties. Activities such as processing meat animals or composting may be restricted.
- Your property's limitations. Shade, lack of irrigation, poor soil, and short seasons can impact your growing space. Keep in mind that growing intensively creates the potential for disease and pest problems. For each action plan you create, take the time to research potential issues and plan for treatments.

- Labor. Be mindful of the labor necessary for each homesteading project. Take advantage of time-saving methods in the garden, such as mulching and drip irrigation. Remember that livestock requires daily care. Feeding, cleaning stalls, and milking regularly are crucial for the health of the animals.
- Financial investment. Almost every project you undertake will also require an initial cash investment. A few chicks are cheap, but the cost of caring for them adds up. And, of course, the larger the livestock, the more food they consume. It can be expensive to invest in livestock, pay vet bills, and provide grain, hay, and bedding.

Sample Backyard Harvest Plan (Sunny Quarter-Acre Lot)



LEGEND

1. 6 to 12 egg-laying hens, 42 to 120 sq. ft. minimum, 1,200 to 3,600 eggs per year.
2. 25 meat chickens, 50 sq. ft. minimum, 125 pounds of meat in 7 to 8 weeks.
3. 2 turkeys, 10 sq. ft. minimum, 30 to 50 pounds of meat in 5 to 6 months.
4. 2 beehives, 4 sq. ft. (plus room to access the hive), 80 to 120 pounds of honey per year.
5. 2 Nigerian dwarf milk goats, 70 sq. ft., 180 gallons of milk per year.
6. Field corn, 800 sq. ft., 2 to 3 bushels per year.
7. Vegetables, 480 to 960 sq. ft., 300 to 2,500 pounds per year.
8. Herbs, 40 to 80 sq. ft., 10 to 40 pounds per year.
9. 4 to 6 dwarf fruit trees, 200 to 600 sq. ft., 8 to 24 bushels per year.
10. 2 to 4 small nut trees, 200 to 1,200 sq. ft., 25 to 80 pounds per year.

Maximize Your Space

With careful planning and efficient use of space, you can raise a great deal of food from your homestead. Each helps you choose the crops and animals that produce the best harvests for your space and needs. Maximize harvests on your homestead with these techniques:

- Use raised beds. Growing vegetables, herbs, and small fruits in raised beds allow you to get a jump start in spring and raise crops in areas with poor drainage.
- Use square-foot gardening. Grow up to twice the harvest with a square-foot garden instead of a traditional row garden.
- Use succession planting. Sow seeds in succession to harvest up to three times the amount of food from one bed. Early greens may be harvested in a month or so. As you harvest spring salads, replace these crops with peppers, tomatoes, or basil. As fall draws near, plant another round of cool-season vegetables.
- Grow vertically and in containers. Use a trellis to grow vines, such as cucumbers, in less than half the space. Container growing allows you to raise food on a patio or even a balcony.

- Improve your soil with composting. Set up a composting system to create rich, black soil for improved soil health and plant growth. With increased nutrients in the soil, you can plant vegetables intensively to crowd out weeds.
- Consider raising small livestock. Chickens, rabbits, dwarf goats, and bees may be great choices for homesteaders in a small space. A variety of small livestock can increase your land's production with milk, eggs, honey, and meat while increasing soil fertility with composted manure.

As you develop your homestead plans, allow space for rotating crops and pastures to reduce parasites, disease, and pests. After you harvest, allow chickens or pigs to forage for pests while turning and fertilizing the soil.

Plan to Diversify

Whether you're looking to increase self-reliance or make a side income from your homestead, it's crucial to diversify your harvests. This ensures you'll have food or income even if one project fails.

As you choose your crops, livestock, and products, think about the seasons in which they'll produce and how long the harvest will last. Plan for production over an extended period of time. Consider how to extend your season or preserve extras for later. Select plants and livestock that supply food or sales all year.

Here are some common crops and livestock and when they produce food in a temperate growing zone:

- Cool-season vegetables. Peas, lettuce, broccoli, and other crops are harvested in spring and fall. Use cold frames to extend the season into winter.
- Warm-season vegetables. Tomatoes, beans, sweet corn, and many other crops are harvested in summer and fall. Plant after all chance of frost.
- Herbs. Plant basil, savory, and sage in the garden for summer harvest or indoors in containers for winter use.
- Grains. Oats, wheat, and field corn are harvested in summer and fall and stored well for winter use.
- Roots and storage crops. Plant carrots, potatoes, winter squash, and other good keepers for fall harvest and winter storage in a root cellar.
- Poultry for meat and eggs. Hens will lay eggs all year with supplemental light in winter. Harvest old hens and raise broilers for meat all year.
- Goats. You can breed two goats at different times for year-round milk production.
- Rabbits. A breeding trio of rabbits provides meat all year.
- Fruits and nuts. Raise these for summer and fall harvests and preserve them for winter.

Spring through fall are the most productive seasons on a homestead, but you can extend your seasons and preserve the harvest to last all year with planning.

Growing Food in a Sustainable Way

Although $\frac{1}{4}$ acre is a reasonable size garden it may be challenging to fit everything in. This will depend upon your design for your garden. In fact, at this stage, you must see your backyard as a blank canvas. Even if there are already plants in the garden it is possible to move them or even eliminate them in order to create the right space for your needs. Planning the garden will allow you to visualize what your backyard will ultimately look like and make the most of every bit of available space. The following planning tips should help:

Growing Food



The first question you will need to ask yourself is are you hoping to grow food? If this is a yes then you will need to consider which crops are most beneficial to you. There are many different ones which can be grown but you should focus on those which you enjoy eating. You will also need to decide if you intend to grow more than you need and sell any on. Considering the size of your backyard this is not necessarily a good idea.

If edible produce is high on your agenda, then you will need to consider which part of your yard is going to be dedicated to them. You can opt to turn the entire backyard into a vegetable garden which will provide you with a good quantity of vegetables. It is worth noting that some products can be grown earlier in the year and others later; providing there are enough nutrients in the soil

you can turn the soil after removing your first crop and plant a second.

It is also worth considering raising the beds as this will reduce the strain on your back and can protect some plants.

Canning and Preserving Methods

So, you just harvested your favorite fruits from the garden, and you want to enjoy them for a very long time. Canning is the answer! Just as the name suggests, canning is a process of putting food in cans and heating them at extremely high temperatures enough to kill all micro-organisms. This way, your food will not be spoiled.

The canning process involves sealing the can so that it's airtight, leaving the environment inside the jar similar to a vacuum. The reason for doing this is to prevent any possible route for contamination.

Canning Methods

Typically, canning can be achieved using two methods:

- Hot water canning—This is a method used to preserve foods that have a high acid content. Acidity can either be natural or man-made. The best part about acidic foods is that they can naturally prevent microbial growth.
- Pressure canning—If you wonder how to preserve foods that are not acidic enough, this would be the most appropriate method. Using high pressure to can foods goes a

long way in preventing the growth of botulism. Using pressure ensures that low acid foods get to optimal temperatures enough to kill botulism.

Importance of Canning Foods

Most people ask me the importance of canning food.

Well, aside from the fact that canning food is safe, it is also the most economical method of food preservation. You don't need to buy commercially canned foods when you are able to can your farm product at the comfort of your home—not to mention the fact that canning foods at home can be such a fulfilling experience for the entire family.

As soon as you harvest your produce, most of them tend to lose their vitamins by nearly 50% within a couple of days. The best way to preserve the nutrients is to cool or preserve them.

So, does it mean that canning will preserve the vitamins?

Canning tends to destroy a third of the vitamins—especially Vitamins A and C. This happens during the heating process. The vitamins are further destroyed by another 25% once they have been canned. However, this tends to happen when you harvest your produce and fail to can them immediately. Canning soon after harvesting helps preserve the nutritional value of your foods.

Think about it—how many times have you canned foods? If you have, then have you ever ended up with bad-quality canned products? What do you think was the problem?

The chances are that you started with poor quality products or did not store them in airtight containers. These mistakes often cause the nutrients in your food to deteriorate, along with the quality of its flavors, texture, and color.

So, how does canning preserve food?

The reason most veggies and fruits are highly perishable is their high-water content. This promotes the growth of harmful microbes, triggers enzymatic action, oxidation, and loss of water. To ensure that the canning process is successful, start with high-quality produce. Select the fruits and veggies that are without blemish and well-ripened—but not OVER-ripened. Wash them well, peel, pack them hot, add acids, and ensure that you place them in the right containers. When the containers are airtight, they create a vacuum that keeps air from getting in, keeping the food free of microbial activity.

Supplies Needed for Canning

Boiling Water Bath Canner

Ensure that this canner has a lid—and it must be made of either porcelain-covered steel or aluminum. While these materials are

costly, they are also durable. This is especially critical when canning foods with high acidic content.

Often, these canners have a flat bottom, which offers even heating. However, there are some with ridged bottoms. Check that the diameter is at least twice that of the burner.

A Removable Rack for the Boiling Water Canner

The best racks are those that are made of a molded wire rack or wood. The whole point of this rack is to ensure that jars are held up because the last thing you want is to heat the content directly. It is also designed to separate the jars, keeping them from hitting each other during the process. If you are worried that the jars might hit each other during processing, wrap each with a towel to minimize breakage. For even processing, make sure the rack allows for the free flow of water around and below the jars.

So, what if you don't have a canner?

In that case, you can use any available pot as long as it is large enough to hold your product and has a lid.

Pressure Canner

As mentioned earlier, pressure canners are best for processing foods with low acid content. This doesn't mean you cannot use them to process high acid foods. The only downside is that it takes a very long time to complete the processing. The easiest and most

popular method is the boiling water bath method, which is shorter and more straightforward.

Pet-Cock

A pet-cock is a heavy pot with a lid with a safety fuse and a weighted gauge that helps regulate pressure in the canner during processing. This gauge jiggles a couple of times within a minute to ensure that the pressure within the pot is right. During processing, the vent is closed to allow pressure to build up within. On the other hand, the vent is designed to allow steam to leave the pot.

The last thing you want during processing is for the pressure to escape. In that case, you need a pressure regulator to seal off the vent port so that pressure keeps building inside the pot. You can measure the pressure on the dial gauge and adjust where need be. That said, you must recalibrate the dial gauge annually to ensure that it is working accurately.

Overpressure Plug

Think about it—supposing the vent pipe was clogged and unable to give off steam as required? This is where the overpressure plug comes in—to automatically pop and release built-up steam from the pot during processing.

Locking Bracket

This is found inside the canner. It is termed lock because when the vent tube rises on the cover, it engages with the bracket creating a lock. Unless the pressure is completely released, you cannot open the canner.

That said, some canners come with an extra lock to help release pressure build-up. Think of it as a visual indicator that pressure in the canner is building up.

Sealing Gasket

Around the edge of every canner, you will likely encounter a gasket—usually made of rubber. The role of the sealing gasket is to prevent leakage of steam, hence holding the lid tightly in place and preventing pressure escape.

Pressure Canner Rack

These racks are often stainless steel, but some canners come with a wire rack similar to that in a boiling water bath canner. They are perforated to allow for easy flow of water below and around the jars. It is placed at the bottom of the canner to hold the jars in place.

Considering that every canner comes with a unique set of instructions for proper operations, be sure that you fully understand how your chosen canning equipment works.

Canning Jars

The best is those designed for home canning. They come in varying sizes and shapes—with the most popular size being half-pint and pint—and work perfectly with most standard canners.

Canning jars come with regular or wide mouths. When canning larger fruits and veggies, it is best to use wide-mouth jars. That said, you must always check the instructions on your recipes to know the right size of jars to use. While you can use the canning jars repeatedly, ensure that they don't have cracks on them to avoid the risk of breakage and loss of produce during processing.

Canning Tongs

Remember, when canning, you are working with very high temperatures. In that case, you want to avoid burning yourself when removing the jars from the canner. Tongs are the answer!

Rings and Lids

If you already have the jars, look at the underside of the lid—what do you see? You are likely to see outer edges with a sealing compound that softens during processing and tightly holds the jar when it is cooled. This lid sits inside the screw ring that screws on over the lid, holding it securely to the jar. If you try opening the lid and the ring doesn't come off with ease, don't force it, as you run

the risk of breaking the seal. Instead, run the screw ring and lid under warm water or soak them both for an easier release.

I love the rings because you can reuse them as many times as you like because they don't easily rust. However, if you notice even the slightest sign of rusting, toss it away into the trash. Unlike the rings, you cannot reuse the lids.

Canning Funnel

This important piece of equipment helps you add food to the jars without spilling it on the rim. Its shape and material—stainless steel—allow it to fit perfectly either on or inside a wide-mouth jar.

Timer

To accurately set the processing times, you need a timer. You can have a standalone timer or use the one already installed on your stove. To be doubly sure, make a note of the time with your watch or wall-clock to ensure you don't undercook or overcook your canned goods.

Strainers

There are two kinds of strainers you can use: chinois and jelly strainers. To remove the skin and seeds from your produce, you need a chinois strainer or a regular sieve. However, if you are preparing jellies and sauces, a jelly strainer will do the trick. They

come with a fine mesh to strain out excess materials, leaving a clear mixture, as well as a nylon filter bag to hold it.

Tea Towel

Once you are done processing your foods, you need to remove the jars from the canner to cool. One option is to set the jars on a cooling rack, and the other alternative is to set them on a tea towel. Whichever option you choose, ensure that the jars are set with space in between to allow for proper air circulation, hence faster cooling. Use a clean towel to dry the jars before placing a lid on them and storing them appropriately.

Steps on How to Can Fruit

Step #1 Start by Preparing Your Canning Containers and Fruits

Think about how much produce you intend on canning so you know how many storage containers you will need. Wash the fruits in cold water and allow them to completely dry. Only go for fruits that are perfectly ripe and fresh. Depending on the type of fruit you intend to can, peel and deseed where appropriate. Alternatively, you can put the fruits (like peaches) in hot water and easily peel off the skin before canning. Slice the fruits like you would when prepping them for eating. Remember, you can preserve non-sugary fruits with sugar syrup.

Next, wash and sterilize all the jars in hot water or using a dishwasher. Check that all jars are not cracked to avoid breakage during processing.

Step #2 Fill the Cans and Seal

Once your fruits and canning jars are ready, put the fruit into the jars. To make it easy, I recommend using a wide-neck funnel to prevent the syrup from running over the sides. Only fill the jars to three-quarters, leaving the other quarter at the top to take care of expansion during processing.

Check that you don't create air bubbles in the process of filling the canning jars. If you notice any air bubbles, simply use a toothpick to get rid of them. Once everything is set in place, screw on the lids, ensuring that they are secure. Making the lids too tight tends to prevent the escape of air.

Step #3 Can

Again, it is important to familiarize yourself with the instruction manual that comes with your pressure canner. Once you have read it carefully, place the canned fruit inside it and add water to cover all jars. Close the lid and turn up the heat.

Soon, the pressure will start building inside, and you must keep a close eye on it. Make use of the heat controls on your stove to regulate the pressure. Typically, the process takes 20-30 minutes.

Once this is complete, turn off the heat on your stove and allow the canner to cool down. Remember, the water inside is very hot, so when removing the lid, be sure to tilt it away from you to avoid having your face steam-burned!

Once the pressure gauge reads zero, carefully open the lid and use tongs to remove the jars from the canner and place them on a tea towel. Allow them to sit there overnight. Gently push down the lids on your canning jar to ensure that proper seals formed during the process. If a lid pops after pressing, it means the seal did not form well. For those that don't pop back up, it means the seal formed properly; you can store them appropriately. However, if the seals did not form well, simply put them in the refrigerator for consumption or pop them in the freezer for later use.

How to Can Your Veggies

Step #1 Prepare the Veggies and Jars

Just like we did with the fruits above, you will need to get a few canning jars for your veggies. Thoroughly wash the containers and lids using hot water and soap. Then sterilize the jars with hot water or use a dishwasher. Check that all jars are not cracked to avoid breakage during processing.

Secondly, gather all your veggies ready for canning. You must only can veggies that are fresh and intact. If you just harvested the

veggies from the garden, inspect them for signs of damage and only choose that are in good condition for canning. Then depending on the type of veggies, prepare them like you would when preparing them for cooking—like cutting off the stem and damaged parts, peeling, slicing, washing, etc. Chop the veggies to your taste and preference. Add in any preservatives you want and follow your canning recipe carefully to get everything right.

Step #2 Fill the Jars with Veggies and Seal

Once your veggies are washed and drained, and the canning containers are properly washed, sterilized, and dry, fill them with your produce. Like in the case of fruits, only fill the jars three-quarters of the way, leaving the other quarter at the top to take care of expansion during processing.

Check that you don't create air bubbles in the process of filling the canning jars. If you notice any air bubbles, simply use a toothpick to get rid of them. Once everything is set in place, screw on the lids and make sure they are secure.

Step #3 Can Your Veggies

Place the canned veggies inside the canner and add water such that all jars are entirely covered by water. Close the canner lid and turn up the heat. Soon, the pressure will start building inside, and you must keep a close eye on it. Remember to follow your

manufacturer's instructions strictly and carefully on how to operate your canner.

Make use of the heat controls on your stove to regulate the pressure. Typically, the process takes 10-15 minutes. Once this is complete, turn off the heat on your stove and allow the canner to cool down. Remember, the water inside is very hot, so tilt the lid away from your face to avoid any potential injuries/burns.

Once the pressure gauge reads zero (or the lock-cock drops), carefully open the lid and use tongs to remove the jars from the canner and place them on a tea towel. Allow them to sit there overnight. Gently push down the lids on your canning jar to ensure that proper seals formed during the process. If a lid pops after pressing, it means the seal did not form well. For those that don't pop back up, it means the seal formed properly; you can go ahead and store them appropriately. However, if the seals did not form well, simply put them in the refrigerator for consumption or place them in the freezer for later use.

How to Store Canned Foods?

Once you have your canned jars properly cooled, wipe them clean to eliminate any food residue on the surface.

How will you know when the food was canned and what it is?

This is where labeling comes in handy. Ensure that your canned food is labeled with the date of preparation and what it is. Then store your canned food in a cool and dry place away from direct sunlight. Keeping food in hot spaces or in direct sunlight tends to deteriorate its quality in a few months, if not weeks. The last thing you want is your years of hard work planting in the garden and canning to go down the drain.

Also, ensure that jars are stored in humid-free spaces to avoid corrosion of metal lids, breaking the seal, and even causing contamination of your food. You can also freeze the canned food as long as the seals remain intact and free from contamination.

Be careful not to freeze-thaw your jars severally because you risk softening the food and causing its quality to drop significantly. If you must freeze them, wrap a piece of towel or blanket around individual jars before storage.

How to identify and handle spoiled canned foods

We cannot emphasize enough the importance of examining your jars before canning your foods and after the canning process is complete. If your canned foods are contaminated with yeast or bacteria, there will be pressure buildup inside the jars, causing the lids to swell up, potentially breaking the seals. To check for good seals, check the center of the lids for a concave shape. Also,

check the outer parts of the jars for signs of foods that might be coming from the mouth of the jars.

Gently rotate the jars to check for signs of bubbles and abnormal color change. When opening the jar for use, ensure that the smell is right. If you smell any unnatural odor, check for signs of molding on the surface of the food, lid, or even below the jar.

Should you taste the food to check for contamination?

No!

Suppose you suspect that a container is contaminated. In that case, you must treat it as a danger—especially if you are dealing with foods with a low acid content because they are susceptible to botulinum poisoning. Slowly remove the contaminated jar and sterilize the whole jar, lid, and its content. Also, check other jars in that batch for any signs of contamination.

So, what is the process of detoxification in case there is contamination?

Prepare water in a boiling water can. Set the jars suspected to have contamination inside the canner such that the jars are completely submerged with an inch of water above them. Ensure that you are working carefully not to splash the water around and risk spreading the contamination. Cover the pot and bring the water to a boil. Let the canner's contents boil for at least 30

minutes to allow for all contaminants to be completely detoxified. Turn off the heat and allow the pot to cool down before opening the lid. If possible, wear a mask around your nose throughout the detoxification process to avoid inhaling spores. Discard all contents of the pot in the trash or bury them under the soil.

After that, clean all the counters, jars, equipment, and other things that might have been contaminated during the process. Use 70% alcohol for the surfaces. Wash your hands thoroughly with water and soap, and rinse using clean water. Once you are done, discard all the washcloths and sponges you might have used in the cleaning process by wrapping them in a plastic bag before putting them in the trash.

Water Systems

Many factors will affect the type of water system that you choose to use. You must consider the type of property you own, the average rainfall in your area, and the natural water sources available (or not) on your land. If you're buying a property, it will be important to find out what sort of water resources exist on the property through the seller/real estate agent as well as your own testing and research.

Your household's average water consumption and budget will also influence your choices. Keep in mind that having a garden or livestock will increase your water consumption; if your budget is tight, learning to reduce water usage where can be very helpful in keeping water costs low. It's a good idea to have multiple water supplies in the event that one fails, especially if living off the grid. Below are some of the most common water systems that homesteaders use:

City Water ("On the Grid")

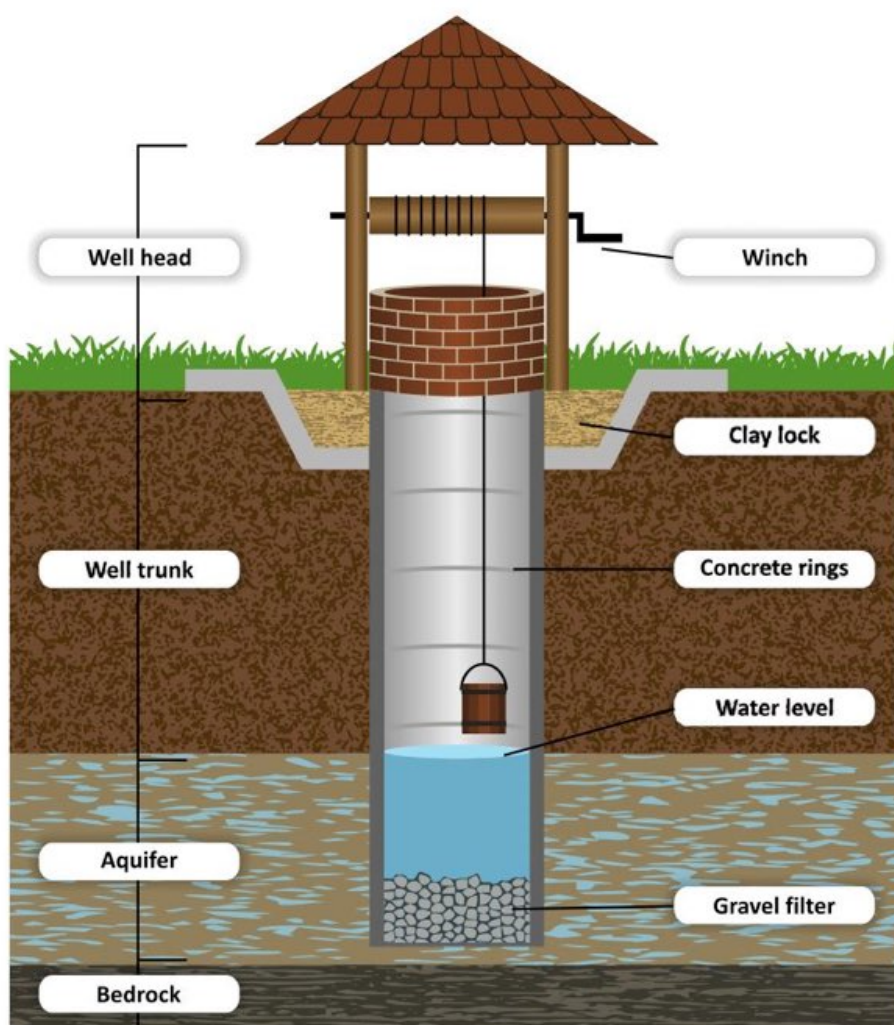
This one is pretty self-explanatory. If you're not interested in living off the grid, you can connect your home to the local municipal water supply. This method has the least amount of control, but also the least amount of responsibility. If you're living in a town or city, you may even be required to use this water

supply, but this requirement becomes less likely as your location gets more remote.

Well Water

Most people are familiar with the basic function of a well. It is essentially a hole dug down from the surface that allows you to access underground water. Wells are expensive to establish, but once set up, they don't require much maintenance and they're one of the most reliable ways to get water. If you're buying a rural property that has already been inhabited, you may be lucky enough to find a place that already has a well. This can make your life easier, but always be sure to have the well water tested before you buy. The Environmental Protection Agency has a list of recommended substances to test for in water, including bacteria, nitrates, pH levels, dissolved solids, tannins, chloride, and copper, as well as water hardness. This testing should be done by a lab that is certified at the state level; you can usually get information on which labs to use from your local health department. (You should also continue to test your water every year or two to monitor its levels.)

WATER WELL CONSTRUCTION



If you don't already have a well on your property, you'll have to drill one. Wells come in a variety of depths; shallower wells are cheaper and easier to draw from, while deeper wells have less risk of contamination, but are more expensive. Once the well is dug, a pump draws the water up from the ground. (You can draw the water up with a dipper or bucket, but that method is very slow because of the limited amount of water that can be

transported at one time.) It is standard to use electrical pumps nowadays, although some people do prefer a manual pump, or at least have one set up in case of a power failure.

Before digging a well, check to be sure you'll have the rights to any water you find. Even if it's on your property, if the water connects to other properties in the area, you may not have full irrigation rights. Lastly, if your area is known for seismic activity or other activity that destabilizes the ground (such as drilling or fracking), a well might not be the best choice. But there are plenty of other options to consider:

Natural Water Sources

This refers to any naturally occurring sources of water, such as a pond, creek, or river. Obviously, you can only use a natural water source if you have one on your land (and even then, be sure you check with the local laws—sometimes owning land does not mean you own the rights to the water on that land). It is also good to be aware that many creeks or streams dry up in the summer. Until you have spent a few years on a property, don't trust the claim that any body of water is year-round.

Each of these water supplies has its own advantages and drawbacks. A creek or river is not only a water source but could also be used for a hydro-power system (more on this later). Running water also tends to be purer than still water because the

movement through rocks and sand acts as a filter system. A pond, however, can be duplicated with DIY efforts. Some homesteads even use a man-made reservoir to collect rainwater runoff. Springs, which are essentially naturally occurring wells, are great because they bring water up from deep underground, which can then be diverted into your home's system.

Rainwater Collection

Obviously, rainwater collection works best in climates that see a lot of rainfall. As noted above, many people will use man-made reservoirs to collect rainwater, usually by redirecting runoff from their roofs. Rainwater is free and it can be easy and fairly inexpensive to set up a system to collect it. However, because this supply is dependent upon the weather, it can be advisable not to make this your primary water access. This will depend on how much rain you can expect to get and your capacity to store excess rain for use on dry days. And, sometimes rainwater collection is illegal, so be sure to check that with your local laws.

If you do plan to use your roof runoff, it's important to know that the material of your roof makes a big difference. Water that has been collected from an asphalt roof, for example, can be very contaminated, suited to watering plants but not drinking. Tile and slate roofs are considered much better, and metal roofs are considered ideal for collecting rainwater runoff.

Water Storage and Delivery

In addition to collecting water via whichever methods are available to and fitting for you, you'll need a way to store any excess, as well as a way to deliver that water to all the places that you need it. For the first, people commonly use cisterns, and for the second, you'll most likely need a pump.

Cisterns

A cistern is merely a tank specifically for water. These can be either above or below ground and are usually made of plastic, which is inexpensive, light when empty, and resistant to microbial growth. Above-ground cisterns tend to be smaller and easier to move, and sometimes double as containers for water transportation. Those below ground are often made of more durable material and are more expensive. If you live in a colder climate, it is best to have an underground cistern placed below the frost line, so that it will not freeze. If you have the opportunity, you can place a cistern so that your water pressure is aided by gravity.

Water Pumps

As just mentioned, some systems rely on gravity for their water pressure. This is called a "gravity-fed" system, and it depends on placing your water tank higher than your home so that gravity pulls the water down into your pipes. (This same principle is used

in on-grid water sources, such as water towers.) This is only possible in some situations, and you may still need a pump to get water from your source into your cistern. Your other option is to rely primarily on a water pump, which can be stronger and more consistent but will require power. How much power will depend on your water consumption, as that will determine the amount of water you need to move on average.

Water Purification and Filtration

Another thing that you need no matter which water source you choose (unless you're staying connected to the grid) is a way to filter and purify your water. You may see these terms used interchangeably, but filtration is used to mean getting rid of physical contaminants while purification is used to mean the removal of chemical contaminants, such as bacteria and other biological hazards. There may be times when you'll need to use very stringent filtration and purification methods for your water, such as water for bathing and drinking. There are other times when less exacting methods, or even no methods, will be needed, such as for watering your garden. There are laws around the purity of drinking water and you're responsible for testing your water at least twice a year (in the spring and fall) to make sure it is safe.

There are two basic types of filtration systems: inline and gravity-fed. Again, gravity-fed systems rely on the force of gravity to move water: the water is placed in the top of a container with a filter at the bottom, and gravity pulls it through that filter to another, clean container underneath. Gravity-fed filters can be used even without regular plumbing. Inline filters, on the other hand, are placed in your plumbing, meaning that the water is filtered as it enters your home.

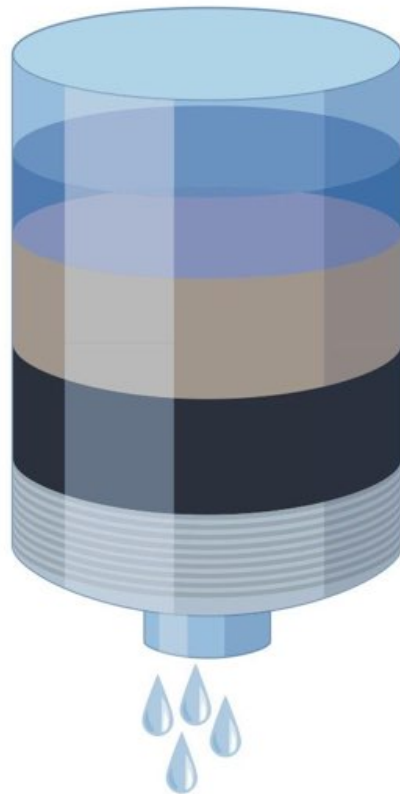
It can be wise to employ multiple filtration and purification systems, especially if you have reason to believe your water sources might be contaminated. (Surface water, for instance, is particularly vulnerable to contamination, and can be unsafe to drink even if it tests okay.) Having one system that filters out particles and other physical contaminants and a second to remove biological hazards can be the safest way to go. It is also a good idea to have a backup method of water purification in the event that your main system is offline. Below are some of the different ways you can filter and purify your water.

Filters

You can buy filters and you can also make your own. Simple DIY filters, such as creating a membrane filter by straining water through a piece of cloth, are great to have on hand for emergency use, but are obviously too small in scale to filter all the water for

your household needs. More involved processes include pumping your water through a carbon (bio) or ceramic filter.

Biofilters



In a biofilter, water moves through three layers to filter your water.

Biofilters are slightly more complex filters that can still be made at home. They involve three layers of filtration: gravel, sand, and charcoal. The gravel and sand work to screen out physical contaminants while the charcoal gets rid of chemical contaminants. (However, biofilters do not remove heavy metal or

bacteria from your water, so be sure to keep that in mind when planning.) Gravel and sand are obviously quite easy to procure, and the charcoal can be made from waste wood gathered from your property. Make sure you clean these materials before putting them into your filter by rinsing them in a bucket of water. Swirl the water around until it gets cloudy, then drain it out and replace it with fresh water. Repeat until the water stays clear. In addition to cleaning all the elements before you put the filter together, this type of filter should be taken apart to clean the vessel and replace the filtering components yearly.

Ceramic Filters

Ceramic filters use the porous nature of clay to screen out impurities. You can still put these together yourself, although unless you are especially good at pottery, you'll need to buy the ceramic filters. If you're particular about the taste of your water, or you'd like an extra level of purification, you can get ceramic filters with cores made from activated charcoal or silver. This method, therefore, has more upfront costs (you need about two filters per person in your household just for drinking water purposes), but the filters can last up to a decade. Another potential drawback is that water filters very slowly through these systems, so it can take a while for the water to be available after filters have been replaced.

Chemical Purification

This method adds chemicals to your water to destroy impurities. Generally, chlorine-based bleach is used. (Usually, when people talk about chlorine, they are referring to bleach with a chlorine base, though there are other bleaches with different chemical makeups.) As you might guess, one of the bigger downsides of this is the taste it gives your water. The power of this method of disinfection is determined by variables such as the temperature, pH, and clarity of the water. This is an easy and fast way to purify water, especially in an emergency. Some people also purify with iodine, but given iodine's light sensitivity, the potential for iodine allergies, and the fact that it is not safe for pregnant women, I don't personally recommend it.

UV (Sunlight) Purification



UV light bulbs emit frequencies that destroy contaminants in water.

You can purify water using actual sunlight or specially-made UV light bulbs. The frequencies in UV light can destroy the cell structures of contaminants in your water. This method of purification does not remove sediment or other debris from your water, and it is only effective against certain chemical contaminants, so it is best to pair this method with another process. It's also very important that there is nothing between the UV light and the water—even things that look clear to us can block UV rays. It is best for water to be uncovered so the light can hit it directly, but if you must cover your water, you'll need to do so with specially-made plastic that is designed to let UV rays pass through it.

There are two commonly used types of UV light bulbs: low pressure/high output (LPHO) and medium pressure/high output (MPHO). LPHOs are more energy-efficient, but less powerful and therefore require more units or more time to disinfect the same amount of water. MPHOs, on the other hand, are more powerful but less energy efficient. There are also low pressure/low output (LPLO) bulbs, but they are not as frequently used because they are much less powerful. Essentially, you'll always be trading off power for energy efficiency, and which you choose should be based on the volume of water you expect to disinfect and whether

or not speed and power are more important to you than saving energy.

Distillation

Mimicking the natural water cycle, distillation works by heating water until it evaporates and then condensing the steam into the water in a new, clean container. The heat of this process will kill bacteria and other microorganisms, while the evaporation leaves behind physical impurities like sediment and particles. Because of this, distillation is a very effective way of disinfecting your water. Technically, you can use distillation anywhere that you have a heat source and a way to collect the condensing water, including your kitchen. The smallest water distillers are actually made to sit on your counter or table, and they distill just a small amount of water at a time.

However, in order to be practical as a method for purifying all your water, you'll need a bigger operation. You can either have a distillation point installed in your plumbing system, or you can purchase a large (usually called "commercial") distiller. The in-system distiller purifies water as you need it, which means you are never distilling more water than you need. However, it does have an upfront cost of up to \$1,000 for purchase and installation. A commercial distiller will have the capacity to distill around 75 gallons of water each day, a much higher volume of water than a

countertop distiller, but it will use a proportionately higher amount of energy. Some people use a solar water distiller in order to distill a larger amount of water while using less energy. This involves placing water under glass or plastic with access to sunlight, which will then heat the water to evaporation. This method of distillation obviously is best suited if you live somewhere warm with strong, direct sunlight.

Boiling

As noted above, heating water will kill bacteria and microorganisms, so boiling your water will disinfect it. The water must be kept at a rolling boil for at least a minute. Notably, you'll want to pair a method of filtration with boiling, as on its own it will not remove physical contaminants. While not practical as a main source of purification, boiling is very handy for purifying small amounts of water quickly, or if you find your other methods of purification unavailable. It is also easy to do and, as long as you have a pan and a source of heat such as your kitchen stove, it's free.

Now that we've covered the most common water systems for homesteaders, let's take a look at the options for electricity.

Greywater Systems

Wastewater is actually broken into two different types, greywater and blackwater. Most of what we think of as waste is usually blackwater, meaning it is contaminated by human waste. However, a significant portion of wastewater is actually greywater, which is water that has gone through the system—think showers, sinks, washing machines, etc.—but is not contaminated by human waste. This water can be reused for certain tasks where the purity of the water doesn't need to be held to strict standards, such as watering your garden or flushing your toilet.

If you'd like to divert greywater so that it can be reused like this, there are several methods of doing so. Some people simply collect used water in buckets by hand to be reused, while others install plumbing that reroutes their greywater. Most frequently, this plumbing will take water draining from places like your washing machine and bathtub, and redirect it to one of two places: your garden irrigation system to water your plants, or your bathroom plumbing to be used to flush your toilets. In general, by using greywater instead of freshwater to flush toilets, you can reduce your water consumption by around a third. However, if you intend to use greywater in your garden, be sure that any cleaners you are using (like soap, shampoo, and laundry detergent) do not have any chemicals in them that will harm your plants.

Power Systems

When you're accustomed to living on the power grid, you might take power for granted because it's always on and available. But if you're going to generate your own power, you suddenly have to consider all the things in your home that require electricity, from the lights to the Wi-Fi router to your hairdryer. The first step when moving to your own power system is to consider how you might slim down your electricity usage. Just like with water, the less electricity you consume, the more your budget will thank you. Look for small tasks that you can do manually, and if you're building a new home, make sure to consider ways the design and construction can reduce your energy footprint.

Solar Energy

If you live in a climate that gets a lot of sun, solar energy can be a great option. Solar energy is very efficient, and once installed, it requires only a small amount of maintenance. However, you'll need solar panels to collect the sun's energy, an inverter that converts that energy, and batteries to store it. The price of this system and the cost to have it professionally installed is high, so you'll want to be sure you'll get enough sunny days to pay off this investment. Solar energy is also an option for heating your water, which is important if you don't want to take exclusively cold showers.

Wind Energy

This is another source of power that depends on your climate. You should be able to look up the wind resource map for your area to find out what sort of wind your homestead will get. Wind energy isn't quite as efficient as solar energy, but if you live somewhere that is windy and overcast, it can work much better than a solar panel. The main costs for wind energy are the tower and turbine. It's important to have these somewhere relatively unobstructed; the higher the better, so if you have hills on your property, you might consider setting them up there. Because the towers are quite tall, you may struggle to be approved for them, especially if you live in less rural areas. Something to consider with wind energy is that the energy is generated by the mechanical process of turning the turbine, so the components will wear down over time and eventually need to be replaced.

If you're located in a climate that gets a decent amount of both sun and wind, but you're not sure either is enough to fully power your household, you could consider a hybrid system that uses both.

Geothermal Energy

As the components of its name indicate (geo = earth, thermal = heat), this form of power is dependent on heat obtained from the ground. This system works by pumping water through a pipe

system that is buried underground. In the winter, the water in the pipes is heated by the warmth underground and then carried up to your heating pump, where that warmth is transferred to air that will be circulated throughout the house. Because it extracts heat from the ground, which is relatively warm, rather than from the winter air, which is very cold, this system is extremely efficient, with an input-output ratio of four to one. Unfortunately, you must have a professional install a geothermal heat pump, so the upfront costs are high. This type of energy system works especially well to heat and cool your home. It is less common than wind or solar energy, but as technology advances, it is becoming more common over time.

Hydroelectricity

This form of energy is only an option for those who have a source of running water, but if that's true for you, it's a great way to generate energy. These systems work by placing a mechanical component, usually a turbine, into the water and generating power from the turning of that component. Running water is much more constant than wind or sun, so the supply of energy from a micro-hydro system is more regular and therefore dependable than those systems. Hydroelectric systems need to be consciously designed and constructed so that they don't disrupt the natural environment of the water source, most likely

requiring professional installation, and like wind turbines, they will require routine maintenance and upkeep.

Generator

Many people are familiar with generators, and some may even already own them as a backup power source for when there are disruptions to grid power. Generators can also be used as a backup for your renewable energy sources, and are especially recommended for any areas that are prone to tornadoes or other weather that might knock out power. Generators can run on gas, diesel, propane, or occasionally other fuels. When choosing a generator, it's important to get the right size if you want it to be able to power your whole household in the event of a failure from your primary power source.

Energy Storage

It might be strange to think of storing energy the way that you would food or water, but when you're generating your own power, any amount you can store in the present could end up helping you in the future. One method of storing power is using your local public power utility. Most utilities will store your power for you (and if you're sure you won't need the extra power, many will also buy it). This, of course, means that you would have to remain connected to the power grid. The other option is to store your excess energy in batteries. Batteries designed to store power like

this come with a high upfront cost, but should last at least five years, and even longer if you care for them properly.

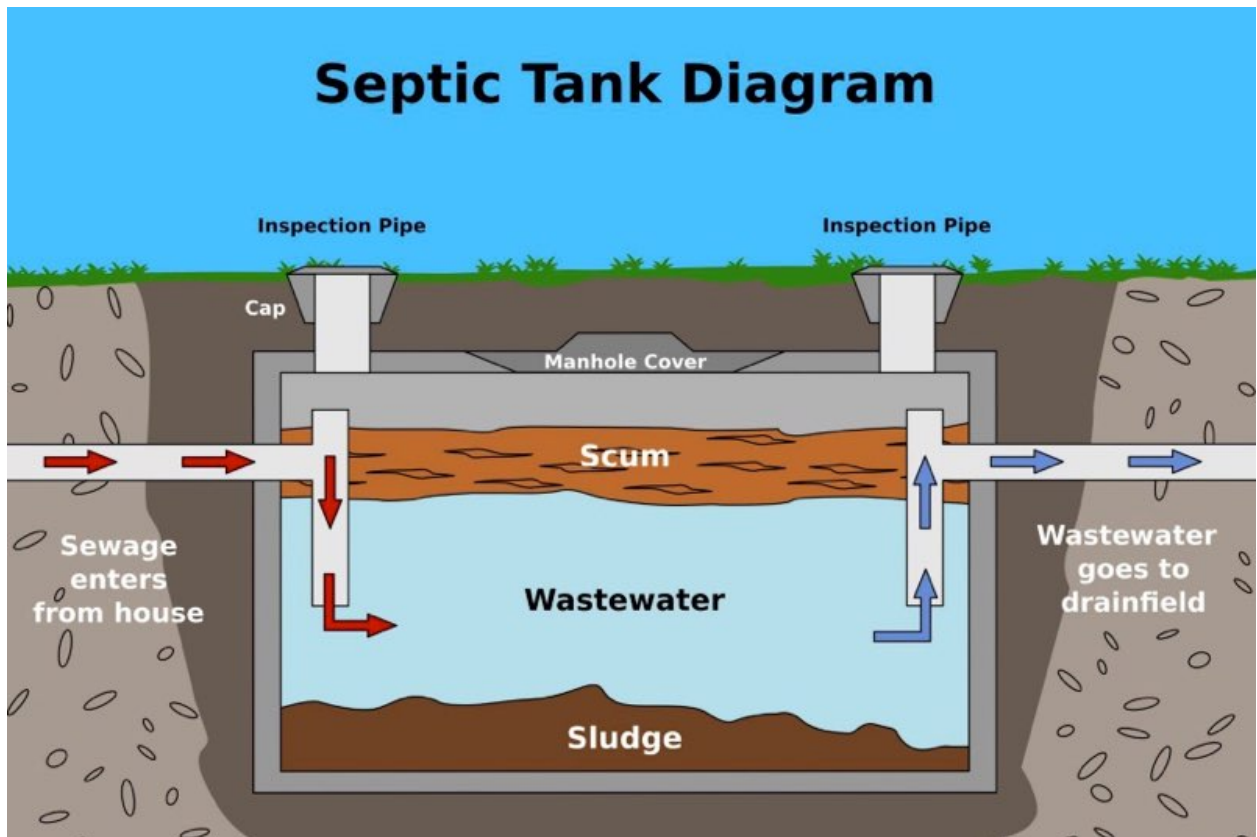
Waste Disposal

Setting up your own waste system might seem intimidating at first, but don't let that deter you. Dealing with waste is a problem many homesteaders have confronted and solved, and there are a wide variety of options available. Whether you're prioritizing ease and comfort or sustainability and simplicity, there is a waste disposal system that is right for you.

Regular Plumbing System to a Septic Tank or System

This method is both common and easy to get approved by your local authorities. Your inside system would consist of toilets and pipes, just like most regular plumbing systems. The waste from this system then drains into a tank or septic field on your property. Once in the tank, solid waste will move to the bottom to be broken down by bacteria, while the water will evaporate out through a specially designed pipe. Regular maintenance of a septic tank involves having it pumped out every few years. This will remove the solids at the bottom that haven't broken down (called sludge) as well as the grease and fat that has floated to the top (called scum). Pumping empties out the tank so it is ready to start the process over again. It is important to be aware of how the weather affects septic systems, especially in cold climates. If there's a risk of freezing (which can crack pipes and tanks), then it

is best to have an underground system or one that is very well-insulated.



DIY Septic System

This is similar to the above, but you would do all the design and installation work yourself. As homeowners, you are already responsible for getting the correct permits and following all codes, so some people prefer to take the task on themselves rather than pay someone to do it. While this requires a lot of research and hard work, it also means you thoroughly understand your septic system and are fully equipped to take care of maintenance or any problems that arise.

Outhouse or Pit Latrine

On the other end of the spectrum is an outhouse, which is essentially a hole dug in the ground with a cover or seat over it and a small shelter around it. You're probably familiar with the idea of outhouses historically before indoor plumbing was developed, but many living on homesteads or off the grid still use them. Building a latrine does not require any special skills, but it is important to keep a few things in mind. Perhaps most important is the location, as you'll want to put it well above the waterline (especially if you have a well), a good distance away and downhill from any water sources, and above the flood level. It is also important that you only dispose of organic waste, and not pour any sort of chemicals into the outhouse, as it might react badly. Also, keep in mind there will be a release of methane gas (along with its strong odor) as your waste breaks down.

Honey Bucket

The honey bucket is essentially the small, portable version of an outhouse, consisting of a plastic bag inside a container, topped with a seat. This method is not highly recommended, because once the bag is full you have to dispose of the waste yourself, either by emptying the bags into a hole you dig or finding a local waste center that accepts human waste. However, it will work if

you find yourself in need of a portable toilet alternative, and it can be handy to keep as a backup since it is small and easily stored.

Compost Toilet

This method of waste disposal will appeal to anyone who wants to do more with waste than simply get rid of it. Like an outhouse, the construction of a composting toilet is fairly simple. A container, usually a bucket, is placed under a specially-made toilet seat. After using the toilet, you add a layer of sawdust to soak up the moisture. There are also versions with electric or hand-turned cranks that speed up the composting process. Once the container is full, it can be added to your compost pile. This method not only keeps your compost pile full but also saves water because it does not involve flushing. Most compost toilets also have vent hoses that keep the toilet from smelling. Compost toilets are only legal in some states, however, so be sure to check your local laws.

Incinerator Toilet

An incinerator toilet is powered by either propane or electricity, and it does just what its name implies—it burns your waste. If you don't want to compost your waste or dig a hole, but you'd prefer not to have a full septic system, this can be a good option for you. While you will save water, you will be required to buy paper liners for the toilet bowl. A downside of these toilets is the amount of energy that they use. Whether your model runs on

propane or electricity, a steady supply of power is needed. For this reason, some manufacturers of incinerator toilets recommend not using solar power or other methods of power that can be inconsistent or unpredictable with their products.

Lagoons

Septic systems work by filtering waste through the soil, but in some places, the soil will not work well for this purpose. In that case, you might need a lagoon instead. A lagoon works by collecting your wastewater in a (usually man-made) depression in the ground, where it can then be broken down by microbes. Even if your soil is fine, a lagoon can be a cheaper alternative to a septic system. However, not all areas allow for lagoons, and some people will be put off by having an uncovered pool of waste on their property.

Trash Removal

If you're located in an urban or suburban environment, you're likely going to continue to use the municipal trash services provided by the local government. However, if you're somewhere more rural, you might be in charge of your own garbage removal. This is another area where learning to reduce and reuse will come in handy. Everything that you can avoid (like plastic bags) or reuse (like containers) is something that you don't have to haul when you get rid of your trash. Next, be sure you're separating out

things you can compost and recycle into separate bins from your regular trash. (I'd recommend a smaller compost bin so it can be easily transferred to your compost pile when full without too much trouble.) Recyclables can be taken to your nearest recycling center—check with your local authorities for locations and guidelines on what can be recycled. Everything that's left will need to be taken to the nearest landfill, with the exception of anything that contains hazardous materials—again, check local regulations.

Heating

Last in our exploration of utilities, but certainly not the least important (just ask anyone who's ever spent the winter in a drafty farmhouse!), heating is perhaps the utility most affected by lifestyle and planning. The amount of energy you exert heating your house is directly related to your house's space and insulation. A larger house means more space that must be heated, and a drafty house with lots of leaks where hot air can escape and cold air can sneak in will require more energy to heat. So, if you're planning to build a house, be sure to include proper insulation and sealants, and consider eliminating square footage that you don't need. If you're working with a house that already exists, it could be worth the time and effort to check for drafts and seal and insulate where you can, as best you can. Gaps can be filled with sealants or foam; thin windows can be reinforced with plastic sheeting or covered with heavy shades; empty rooms can be closed off. You can also consider an exterior windbreak to block north winds. All of this can help make whichever of the below methods you choose that much more efficient.

Wood-Burning Stoves

Unlike fireplaces, which are open to the air through the chimney and therefore tend to be inefficient, wood stoves can work well to heat your house. Their upfront cost is reasonable, and depending

on your land, you might have access to all the firewood you need. If not, firewood is relatively inexpensive and easy to get. If you'd like to make your wood stove work even better, you can keep a few weeks' worth of firewood inside, allowing it to warm up first and therefore take less energy to burn. You'll need a method, such as fans, to circulate the hot air they create. Most importantly, this method of heating needs constant supervision and maintenance.

Propane Heaters

These types of heaters can be portable or they can be built-in. Since they run on propane, they don't require electricity. However, you will need to be sure they are properly ventilated, including possibly opening a window at times to manage the fumes. Propane degrades very slowly, which means it can be stored for a long time—however, because tanks are pressurized, they must be stored carefully and appropriately. A lot of propane heaters will have thermostats, which makes regulating the temperature (and therefore the amount of energy you use) very easy.

Solar Heat

There are two ways to heat your home with solar energy—passive and active. Passive solar heating means you take advantage of the heat naturally created by the sun's rays. This could be as simple as having wide, south-facing windows that let in a lot of warm sunshine, or it could be a more complex setup

involving thermal walls or water tanks to amplify the sun's warmth. Even a wall made of dark material or painted in a dark color can help to absorb and then radiate heat from sunlight.

Active solar energy is more in line with general solar power systems. There are methods to collect warmth from the sun and then redistribute that through the rest of the house. A common way of doing this is to place water in conductive containers, such as glass or copper, and then pipe that water throughout the house once the water is hot. If you've ever lived in a house with radiant heat, the concept is very similar—but in this case, it is not a water heater but the sun that is heating the water.

Biomass System

When biological materials begin to decompose and break down, that process creates heat. Biomass systems work by placing metal pipes inside piles of compost and other degradable waste. Those pipes absorb the heat from the pile and then redistribute it to other locations. This type of system probably cannot generate enough heat for your entire household, but it can be a handy and environmentally-friendly way to complement your main source of heat. You'll already be generating the waste—you might as well use it!

Fence Building

You see a dog run right through your yard, trampling your flowers and digging holes where you don't want them. Or perhaps you see a group of kids cut through your yard on their way to the park.

Or perhaps you wish to let your own dog outside, but you know you have to stand there and watch him the entire time, or he is going to be the dog that is running loose throughout the neighborhood.

Or even worse, you wish to let your kids go play outside, but with the busy street nearby, you don't want to risk them running out into it without checking for cars. Although it's a beautiful day, everyone is trapped inside until you are able to go out and supervise what is going on.

You feel bad about this, and wish there was a way for you to let your pets and children outdoors, but you just can't risk their safety.

You know a fence would be a good idea, but times have been tight and you know that a fence would be expensive. You've seen the prices at the store, and you know a good fence would cost you

several hundred dollars—money that you can't afford to spend right now.

Or perhaps you have finally gotten a little bit ahead in the bank, and you don't want to spend a bunch of money and send yourself back to where you started. The inner turmoil ends up causing you stress—which is the last thing you need in your life.

I would love to put a fence around my yard, but I honestly don't have the money to spend on that right now.

I want to put a fence around my yard, but I don't want my house to look like everyone else's. I want something that is unique.

I want to keep my kids in and the other kids out, but how am I going to do that without draining my bank account?

If you have been trying to find a good fence, odds are you have been thinking this very thing. But that is where this book comes in. In it, you are going to find everything that you need to construct your own fence, without spending a lot of money to do it.

There's no end to the ways you can create your own fence, and give yourself the peace of mind you have been searching for. Gain inspiration from the fences you see in this book and secure your home and living space with a fence of your own.

With a little creativity, some work, and a few skills, you will be able to make a fence of your own. And still enjoy having money in the bank when you are done.

Simple Striped Fence



Give yourself the gift of privacy and enjoy a change in the scenery with this artistic style fence.

You will need:

- Wood (begin by measuring your yard and determining how much wood you will need before you begin. This is going to save you both time and money in the long haul)
- Fence posts (again, determine how many you will need at the outset of the project)
- Screws
- Screwdriver

- Posthole digging tool
- Paint in the colors of your choice
- Saw

Directions:

1. Begin by calling and having the ground surveyed. You don't want to accidentally hit a power or water line. This can be done for free and only takes a few minutes—it's worth doing that before you begin rather than dealing with a burst water line.
2. Start in one corner of your yard and begin digging holes for the fence posts. You will need to get them at least 2 feet into the ground, so take your time and fit them well. Fill in the holes with soil, tamping it down to ensure that the posts are secure.
3. Place fence posts at regular intervals, around 10 feet apart depending on the size of your yard.
4. Take the boards now and screw them in place on these fence posts. Make sure you use several screws per board as these are going to take most of the stress of the fence.
5. Next, take the remaining wood and your saw, and narrow one end of the board to a fine point.

6. You can make this a sharp point, or keep it rounded. Screw the boards side by side on the fence, as you see in the photo. You are going to screw these to the boards that are running horizontally between the fence posts, attaching them both at the top and at the bottom.
7. Once all the boards are secure, apply 2 coats of paint to each board, in the color of your choice.
8. Allow to dry completely, and you are done!

Naturally Minimalist Fence



You will need:

- Wood (begin by measuring your yard and determining how much wood you will need before you begin. This is going to save you both time and money in the long haul)
- Fence posts (again, determine how many you will need at the outset of the project)
- Screws
- Screwdriver
- Saw
- Posthole digging tool

Directions:

1. Begin by calling and having the ground surveyed. You don't want to accidentally hit a power or water line. This can be done for free and only takes a few minutes—it's worth doing

that before you begin rather than dealing with a burst water line.

2. Following the photo as a reference, you are going to screw the boards in place along with the posts. The fence is supposed to have a zig-zag shape, so allow for this room when you plan the size of the fence. As you place the posts for the fence, take into account how long the wood is that you are working with. You may need to adjust how far apart the posts are based on the length of wood you are using.
3. You may need to take a saw and cut the lengths of wood to be close to the same before you begin.
4. The wood needs to be screwed into place at both ends, offering maximum support for the fence. Make sure all is secure, and you are done!

All-Natural Picket Fence



You will need:

- Wood (begin by measuring your yard and determining how much wood you will need before you begin. This is going to save you both time and money in the long haul)
- Fence posts (again, determine how many you will need at the outset of the project)
- Screws
- Screwdriver
- Posthole digging tool
- Wooden boards (to screw between the fence posts)

Directions:

1. Begin by calling and having the ground surveyed. You don't want to accidentally hit a power or water line. This can be done for free and only takes a few minutes—it's worth doing that before you begin rather than dealing with a burst water line.
2. Start in one corner of your yard and begin digging holes for the fence posts. You will need to get them at least 2 feet into the ground, so take your time and fit them well. Fill in the holes with soil, tamping it down to ensure that the posts are secure.
3. Place fence posts at regular intervals, around 10 feet apart depending on the size of your yard.
4. Take the boards now and screw them in place on these fence posts. Make sure you use several screws per board as these are going to take most of the stress of the fence.
5. Next, take the remaining wood and screw each piece side by side on the fence, as you see in the photo. You are going to screw these to the boards that are running horizontally between the fence posts, attaching them both at the top and at the bottom.
6. Space them out according to your own size preference, creating a fence that is as secure or as decorative as you prefer. Try to mix and match the sizes for a more natural look throughout.

7. If necessary, cut the wood to roughly the same length before screwing it in place on the fence.
8. Make sure all is secure, and you are done!

Artistic Fence



You will need:

- Wooden boards (begin by measuring your yard and determining how much wood you will need before you begin. This is going to save you both time and money in the long haul)
- Fence posts (again, determine how many you will need at the outset of the project)
- Screws
- Screwdriver
- Posthole digging tool
- Decorations of choice (can be tools as pictured, or you can use anything else you like)

Directions:

1. Begin by calling and having the ground surveyed. You don't want to accidentally hit a power or water line. This can be done for free and only takes a few minutes—it's worth doing that before you begin rather than dealing with a burst water line.
2. Start in one corner of your yard and begin digging holes for the fence posts. You will need to get them at least 2 feet into the ground, so take your time and fit them well. Fill in the holes with soil, tamping it down to ensure that the posts are secure.
3. Place fence posts at regular intervals, around 10 feet apart depending on the size of your yard.
4. Take the boards now and screw them in place on these fence posts. Make sure you use several screws per board as these are going to take most of the stress of the fence.
5. Next, take the remaining wood and screw each piece side by side on the fence, as you see in the photo. You are going to screw these to the boards that are running horizontally between the fence posts, attaching them both at the top and at the bottom.
6. Keep the spacing for the fence close together, setting each board side by side before screwing on the next board on the fence.
7. Once the mainframe of the fence is in place, begin attaching the décor of your choice. Again, this can be something such

as tools or pottery, or it can be anything you like. Let your creativity run wild, and show off your style.

8. That's it, your fence is done!

Barely Their Fence



You will need:

- Smaller, rounded posts
- Fence posts (again, determine how many you will need at the outset of the project)
- Screws
- Screwdriver
- Posthole digging tool

Directions:

1. Begin by calling and having the ground surveyed. You don't want to accidentally hit a power or water line. This can be done for free and only takes a few minutes—it's worth doing that before you begin rather than dealing with a burst water line.

2. Start in one corner of your yard and begin digging holes for the fence posts. You will need to get them at least 2 feet into the ground, so take your time and fit them well. Fill in the holes with soil, tamping it down to ensure that the posts are secure.
3. Place fence posts at regular intervals, around 10 feet apart depending on the size of your yard.
4. Take the smaller posts now and screw them in place on these fence posts. Make sure you use several screws per post as these are going to take most of the stress of the fence.
5. Attach these posts at the top of the fence, keeping an even line across the entire fence.
6. Make sure all is secure, and you are done!

Building a Shed

When you're a homesteader you need to have somewhere safe and dry to keep your tools. These are an essential part of your everyday life.

By creating your own storage shed you'll be able to create the exact space you need and customize it for your own requirements. It will also cost a fraction of the price of buying a shed.

It is possible to create a shed from pallets but this approach uses a mixture of pallets and fence panels. This makes sure the job is completed quickly and virtually effortlessly.

The Base



The first step must be to complete the base. It is best to create a shed on a hard surface. This will prevent the damp from the soil rotting your wood.

If you don't have a hard surface then it is a good idea to dig out at least half a foot of soil and fill it with the hard core.

You can then create the baseline for your shed by using breeze blocks or paving slabs on top of the hard surface.

It is important to get to this level as it will directly affect your shed.

Flooring

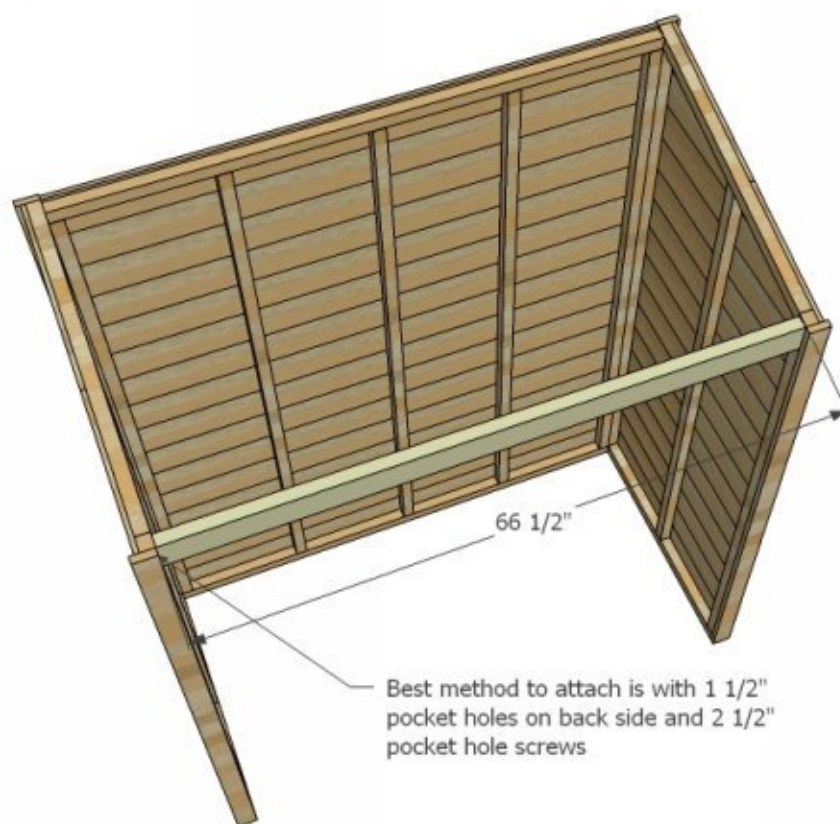


The easiest floor to put down is using pallets. You'll need to get several pallets; depending on the intended size of your storage shed.

The pallets should rest on the breeze blocks and you'll have to fill in the gaps in the wood. You want a solid floor!

If this is too much work you can purchase chipboard to put down instead.

The Walls



The easiest solution for the walls is to purchase several fence panels. Simply create posts at the corners of your shed and along the sides if it is larger than one panel.

Then affix the fence panels to the posts and ensure they are sturdy.

Diagonal supports can help if needed for strength. The fence panels should be 6 ft high which will give you enough clearance to walk inside the shed.

Strengthening

The next step is to give your shed some more strength. Carefully cut wood to match the width of the shed. Then screw up through the surround of the fence panel into the wood.

The battens will stop the fence panels from moving. You can also add diagonal braces on the inside of your shed to strengthen it further.

Roof



The roof can be fitted directly onto the top level of wood. It is easiest to use roofing felt although tarpaulin can be used if necessary.

Make sure the roof is tight to prevent water from sitting on it.

Door



You mustn't forget the door! It is best to cut the fence panel when in situ. This will give it more rigidity as you run your jigsaw or circular saw through it.

Once you've removed the section for your door you can either reuse the wood to create the door or find an alternative that is the right size. It's a good idea to decide this before you start cutting!

Kitting It Out



Your shed is finished and can be used to store all sorts of items. However, if you wish to add shelving inside it is a good idea to add an extra batten of wood first.

Locate the batten and screw it into it from the outside of the shed. It will be stronger this way.

From one batten you can create a shelf or two or you can opt for several battens and make a whole wall of storage containers/shelves!

Living with Homestead Pets

Deciding to move to a homestead and alter your lifestyle is a huge step to make. By now, you know that it has benefitted your family in terms of health and perspectives; also, the new adversities that you experienced might even have strengthened you.

But have you ever wondered how your pets have also adjusted to this decision? If you already have dogs and cats before homesteading, then you need to get them to adjust to your new lifestyle. No more of those lazing-around-on-the-couch back in the city—it is time to welcome everyone to rural living.

It is all about ensuring that your pets still get the best environment even when they are already rural animals. Just as there are no pizza deliveries for your family, you will also have limited access to dog food, cat food, cat litter, and other furry pet needs, so adjustments have to be made.

You can choose to keep the pets indoors but think of all the advantages of training your dog to help you with your homesteading chores. Unsurprisingly, training your current dog to become a farm pet is just like getting a new farm dog and introducing it to farm life. Cats, though, are a different story.

The Farm-Friendly Dog

Every homestead is unique, but there are common aspects, such as open space, gardening, chickens, other small animals, and predators.

Choose the dog that you will have on your homestead. Livestock guard dog breeds are:

- Central Asia Shepherd
- Akbash
- Maremma Sheepdog
- Anatolian Shepherd
- Armenian Gampr
- Polish Tatra
- The Great Pyrenees
- Kangal
- Tibetan Mastiff
- Russian Ovcharka, and
- Sarplaninac.

Have about eight well-bonded dogs form a pack. Their age could range from one and a half years to 13 and a half years. These dogs can help keep predators away from the homestead so you won't have to worry too much about foxes, stray dogs, eagles, hawks,

and wolves. Certain farms even have mountain lions as predators, so be sure to have a pack of dogs ready to defend you.

Powerful, large dogs can also help pull the sled when you gather firewood and haul barrels of drinking water. They can ease your workload while providing personal protection.

Akbash and Great Pyrenees breeds are also great sources of fur. Their fur can be spun into yarn because they are as soft as baby alpaca fur.

Since these farm dogs are giving back the kindness that you are showering them, you should also make sure that they remain healthy at all times. Get in touch with a veterinarian for your dog's vaccinations. The five-way vaccine that counters kennel cough, hepatitis, parainfluenza, canine distemper, and parvovirus should be administered. You can include the anti-corona virus and leptospirosis if you opt for the seven-way vaccines.

Six-month-old puppies should already have their rabies vaccination.

As for their diet, you need to check the fat and protein content of their food. Growing pups need 22-25 percent protein, while adult dogs need only ten to 14 percent. Pregnant and nursing dogs need more protein (20-30 percent).

As for their fat needs, growing pups require just eight to 20 percent depending on their body mass. Adult dogs need five to 15 percent while pregnant, and nursing dogs require ten to 25 percent.

Carbohydrates are a great energy source for dogs, so you can include rice, oats, barley, and other grains in their diet. Do not feed them with human foods because this could lead to health issues and even early death.

If your farm animals can survive with kitchen scraps, well, your dogs must not. Add vitamin and mineral supplements, too.

The Barn Cat

Again, you need to decide if you are going to keep a house cat or a barn cat. Here are some words of caution when it comes to cats in rural settings:

- Never place city cats in a barn.
- Never put kittens in a barn.

Kittens do not have the survival skills needed to evade horse hooves and such. Feral kittens, though, could survive.

Remember also that barn cats are more susceptible to parasites, rabies, feline leukemia, predators, and being hit by trucks. They

can, however, help in controlling the rodent population, so there would be decreased grain losses and farm equipment damage.

An ideal barn cat is one that came with the farm, meaning it is a stray kitten that adapted to your family as you moved in. Just about any breed of a cat could live on a farm, but certain breeds could have advantages.

Shorthaired breeds will not let you worry about matted hair, hairballs, etc. Female cats are naturally better hunters compared to males, and the orange male variety is known to be the sweetest.

You need to confine a cat first if you want it to stay in your barn. Cage an old cat for about two to four weeks while new cats can be freed after a month. Include a litter box in the cage and feed it frequently so it will associate the cage with a safe zone.

Barn cats should still be fed even when they catch mice on your homestead. Feed them twice daily and provide ample fresh water. During winter, make sure that their water bowls are also heated. Schedule the second feeding at night and make sure that it is canned food so that the cats will stay indoors. As you do so, you keep them safe from predators like owls, coyotes, and raccoons.

Cats also need a lot of protein, so feed them with fresh fish and cooked meat.

Deworm the cats twice each year and make sure that they have a lofty station to rest on. You can also build their loft inside a sturdy shelter so that they have somewhere to go to when the weather isn't too friendly.

Just like dogs, barn cats also should be administered vaccinations. Combination vaccines for adult cats are the FVRCP that can counter feline distemper, feline leukemia, FeLV, calicivirus, and rhinotracheitis.

Treat your barn cats and farm dogs as members of your family by providing for their needs and loving them. They will even help you with some homesteading chores, so you should appreciate them more.

Crafting Nature-Based Products

Homemade Soap

Commercial soap contains harsh chemicals, such as parabens, phthalates, lathering agents, dyes, preservatives, and synthetic perfume (which can cause hormonal issues and allergies) that damage the skin—your biggest organ—and strip it of its natural oils, leaving your skin feeling dry and tight after a wash. In addition, they are often petroleum-based, which can cause allergies, rashes, and disorders. Commercial soaps can also pollute drinking water and can promote cancer (soaps with triclosan do this). They are also stripped of glycerin, a humectant that draws moisture from the air to your skin and leaves your skin soft and moisturized.

On the other hand, homemade soap is free from such chemicals and is good for your skin. The process of making homemade soap is also simple and easy, especially for beginners. You take some lye, some vegetable oils, heat them, and make soap. (I am skipping a few steps, but you get the idea.) Homemade soap also has glycerin, which is great for your skin, and antioxidants, vitamins, and minerals that are important for maintaining healthy skin.

The best thing about this soap is the variety of textures, shapes, sizes, smells, and more it offers. So, if you want lavender-scented soap, then you only need to throw some lye and fats together, and voila! You have soap. But all the good things aside, handmade soap should be crafted with care.

Ingredients You Need to Craft Homemade Soap at Home:

- 8 ounces coconut oil
- 8 ounces palm oil
- 10.5 ounces olive oil
- 9.5 ounces distilled water
- 1-pound container of lye—Lye is obtained from leaching ashes. You can buy it by its chemical names: sodium hydroxide (NaOH) for making hard soap and potassium hydroxide (KOH) for making liquid soap.
- 3.5 tablespoons essential oil of your choice

Equipment You Need to Craft Homemade Soap at Home:

- Large heat-safe vessel
- Measuring cup
- A heavy glass pitcher
- Silicone spatula
- Thermometer
- Scale
- Teaspoons

- Old towels
- Sharp, thin knife
- Rubber gloves
- Safety goggles
- Silicone mold for soap

Procedure: How You Can Make Soap at Home:

1. Mix the lye:

Put on your rubber gloves and safety goggles, and set up your equipment in a well-ventilated area (next to an open window or outdoors).

Use your scale to measure out 100 grams of lye and set it aside.

After that, measure out 9.5 ounces of distilled water into a glass pitcher, pour in the lye, and mix until everything dissolves. This amalgamation will heat the water to more than 200°F and produce strong fumes, so be careful.

Now let the lye cool down until it reaches 100°F.

2. Melt and mix the oils:

If you're using oils that are solid at room temperature, you must melt them so they can be poured by either placing them in a saucepan over simmering water or by melting them in the

microwave. Your oils should be at a temperature between 80°F to 100°F.

3. Blend and pour your soap:

When your lye and oil mixture is at between 80°F to 100°F, then put on your gloves and eye protection, and carefully pour the lye into the pot of oil. The mixture will turn cloudy.

When the mixture turns cloudy, you should start mixing. The mixture will become thick and opaquer as time passes until you hit the "trace" stage. You can find this "trace" by lifting your mixing utensil out and letting some drops drip across the surface of the mixture. If they leave a visible pattern, then you've reached "trace."

Now you should add the essential oil into the mixture, blend it carefully, and then pour the finished mixture into silicon molds.

Once that's done, you should cover the mixture with towels and let it remain undisturbed for 24 hours.

4. Cure your soap:

When 24 hours have passed, remove your soap from your mold.

Now you have to cure your soap. To do that, leave the soap on a paper bag or baking rack in an airy location. If you use a paper

bag, turn the soap once or twice to ensure all sides are exposed to air.

Herbal Hair Rinse

Commercially produced hair care products are loaded with chemicals that strip the hair of its natural oil, cause it to produce more oil, and damages it extensively. The sulfates present in these products can cause hair loss, rashes, scalp irritation, and hormonal imbalances. Therefore, they are full of strong chemicals that can harm your hair and scalp instead of cleaning or moisturizing them.

On the other hand, an herbal hair rinse can help alleviate the majority of problems caused by commercial shampoo. Even if they aren't the replacement for the sudsy haircare products we usually use, they are still better for our hair than the chemical-laced haircare products that only damage our hair.

Another good thing about an herbal hair rinse is that it can be made at home without any difficulties, specialized equipment, or specialty products. As a homesteader who grows herbs, you can defiantly make it without any hassle.

Ingredients You Need to Craft an Herbal Hair Rinse at Home:

Herbs—Choose one to four herbs to create your herbal rinse.

You can choose from the following:

- Rosemary—Good for hair growth, itchy scalps, and relieving dandruff.
- Nettle—Helps relieve dandruff and promotes thicker, more luscious hair.
- Horsetail—Helps boost collagen production and strengthen hair and reduce breakage.
- Calendula—Rehydrates dry tresses, soothes itchy and irritated scalps, increases circulation, strengthens hair, and aids in hair growth.
- Chamomile—Helps prevent dandruff and calm scalp issues. It can also lighten the hair.
- Sage—Stimulates circulation, encourages hair growth, relieves dandruff, and thickens thinning hair. It also darkens the hair.
- Neem—Prevents premature greying, soothes scalp issues, treats dandruff and lice, protects against hair loss, and strengthens the hair shaft.
- Apple cider vinegar—It can minimize breakage, removes any hair residue, and regulates hair and scalp pH.
- Water
- Essential oils of choice

Equipment You Need to Make an Herbal Hair Rinse at Home:

- Glass container or mason jar

- Pan for heating water
- Spoons for measuring
- Measuring cups

Procedure: How You Can Make an Herbal Hair Rinse at Home

1. Choose one to four herbs to create your herbal rinse. Add one to two teaspoons of each of your chosen herbs (dried) to a large glass container or mason jar. If you're using fresh herbs, use half a cup of each.
2. Boil one quart of water and pour it over the herbs. Let them stew for at least 4 hours or overnight.
3. Strain the liquid, and then add 2 tablespoons of apple cider vinegar to it, along with any essential oils.
4. Mix it well and use it after you wash and condition your hair. Leave it in for twenty to thirty minutes, and then rinse it with cool water.

Bathtub Teas

If you're feeling tired, stressed-out, or sore, bathtub tea is the way to go. Herbal teas can help you relax, rejuvenate, or recharge. An herbal bath tea is very like the herbal teas we drink. The only difference between both is that herbal teas are drunk straight from a cup, while bathtub teas are used to soak the whole body into. You need a muslin bag or old cheesecloth to put your favorite herbs into before you draw a hot bath and steep them. This way, you know that the herbs are fresh, don't have any bugs or larvae inside them, or are not overly processed.

Commercially made bathtub teas, on the other hand, are overly processed. Often the herbs used in teas have their essential oils drained before they are dried. This means that they don't pack the punch that fresh or freshly dried herbs do. However, if you're growing herbs in your backyard garden, then this is a DIY recipe that you can get behind.

Ingredients You Need to Craft Bath Teas at Home:

Making Your Bathtub Tea

- Herbs of choice (Use two tablespoons of each herb to each batch—6 tablespoons per bath.)

For relaxation:

- Rose petals and lavender—for lovely scent and relaxation.
- Calendula and chamomile—offer soothing properties and help soften the skin.
- Sage and lemon balm—to relieve stress
- Hops and hyssop—for restful sleep

For rejuvenation:

- Peppermint and lemon balm—soothe and rejuvenate the mind and body
- Rose petals and lovage—invigorates the mind
- Jasmine flowers and dried lemon peel—ease stress
- Epsom salt (optional)
- Lemon or orange peels (optional)
- Rejuvenating Bath Tea (1 bath)
- 1 teaspoon dried comfrey
- 1 teaspoon dried alfalfa leaves
- 1 teaspoon dried parsley
- Peel from 1 lemon
- Peel from 1 orange
- Skin-Nourishing Bath Tea (for five baths)
- 1/8 cup lavender flowers
- 1/8 cup chamomile buds
- 1/8 cup calendula buds
- 2 cups Epsom salt or sea salt

- 1 cup baking soda
- ½ cup powdered milk (optional)
- 15-20 drops essential oil of choice (optional)

Equipment You Need to Make Bath Teas at Home:

- Muslin drawstring bags or an old cheesecloth
- A big glass bowls
- Measuring spoons
- Measuring cups

Procedure: How You Can Make Bath Teas at Home:

1. Making Your Bathtub Tea
2. Measure out two tablespoons of two herbs of your choice into a glass bowl. You can also add one more herb of your choice. Mix them together.
3. Take a muslin bag and carefully pour the herbs into it.
4. Draw the drawstring tight and close the muslin bag. Store in an airtight container until needed.
5. Rejuvenating Bath Tea
6. Peel one lemon and one orange. Both should be washed thoroughly.
7. Put the peels into a muslin bag with the other herbs.
8. Tie the bag securely, and store it in an airtight container until needed. Or you can use it as soon as you want.

Skin-Nourishing Bath Tea (for five baths)

1. Put the herbs, salt, and baking soda in a bowl. You can add ½ cup of powdered milk if you want to make your bath creamy.
2. Add 15-20 drops of essential oil.
3. Mix the tea and divide it between five muslin bags. Keep it in an airtight container until needed.

All-Purpose Cleaner

Commercial cleaners are riddled with chemicals. These chemicals make their way into your bloodstream and cause everything from allergies and headaches to reproductive health deterioration to cancer. Popular cleaning products, such as the Ajax Multi-Purpose Cleaner, have also been known to cause skin allergies, respiratory problems, and increased cancer risks.

In contrast, homemade all-purpose cleaner is just as efficient, more beneficial, and easy to make. You can make your own all-purpose cleaner with baking soda, white vinegar, hydrogen peroxide, rubbing alcohol, or even liquid castile soap. The options are endless—and inexpensive. Homemade cleaners are also better for the environment as they involve less processing than commercial cleaners. You can reduce your exposure to toxins by using homemade cleaners and can save your health.

Ingredients You Need to Craft an All-Purpose Cleaner at Home:

- 1 ½ cup distilled or boiled and cooled water—water is a medium for bacterial growth, so you need to ensure that you use clean and clear—distilled—water in your natural cleaning products.
- ½ cup White vinegar—Vinegar has a pH of 2, which is acidic enough to remove grease and dirt from surfaces. It can also disinfect surfaces and inhibit bacterial growth. You can also use it anywhere—on the floor, on counters (not marble), on kitchen benches, and much more.
- 25 drops Essential oils—Some essential oils are marvelous at cleaning and purifying surfaces. Many of them have anti-fungal, anti-microbial, and antiseptic properties.

Here are some essential oils you could use:

- Wild orange
- Thyme
- Tea tree
- Siberian fir
- Lime
- Lemon
- Eucalyptus
- Coriander

- Clove
- Cinnamon bark
- Cilantro
- Cedarwood
- Cassia
- Bergamot
- Basil

Equipment You Need to Make an All-Purpose Cleaner at Home:

- 1 500 ml Glass trigger bottle
- Measuring cup

Procedure: How You Can Make an All-Purpose Cleaner at Home:

1. Sterilize the glass bottle before using it. This means that you must fill it with boiling water, let it cool, and then drain it.
2. Once the bottle is sterilized, add all the ingredients to your glass trigger bottle.
3. Screw on the lid and shake well until everything is mixed.
4. Use it as you need to.

Lip Balm

Like other beauty products, Lip Balms are loaded with harsh chemicals that are terrible for both the skin and the body. These chemicals include petrochemicals, parabens, oxybenzone, and emu oil, among others. All these chemicals can deteriorate your health and make you susceptible to cancers and other health problems. They are also extremely damaging to the environment.

Organic or homemade lip balms, in contrast, are made from natural ingredients that provide many health benefits. They not only heal cracked lips but also protect them from future damage. For example, lips balms made with carnauba wax moisturize and soften your lips. Yet, they also boast inflammatory and anti-bacterial properties that can heal, protect, and prevent damage from occurring on your lips from sunlight, pollution, and extreme temperatures. Homemade lip balms are also environmentally friendly because they are chemical and pesticide-free and are made from biodegradable materials.

Ingredients You Need to Craft Lip-Balm at Home:

- 1 tablespoon plant-derived wax (carnauba, soy, candelilla, etc.)
- 3 tablespoons organic, unrefined coconut oil
- ¼ teaspoon kukui nut oil—for soothing dry lips (optional)
- ¼ teaspoon vitamin E oil—for extending shelf life (optional)

- 10-20 drops of organic essential oils of your choice (mint and citrus oils work well)

Equipment You Need to Make Lip-Balm at Home:

- 1 double boiler or a bowl over simmering water.
- 1 glass measuring cup with a spout
- Measuring spoons
- Spatula
- Tins, lip balm tubes, or salve jars (whichever one you have on hand)

Procedure: How You Can Make Lip-Balm at Home:

1. Melt your wax slowly in your double boiler so it doesn't burn.
2. When all the wax has turned liquid, add in coconut oil (your carrier oil). Mix all the ingredients well with a spatula.
3. Add the kukui nut oil and vitamin E oil.
4. Remove the mixture from heat and add the essential oil. Start slowly, and when you think the scent is powerful enough, stop dropping any more oil.
5. Transfer your mixture from the boiler to a glass measuring cup.
6. Pour into tins, lip balm tubes, or salve jars, and let the mixtures sit for at least four hours before using.

Conclusion

Homesteading is a rewarding experience. You will face challenges that may demand you improve your skills and abilities. Homesteading is about self-sustainability while still devoting yourself to cultivating the land you have available to you. It is the opportunity to learn how to live simply while developing skills and your personality in a way that probably never seemed possible in our technological age.

Share your experiences and help others develop skills that can help them become more self-sustaining. Homesteading is a lifestyle that brings joy and relief into your life while filling your days with tasks and hobbies that pay off day after day with outstanding physical and emotional rewards.

The higher the quality of the foods you consume, the healthier and more energetic you and your family are. Growing, caring for, and maintaining your own crops and livestock is going to give you the best advantage for ensuring its nutritional value. The concept of urban farming and backyard farms is continuing to grow in popularity. Take what you learned from this book and become part of this movement that improves the quality of human life as

well as the quality of the environment and ecosystem that all humans depend on for survival. You're ready!

It is my sincerest hope that you learned new information in the course of reading this book and that you are inspired to take action

When you grow your food in your yard and garden, there are a few benefits that you stand to gain. The most noticeable, tangible benefit is that the food is going to be of significantly better quality than conventionally grown food. Learning to grow chemical-free, organic produce and keeping weeds and pests under control naturally is one of the many concepts covered in this book. Eliminating chemical pesticides and artificial growth hormones from the foods you eat is a great advantage to long-term health and wellness.

More than that, you can taste the difference between a natural, organically grown vegetable and a conventionally grown one. Meat that is free-range, grass-fed, and not enhanced with artificial growth hormones tends to be leaner, less fatty, and more flavorful. Getting yourself into a self-sufficient lifestyle allows you to successfully provide yourself and your family with a steady food supply all year round.

Every new venture needs a starting point. Yours is going to begin with setting up a timetable and calendar, as well as learning to

utilize the space you have with the proper garden plot, soil, and fertilizer. Everything you need to get started, from building raised beds, or using the land you have, to more advanced grains and fruit trees, all the way to keeping mini-farm livestock for more than just eggs, is within these pages. There is never a wrong time to begin educating yourself and starting to plan your homestead.

Remember, you don't have to do it all at once. Taking small but safe steps is the only way to start this journey. Homesteading may be all about independence, but that doesn't mean you have to be isolated. Don't be afraid to reach out and ask for help or advice. Many people would love to share their experiences and help out (myself included), so don't hesitate to let others in. Learning from others' mistakes, along with your own trial-and-error, is what guarantees productive seasons.

Happy homesteading!