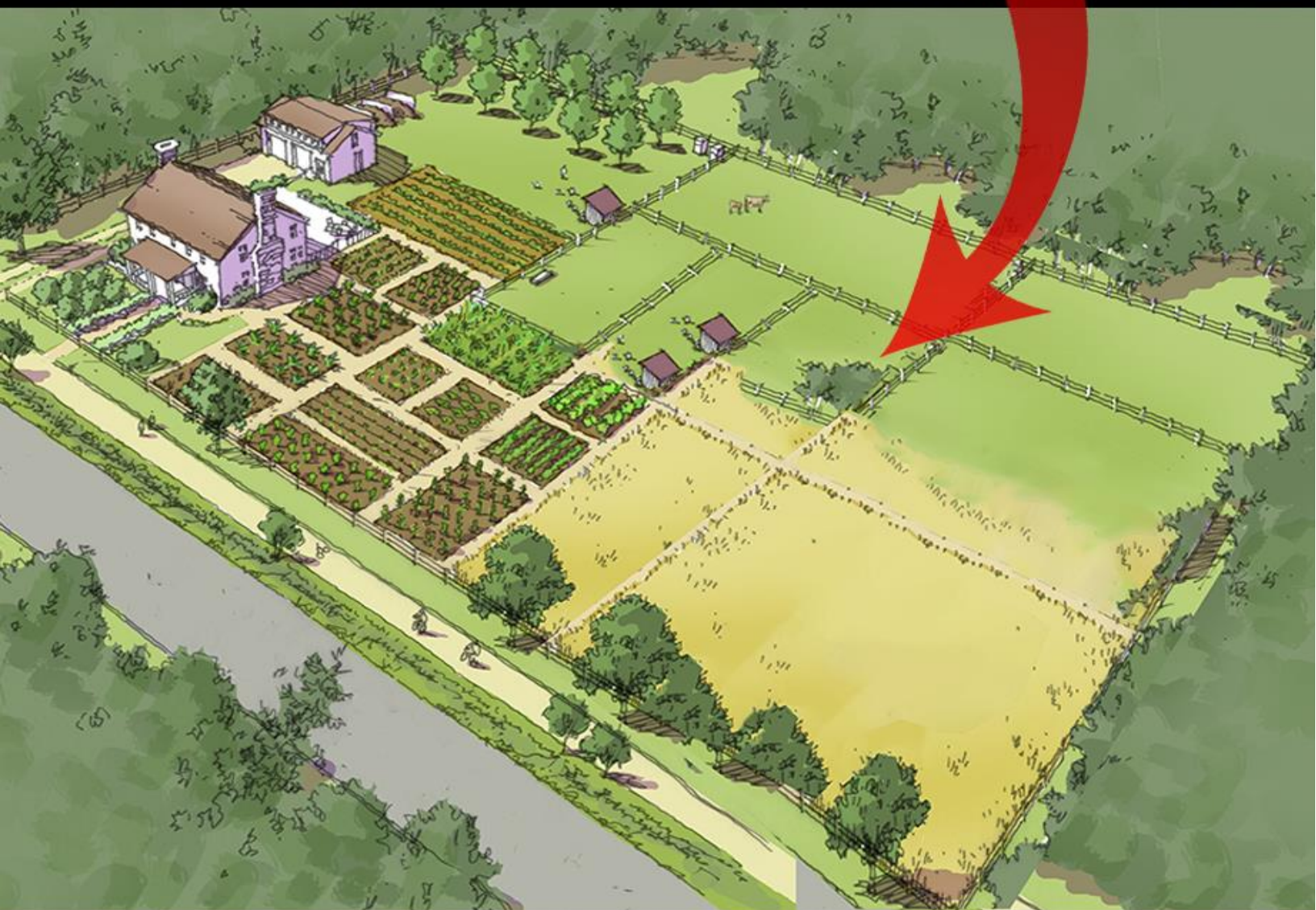


*How To Become Self-Sufficient on **4 ACRES** of Land*



by Aaron Michaelson



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- Introduction -

I could only guess the path that brought you to this book. Maybe it was a closer look at our food system and the many dark parts that make it go round. The horrors of factory farming and the lack of nutrition in the produce on store shelves may be enough to push you in this direction.

Then I wonder if I am dealing with someone who is preparing for something much worse. Are you looking at the world around you and hearing the grains of sand drain off humanities hourglass? Perhaps you think that our way of life will radically change due to a cataclysmic natural disaster or a human induced disaster.

Maybe you always have wanted to farm. Farming and self-reliance can get its hooks into you and for generations it's something you cannot escape. This instance is not too hard to understand. This is particularly true of this day and age. It seems people are reacting to intrusive technology by looking deeper into the real world.

No matter your motivation this book is going to guide you through becoming self-sufficient on 4 acres of land. This book will include tips and skills for planning, planting and caring for animals on your 4-acre plot.

Formulating a layout for your entire homestead is a very important part of getting started and we will discuss several ways that we can use our resources on the land to dictate how this layout should look.

We will cover the layout of the vegetable and grain garden as well as how to rotate these beds to assure optimal growth. We will talk about sustainable fertilizing and watering methods as well as location for optimal sun. All of this is vitally important in growing enough food for yourself and your family.

If you are truly living off grid you will need to have access to medicinal herbs and plants as well. So, we will look at introducing these herbs into your gardens and even a medicinal garden where you can focus on the types of herbs and plants that will help your family in times need. There are also remedies that can be found in trees as well.

What kind of self-sufficient farm would we be planning if we didn't have some type of an orchard. We will be examining planting fruit and nut trees on the property to offer

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diversity in your food sources. We will talk about planting and caring for these types of trees as well.

Finally, we will cover the types of animals to keep on your homestead property and what additions or structures do you need build in order to have an effective homestead. We will cover things like smokehouses, barns and root cellars. Greenhouses and solar dehydrators are a couple other builds you may consider for your farm as well.

This will be just the guide you are looking for when looking to start a farm on 4 acres of land. The tips and skills that we include in this volume will allow you to establish a chain of food production that will even include some levels of storage and preservation.

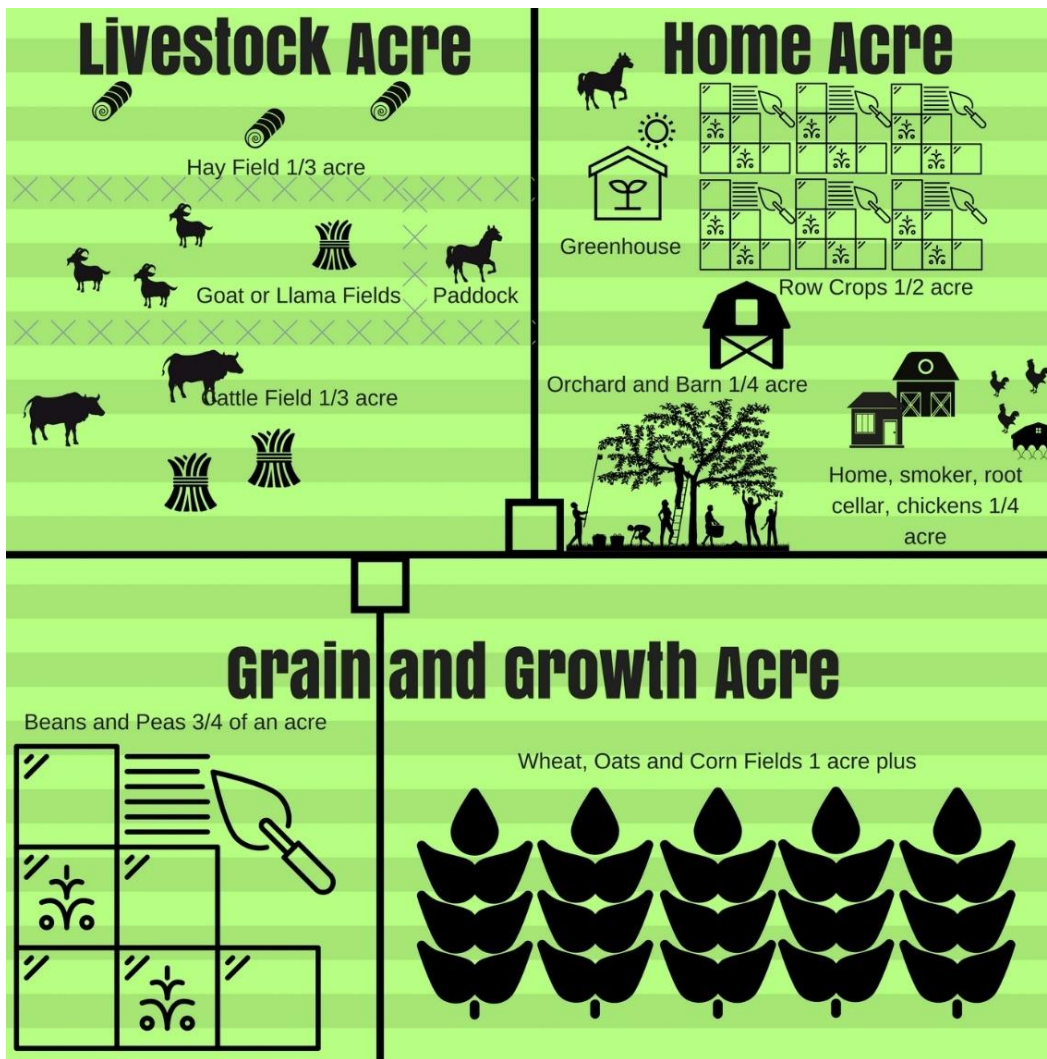
I hope you enjoy this.



The Farm Plan and Layout

There may be nothing as important as laying out your self-sufficient 4-acre farm. If you simply begin building things that are void of rhyme and reason you are going to miss out on some great opportunities.

If you have already purchased your land use the power of Google maps to print out an overhead of your property. On this overhead, you should be able to sketch your entire homestead and I encourage you to use this portion of the book to do just that.



This graphic represents the major portions of the farm. Each section will be discussed in detail in the chapters to come.

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Before we begin the layout let's look at a few naturally occurring features that make a good homesteading property like freshwater streams, pond, hardwood forest for timber, hills and pasture.

This is a great exercise even if you haven't purchased land yet. If you are considering land this sketch will help you discern a great homesteading property from a bad one. If you cannot fit all that you need into this layout without serious investment in clearing trees or some other project, seek out a new property.



Chapter 1 - The Home Acre

We will start with the home acre as it will have more structure built on it than any other location. Your home acre will be most effective on an area of your property that is mostly level. You will build multiple support structures on this property and it will be important that you plan that properly. Level ground will be a life and money saver on the home acre.

Save your hilly and clear locations for the livestock acre. This provides exactly what they need and is less than ideal for building.

The very best locations will have a stream on the home acre that may provide fish. This stream could also be a source of hydro power if you build a system that can use the force of the water to generate that power.

You will be looking to accomplish a lot on your home acre. One of the most important things to have on the home acre is your own home, thus the name. Here are a list of other important structures and functions of the home acre:

- Barn
- Dairy
- Chicken Coops
- Bee Hives
- Duck Houses (if you have a pond)
- Orchard

Structures will make up a large part of the home acre but you will also grow some food there as well. Ideally the front of your home will give way to a small orchard of trees that provide fruits and nuts. You will also grow soft fruits on this acre as well. This will consist of shrubs and bushes.

If you decide to grow things like strawberries I would recommend doing it inside of a greenhouse in gutters. This method keeps the berries safe from pests and offers an ideal growing environment for the berries.

You have several options for the back end of your home acre. This area should be used for row crops. Root vegetables and hearty, life sustaining crops are best here. This section should take up a good section of your home acre. You will grow crops to feed you and your animals as well.



Some notable examples of row crops for this section would be.

- Potatoes
- Beets
- Turnips
- Kale
- Collars
- Sweet Potatoes
- Carrots

This section could also be home to a section of reforested land. This land should be forested for your benefit using trees that you want to grow. There are many beneficial species of trees that will offer tons of benefits.

Spruce

A small forest of well-spaced spruce can be used to make money for your homestead during the holiday season. You will be growing Christmas trees and as long as you can get the word out you will be able to sell these trees for \$20-\$30 each which is much less than your cost to buy and plant saplings.

Spruce is also great wood for building and offers some benefits if you are creating your own bedding for animals like rabbits. The spruce forest is a fantastic addition to your property.

Sugar Maple

The sugar maple is one of those trees that is synonymous with farmhouse living. There is something about a big breakfast in the morning and the maple syrup that was made from the sap of your own trees that really speaks to the self-sufficient 4 acre farm.

A forest of strong sugar maples can be tapped each year. By tapping these trees, you can collect the sweet sap that will be boiled down into maple syrup. This is not only a great thing to have around the home but it is also another option for selling to the public.

Pawpaw

If you are further south your homestead will have to deal with the summer heat but it will reap the benefits of the pawpaw tree. This tree produces an amazing fruit in the latter part of the summer. The fruit is long, fat and green and grows in bunches. When its ripe it softens and has a consistency similar to a banana and mango mixed.

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The pawpaw fruit is delicious. It's a real treat and is the only exotic fruit that grows as far north as Virginia.

When planning your home acre, you should also consider roads and access. This will be the central location of your whole farm and should offer quick access to all other locations of the homestead. You do not want to have to bushwhack through forest to get to your crops or livestock. Clear that land early and maybe even drop some gravel to create a walkway or road.

Take time with your home acre and use all your resources to get it just right. The rest of the homestead will focus on the use of the pre-existing land for the most part. Here on the home acre you will do the most manipulation of the land and incur much of the costs of your homestead.



Chapter 2 - Grain and Growth Acre



This is the only section where we will discuss the layout of two acres in one. The reason for this is because the grain and growth acre may not be one acre each. Depending on the season you may opt to let one section bleed into the other.

The ideal location for both the grain and the growth acres is in a space in front of the home acre and the livestock acre. The area should offer you plenty of open space with great sun to grow things like feed corn.



These two growing acres will play a crucial role in feeding your family and your livestock. The success of these two acres will make homestead living possible. In most cases I would plan to offer up much of the space in this section to grains. Using 2 acres plan on grains taking up $\frac{3}{4}$ of the space and your other vegetable growth taking $\frac{1}{4}$ acre.

Soil

The amendment and modification of soils in these sections should be step one. You are not going to have adequate soil to grow in these locations. You may also want to



consider raised beds or another method of growing food besides direct sowing. If you want to save yourself the trouble of fixing something take that into consideration today.

The quickest method for bolstering the soils at your homestead is to truck in some high-quality amendments. Things like organic compost are great, you may even consider adding things like fish or rock dust to your soil as well.

To increase airflow, you will want to consider an amendment like coconut core or something that will help aerate your soil to avoid compaction. This is particularly helpful in your vegetable gardens.

The amendments you choose will depend on the condition of your soil on the property. Some soils will require tons of amendments and other may grow well with just a minor change. If the ground is too bad to work or amend consider raised beds for your vegetables and a onetime tilling and amending for your grains.

Tilling

The tilling of land on this farm will be handled by the animals. You will need a strong bull or a couple capable horses that can get through the soil and prepare it for seeding. This is no easy undertaking and you must be prepared to sink time into these animals.

Horses that pull a plow are called draft horses. These animals will pull your plows and condition the earth for the planting season. Horses aren't born to pull plows. You will need to invest time into these animals by training and feeding them properly so they are prepared to carry this burden.

The best method for using horses to till your land is called shallow or reduced tillage. This is method that does not castaway the benefits of either no tilling or conventional tilling. It falls right in between.

The trouble with no till is that it doesn't prevent weeds and seeds from replanting and choking out crops. The issue with too much conventional tilling is that it rips up your rich bio diversity and turns it out into the harmful rays of the sun. This kills the microorganisms that help break food down for your plants.

By using a horse and the reduced or shallow tillage method you can preserve much of your dirt beneath for strong root growth mean while disturbing the surface to make for easier planting and better weed control.



Choosing your Grains

Once you have some workable soil you must consider types of grains you are going to grow on your 4 acre farm. To optimize what's possible on your acreage I would recommend the following grains.

- Wheat
- Oats
- Barley
- Corn

You could also plant a winter crop in these areas as well. Jerusalem artichokes are great option for this. They are highly invasive so it will help if you have pigs that can be run in these locations to dig up the roots.



Growing grains is not very hard but here are some tips that will improve our success.

1. Be sure that your land is ready for grains. We covered this in the soil section
2. Use fertilizers. Keep them natural and renewable if possible. Livestock manure is best.
3. Seed right on the ground and drop your seeds in a circular motion. Water your fields immediately after.
4. Water is crucial to growing good grains. Be sure that you keep them watered and consider irrigation if you are in a dry area



These grains will be used to feed your livestock and your family. If you haven't seen the similarities I will tell you now that a homestead is a hive. Everything and everyone on the homestead is working for one another. This is a lesson you should never forget. It will help you along your journey.

Rotation and Fallow Fields

When growing grains, you will find that these fields need to be rotated to get an optimum yield out of your crops. The reason for this is because the soils are depleted from growing grains. Depending on the grain it will pull diverse types of nutrients out of the soil.

The practice of crop rotation goes as far back as biblical times. It's a practice used for timing as well as conservation and productivity of soils.

Two Field Rotation - This method works on the basic principle of growing on half of your land and the other half remaining fallow for half of the year. These fallow lands are often covered in manure or compost in preparation for its next growing season.

Three Field Rotation - This method broke the land in thirds and offered the ability to grow grains as well as peas and beans while a third field was left fallow.

Four Field Rotation - Wheat, turnips, barley and clover were used to work the four field rotation practice. This allowed for a grazing crop to be grown and to put nitrogen back into the field. The crops were sequenced throughout the acreage and the fields performed better for each crop no matter its field location.

Vegetable Growth

The home acre will contain much of your row crop growth as well as some other soft fruits and orchards. The vegetable growth will be important for your own substance. Things like tomatoes and eggplants will be kept on the home acre. I would recommend a small garden in raised beds for those nightshades like tomatoes and peppers. This soil can be revitalized by compost and natural fertilizers.

In the growth and grain acre you will be able to grow beans and peas just as mentioned in the four field method. You should reserve a small section of the growth and grain acre for just that purpose.

- Pole beans
- Long beans
- Sweet peas
- Broad beans

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You can choose to rotate this area of bean growth to add nitrogen to your soil or you could use the manure from your livestock. Either way this portion of the growth and grain acre will offer great food options for you and your family along with foods that preserve very well.



Chapter 3 - Medicinal Herb Garden



Depending on your level of experience with herbal medicine you should consider your herb garden a supplement to various other methods of keeping yourself healthy. If you truly want to live on your own self-sufficient 4 acre farm and remain off grid, health should be your number one priority. Remember, nothing happens unless you have the energy to make it happen.

Diet and exercise along with good personal hygiene will be crucial to staying healthy on the homestead. Simply washing your hands after your return from the field and making it a habit will keep you healthy.



Fortunately, planning a medicinal herb garden is not very hard. With just a handful of herbs and plants you can have solutions for times of illness, injury and even some plants that perform as foods. I am a big fan of the dual use herb garden. Keep your herb garden on the home acre to assure these herbs can be easily upkept and are easy to get to in times of need.

Echinacea - This powerful purple coneflower comes with all the immune boosting properties your body will need. The beauty of the coneflower is that it can be just as ornamental as it is practical. The coneflower will do great growing around your



homestead as long as it gets plenty of sun. You could choose to include it in your actual garden or growing it along the borders of your home.

- Great in teas for boosting immunity when you feel less than yourself.
- Use roots, petals and leaves

Rosemary - I don't know how anyone cooks without rosemary. This flavorful herb is also a powerful antibacterial. I love to burn rosemary as well. It is said to ward off bad spirits. The rosemary bush is a perennial and if you keep them healthy they will last for years.

- Make rosemary essential oils to put in soaps, on cuts and in salves

Fennel - The strong anisette flavor of fennel lends itself to some culinary applications as well. Fennel is best used for stomach conditions like nausea and bloating. This plant grows very large fronds but the bulb contains most of the power.

- Fennel teas are highly effective using the fronds and the bulb and straining them.

Garlic - Garlic should find its way into most of the things you cook. It has almost mythical antibacterial properties. You can treat cuts directly with cut garlic or smash it and make a rub. The benefits of eating garlic are too many to name but it will affect your heart, gut and overall health in a very big way.

- When you cut garlic for medicinal applications allow it 10 minutes to reach peak efficacy. Once exposed to the air powerful chemicals are enacted.

Mint - Perhaps one of the most recognizable of all the edibles, mint finds its place in modern medicinal practices even today. The lozenges and the vapor rubs that stink up the house in cold season almost all have some form mint in them.

- Essential oil of mint placed on teach temple can do wonders for headaches. Also, great on aching, homesteaders' feet.

Licorice - As one of the most widely used herbs in the world licorice deserves a spot on your medicinal herb garden roster. The root has a tremendous soothing effect on the throat and mucus membranes and has been shown to help with inflamed mucous membranes.

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- The root is also a great toothbrush. Simply chew the small root and use it to brush in and between teeth.

Cayenne Pepper - Another of the multi-use herbs this pepper and its natural spice work well on soothing inflammation in the body. The cayenne has been lauded for these properties since the time of the ancient Chinese.

- Dried and ground this pepper can be used for sore muscles, in rubs or in spaghetti sauce!

This collection of medicinal herbs will offer you solace from much of what the microscopic world throws at you. I would still have a few medicines on hand that can be used if the medicinal herbs are not effective enough. If you are far from society I would be even more considerate of this.



Nurture you're beds with good sun, water and fertilizer and they will become your medicine cabinet!



Chapter 4 - Fruit and Nut Trees

On your home acre, you will have fruit and nut trees for your own consumption. These trees will more than likely make up a small orchard. Some farms focus on these orchards and create pick your own programs that allow income from the trees. There are benefits and risks to going in this direction. If you are looking for seclusion keep your orchard to yourself.

Farming on such a small space means you want to derive as much food from those 4 acres as possible. By growing fruit and nut trees, you are creating an opportunity for clean protein that can be eaten right away or stored. You are also growing fruit that does great in preservation.



Choose trees that bear fruit and nuts that you enjoy eating. It's important that you are growing foods you are going to eat and not foods that you think you should be growing. Most trees, if they do not have climate conditions, will grow successfully as long as you plant them and care for them properly.

Some universal rules with your fruit and nut bearing trees carry on from the planting process well into harvest and beyond. If you keep to these universal rules you will have success with your fruit trees.

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You may want to explore your particular species of trees more in depth to figure out how to maximize yield. You will find that there aren't many differences in how you care for trees but things like figs may need some help through winter months with protection from the cold. The nuances of each species could make a big difference or a minimal one. So, once you choose to begin to study.

Location and Planting

The sun should be the deciding factor of where you locate your orchard. You will need a location that gets at least 6 hours of sunlight. This will assure the tree gets all the food it needs to produce sweet fruits or nutritious nuts.

Your next consideration is the amount of space. I would recommend planting dwarf trees as they take up much less room and can be pruned and grown near one another. On a 4 acre farm, no one benefits from walking a big orchard.



Dig a hole about three times the size of the root and amend the soil with compost to feed the root and the tree. **DO NOT ADD FERTILIZER TO THE HOLE.** The fertilizer burns the roots and will slow the growth of your tree or kill it.

Pile up the compost around the tree to form a basin that will aid in holding the moisture and keeping your tree satiated. Follow this up with a good mulching to assure that you have maximum protection and moisture retention.

Protection



Young trees are vulnerable. They can take a lot of damage from the world around them. There are two methods that work best for taking care of these dainty trees.

The first is to paint the young trunk of your tree with a 50/50 mix of white latex paint and water. This mix will protect the tree from sunburn. You can carry this on for several years until the trunk is larger and more mature.

The next step is to put a thick bag or some fencing around the lowest parts of the trunk. You want to create a barrier between your tree and the wildlife that may come nibbling on the young bark. Rabbits can be devastating on these young trees.

Pruning

Pruning should be done for most trees in February to assure they can recover from any damage done by pruning. If they are done too early they could be affected by the cold as well.

Leave only the strongest branches and cut any trunks from the base that are less than 3/8 of an inch. This will assure you only have branches that can hold up the fruits that will grow on them.

Each year you should cut your fruit and nut trees back three inches. These three inches should be taken off the branches that you do keep.

Fertilizing

A onetime fertilizing will help your tree produce. You can buy fertilizers specific to your type of tree but as a self-sufficient 4-acre farm you should look at alternative, renewable fertilizers. Your trees will struggle to produce without a strong fertilizing each year.

After the application of the fertilizer, water the tree regularly for about a week to assure the food gets down into the roots and is easily absorbed into the tree. This will give the tree the nutrients needed to produce plump juicy fruits and delicious nuts.

Pest and Fungus Protection

Pest and fungus control is critical to your trees survival and the survival of your harvest. You must have a proven way to handle the growth and proliferation of organisms that will ruin your fruit and the tree itself.

A natural and sustainable mix you can use each year is ideal. I have one such mix that will work well for your trees. This mix can simply be placed in a hose sprayer and applied a few times each growing season. You want to apply before the pests arrive to deter them and then treat if you see any changes.

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Fill your bottle with 1 cup of dish detergent, 5 garlic cloves pureed, 2 hot chili peppers pureed (cayenne from your herb garden will work) and allow the rest to be filled with water. Hook the sprayer up to your house and coat everything.

These trees will add another layer to your food production. You are creating layers of protection against hunger and canning fruit and storing nuts is a tasty layer to add to your food storage. Managing your orchard can be easy if you follow the steps provided.



Chapter 5 – Animals and Livestock Acre



On a 4 acre, self-sufficient farm your livestock will provide much more than just meat. Thinking about things like cows and pigs it's easy to consider them as merely meat in the making and maybe a little waste removal or lawn mowers. The truth is these animals will hold very real working roles on your farm.

Your larger animals will do much of the physical labor. The plowing of fields can be done by strong bulls or horses. Lambs or alpacas are great animals to have on your property to create wool for clothing and cloth based items. Even something as small as a chicken, if allowed to free range, will help with populations of things like ticks and other pesky bugs.

The symbiosis with your animals is what farming livestock is all about. They will not survive without you just as you will cease to be without them. There is a respect in that relationship.

Old Knowledge

The importance of old knowledge when it comes to rearing livestock is of the utmost importance. The movement of off grid living has yielded lots of information. One of the most overwhelming things is the reliance on old knowledge. This knowledge extends beyond just techniques and process on the farm.

Old knowledge is also the understanding a family farmer can have that has been cultivating resources on hoof and root for centuries. These farmers are highly accessible and will be all around your property. Take the time to speak to them and heed their warnings. They will offer loads of knowledge on many subjects.

The nuance they offer will be unparalleled. They will know the land, the seasons, the pests and the predators. They will know what things will work on the land you have chosen to farm and, most importantly, they will know the failures. You will be able to avoid all of this by simply making friends and keeping an open ear.

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Don't feel useless in this relationship. Technology is taking an increasing role in farms and though you may not have old world knowledge about farming you could barter for your knowledge of technology or another level of expertise.



The Breakdown

- 2 cows
- 6 sheep or another sheer able animal
- At least 20 chickens (hens and cocks)
- 2 horses
- 2 beehives
- 3 pigs

To support these animals the design of your livestock acre is crucial. The inclusion of grazeable fields and paddocks as well as hay fields will assure you have all you need to feed your livestock and allow them important space to exercise and stay healthy.

Up until now we have used 3 of our 4 acres. This means we have reserved the final acre for much of our livestock. While some of your livestock will live on the home acre. A large grazing pasture will be necessary for your grazing livestock.



You will also want to segregate a few small paddocks for your horses. A best practice is to keep two working paddocks and another that is on recovery from activity. Paddocks are used to exercise horses and allow them a place to be outside. They will damage the land under hoof so you will want to rotate paddocks to ensure they don't get destroyed.

A very simple breakdown for your livestock acre would be 2/3 grazing pasture which features 3 small paddocks for your horses. The last 1/3 should be kept for hay. This will feed your animals as well.

Animals for Work

Your self-sufficient 4 acre farm will require some muscle and this muscle be above your paygrade. Having a bull or strong horse around to plow your fields and move carts with heavy loads is critical.

Other animals will do work around the farm as well. In fact, having a diverse group of animals on your farm will help deal with various types of pests. Creating a farm of monoculture or one species is highly problematic. This is because some pests affect certain farm animals but are eaten by others. There is a worm that affects sheep but lay their eggs in the grass which are then consumed and destroyed by cows.

Even something as benign as a pig will play a large part in rooting out your vegetable fields. They are the only livestock animal that will dig beneath the ground to get to roots.

All your animals will also work each day to produce some of the finest fertilizer in all the land! The horses, the cows and the chickens create some great droppings for use in your gardens. The chicken droppings will need to be composted but the other manure can be directly applied to your fields.

Animals for Meat

The obvious benefits of having this selection of animals on your farm is that you have access to meat. You must be careful about how you manage your animals for meat. You will want populations to stay healthy and strong.

Aside from the horse you can eat all the livestock you will keep on the farm. Your major concerns with harvesting animals should be about having enough livestock to ensure a healthy population in continuation.

Your cow will come up for slaughter and you must have a replacement. Again, these are the animals that will keep you alive. When you lose a meat cow you will also be losing a dairy cow. On a 4 acre farm, you will not have the benefits of having both. Another option is to have dairy goats on your farm. Just remember you only have so much land.



After the slaughter make sure you get the most out of your meat. Smoke those cuts you cannot eat right away and store them in lard. The French called this method confit and it will drastically improve shelf life. You can also age meat as well by hanging it in a cool place.

Animals for Fur

Unless you have a specialty farm where your wool brings in money you will not have the luxury of keeping many of these animals. Big producers like sheep and alpacas are great options. For me there is nothing like a tasty lamb in the spring so that gets my vote. Your motivations may be different.

This wool is an essential part of your self-sufficiency. You will be able to make things like clothes, blankets and many other garments. You are only really limited by the skill level on your farm. That skill level can always be improved.

Wool clothes are exceptionally useful in the wintry weather as they keep your body dry when you are working the farm in cold temperatures. A chilled, wet body can pose genuine issues to your health as it can quickly affect your core body temperature.

Animals for Dairy

Never underestimate the importance of dairy on the farm. Sure, you may not be a glass of milk a day person but dairy represents much more than that. When you consider that you will be getting the highest quality, grass fed, dairy you must take that opportunity.

From your dairy, you will be able to create butter, yogurt, cheese and buttermilk. These are delicious ingredients that will increase the quality of life and nutrition in for your family on the 4 acre self-sufficient farm.

Grass fed animals offer incredible benefits through their dairy. They gain powerful omega fatty acids from the grasses that make the milk and the items made from the milk are very beneficial to you.

For cows, they will only produce milk if they have a calf. This is a concept lost on many who are new to farming. This means you must either have a bull on the farm or plans for insemination with another bull in the local area. This needs to be part of your dairy plan.



Tools for Livestock

As well as having animals on your farm you must also have the tools needed to care for them. These animals will require grooming and maintenance. It's just like anything else in life. If you have the right tools it will make getting the job done much easier.

- Hoof Trimming Knives
- Brushes
- Sheers
- Hay Fork
- Manure Fork
- Stable Broom
- Wheelbarrow
- Spray for Pests (if they are an issue)

There are many more tools for livestock that are particular to each species but these pieces of the puzzle are some of the most important. As you get into more unique jobs that are particular to certain animals you will find that this inventory of tools will increase.

Water and Minerals

Your livestock will all need access to clean thawed water all year long. They will also need access to minerals to stay healthy. For ungulates, you can drop a mineral block in the grazing field to help them get the nutrition they need.

These animals need lots of water and you mustn't deprive them of this precious resource. If you are fortunate enough to have a pond near your livestock that will be very convenient for you. If not, you are going to have to provide them with accessible water in the fields and in the barns.

Dehydration and mineral deficiencies will negatively affect the animals' health. They will not produce the milk, wool, eggs or meat in the way you need them to. Be sure you are inspecting your livestock and assessing their needs daily. Watch your animals and ask yourself the question, "What do they need today?"

Feed

The pastures will feed your livestock to some degree. When the weather is good and the grass is green it will be great for your sheep and your cows. The pastures will not be the only way that you feed animals.



The need for alternate feed is what will make your grain acre so important. Things like feed corn can be grown specifically for the use to feed your animals. Your horses will want hay and they may want oats as well. This should not pose a problem if you follow the layout we proposed in Chapter 2.

Still, to have the ability to store this feed properly and house it you will want a place to keep it that is safe from the weather and other pests that can get at it. Most farmers look at silos as an option for this. On a self-sufficient 4 acre farm you will not be producing so much grain that you need a giant silo. In our last chapter, you will see barn layouts with silos built into them.

Opting for a smaller silo or an alternate place where these items may be kept is a better method for the small farmer. We are looking for feed to stay dry and be ready on demand when our animals need it.

Of all that we have said about the keeping of livestock you must understand that it is crucial to your homestead. You may shuffle our recommendations as time goes on. You may find some animals more beneficial to your family than others. I would encourage you, as time goes on, to keep a diverse array of live on your farm.

There are other animals that can be raised on a small farm as well. Animals that were not mentioned above but deserve consideration. They may not be something you want to start off with but they could be great additions to your family.

When we are talking about fowl on the farm there is a lot to be gained from keeping ducks. Their eggs are delicious. They will require a pond and will eat up plenty bugs just like their chicken friends. The two can coexist as well on the same farm. You may also consider geese or even raising turkeys.

Talking about the four-legged variety of animals to keep you could also consider some traditional help from a donkey. I know of homesteaders who use donkeys for work and for security!

We didn't mention goats but they are a much more common animal to have on a farm and their milk is delicious. It can be used to make all the items we talked about with a cow. They are also spirited little animals that are great to watch.

Llamas just like alpacas offer that great fur to be cut and kept. There has been a big bump in keeping these animals around lately. They have a coarse outer hair that is great for making rope or carpets but the inner hair is fine and works well for clothes.

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There are many livestock options. Start with the basics above and move on from there. You can get as wild as you want. I have even seen camels on farms!



Chapter 6 - Home Acre Structures



Though your property will be covered primarily in food producing crops and animals there are some structures outside of your home that you will want to have on the homestead.

To be self-sufficient on 4 acres you will need shelter for your animals and the barn will provide you this space. You will also need a place to grow food through the cooler months or to kick off your growing season early and the greenhouse will make that possible for you.

The next two structures are all about extending the shelf life of foods. The root cellar is dug into your property and designed to keep food at a consistent temperature even in the hottest months without refrigeration. These cellars are easy to build but require a little back work or a backhoe.

Finally, you will want to build a sturdy smokehouse. This will allow you to cure and smoke hams, smoke fish and other meats to prolong the life of these foods. You will also be able to make delicious treats like bacon and jerky in your smokehouse.

The development of these structures should happen as they are needed. We will take an in depth look at these structures and more, where they should be located and how to build them in this chapter.

Farm House

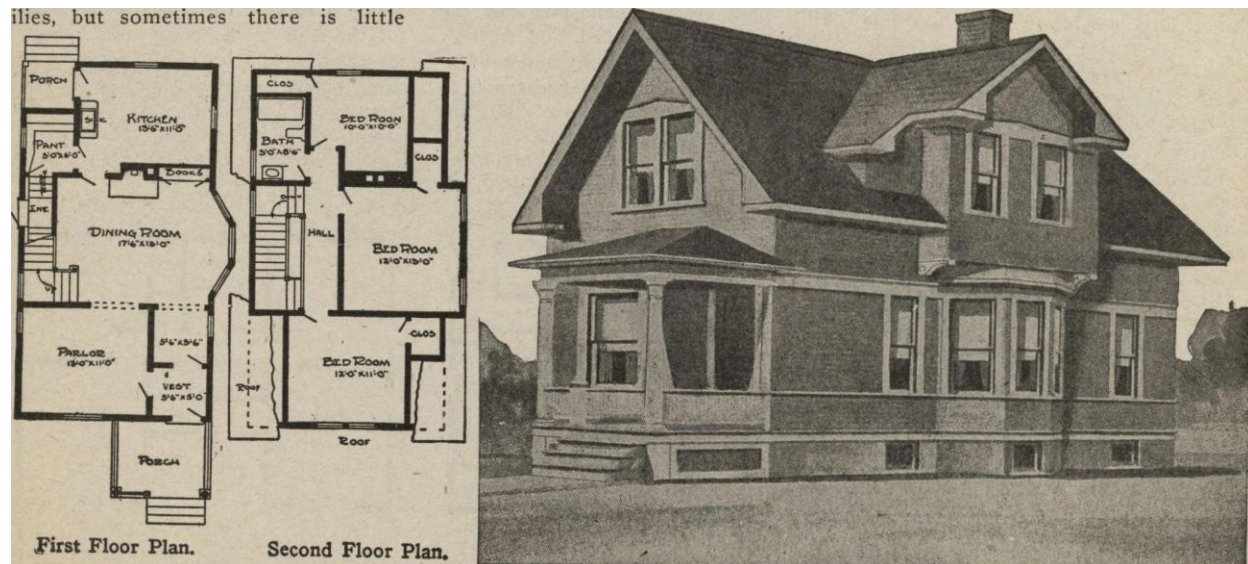
The farmhouse itself is a very important structure. When considering a farm property much thought goes into the building of things like barns, smokehouses and even outdoor kitchens. The farmhouse itself should get a good bit of consideration as well.

Your very capacity to store food in the home is probably one of the most important considerations of all. A well thought out and expansive pantry should be the priority of any farmhouse. For all the storing, canning, packing and preserving that you will do, a place to store it is incredibly important.

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So, too, is the importance of storage space in general. If you are going to be shearing sheep or alpacas and processing this fur into clothing you need a place for that as well. Look at this layout of a classic farm home.



Depending on your location a lifesaving storm shelter may be part of this farm house plan as well. The consideration of basement or a shelter should be made in the initial stages of your farm.

What if you are moving into a farmhouse that was built 200 years ago?

This is an option that many new farmers are looking at. As older people leave land to their families many put that land and the homes on that land up for sale. You may be getting a great deal on a home and land combo but I want you to consider the condition and investment in a home that is so old.

If this home has not had any upgrades you must be prepared for that. This is not to say that buying a classic farmhouse is not a viable option. It simply means that you better have a cushion that will allow you to replace the windows and provide any internal upgrades that will allow the house to work as efficiently as it should.

Farming is no easy path and it will require most of your time. Your animals will be waiting for you 7 days a week and the fatigue of each day will be real. Having a comfortable place to retire after a long day is crucial.



Invest in a comfortable bed and make sure you are using it! Get good sleep. Fix any drafty doors or windows. When you settle in at night that revitalizing sleep will be so important to you. Your farmhouse should be comfortable and efficient.

Barn

The barn is a farms equivalent of a warehouse. Most people see the big red barn and attribute it to live stock but the truth is a barn is a storage unit that can be used for any number of things. It's not uncommon for a large farm to have several and for them to each have very distinctive uses. On a smaller self-sufficient 4 acre farm it may be better to build a larger barn that can be segmented.

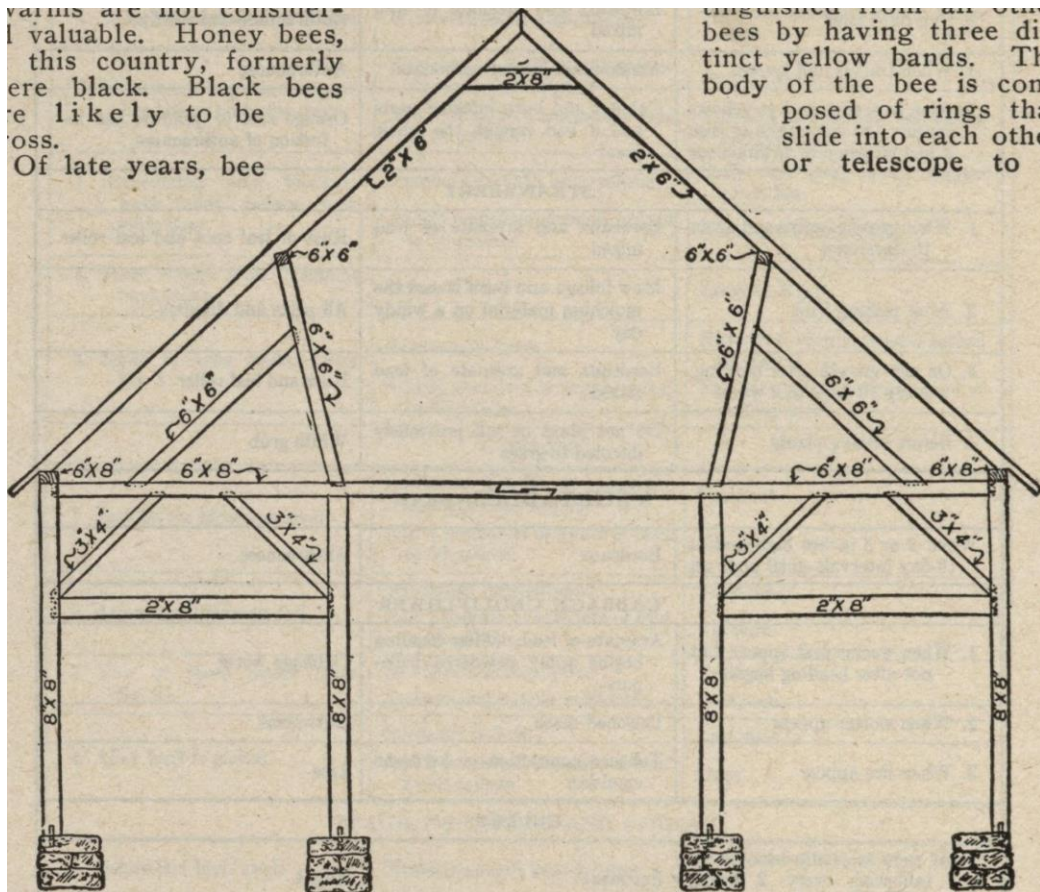
On the farm, these barns are often qualified by what it is they are used for. In other words, it's rare that a working barn is merely referred to as the barn unless it is a multi-use structure. More common in North America is the use of the qualifier i.e.

- Dairy Barn
- Tobacco Barn
- Sheep Barn
- Potato Barn

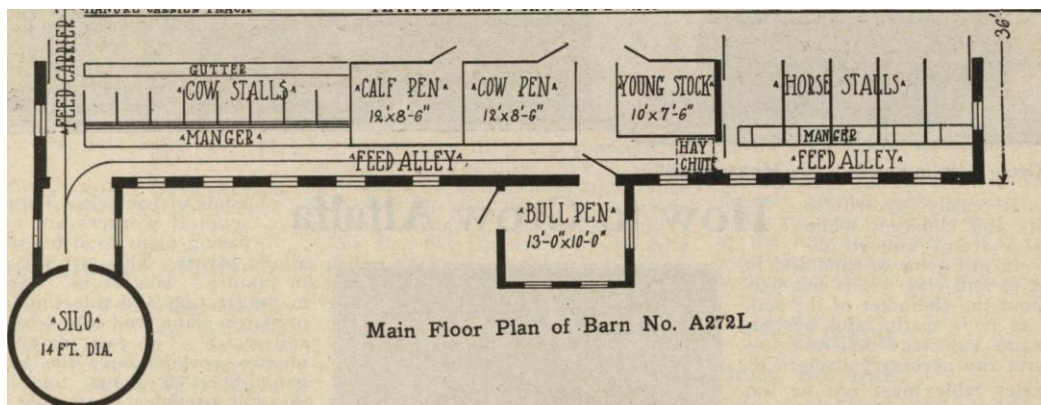
For use on a smaller farm you would be wise to build a larger barn that can be used to house all your livestock. This barn will protect them against the weather and predators as well as provide them a safe place to sleep at night.

Your barn should be big enough to house the livestock but also to offer some room for other things as well. You may wish to store hay in this barn to dry or other grains as well. Treat your barn like your warehouse and you will see that a well-constructed structure can provide many uses.

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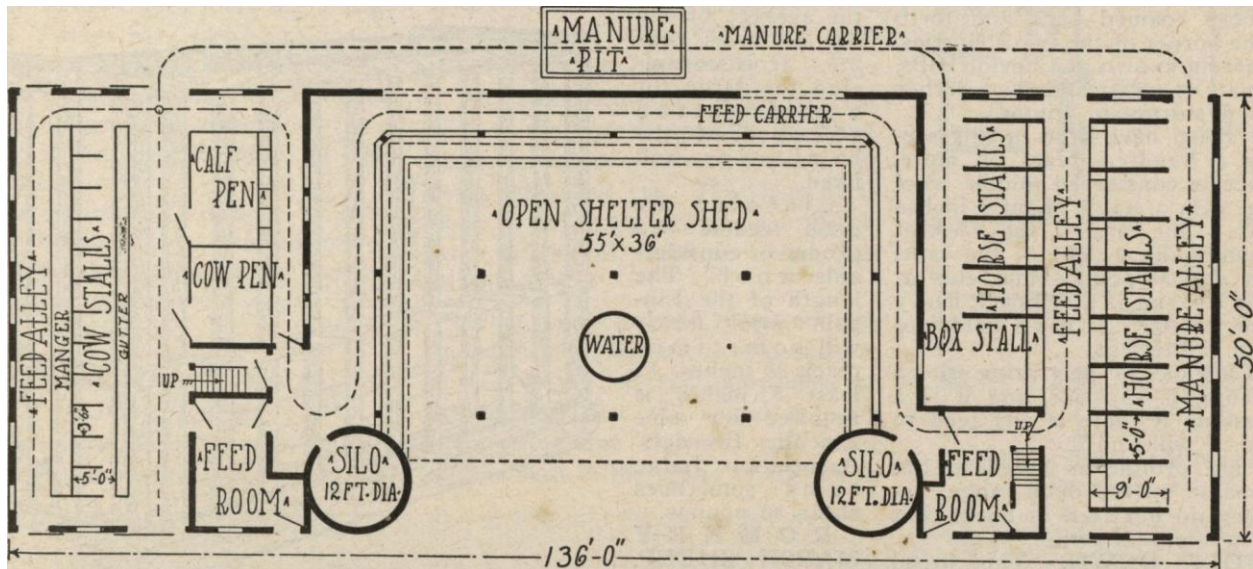


Depending on the time of the year, your barn may look more like a “hayloft” which is an old term for a place to store the hay and grains. Building a structure with the right layout is critical. Now there are a few diverse ways you can do this.



This is a main floor example of a barn layout that also features a silo. This could be an option for your own barn.

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This is an example of a very efficient barn layout. This layout is of a very large barn but one that will handle anything you can throw at it. I really like the manure pit in the back of the barn. Take note of minute details like that when you are planning the construction of your own barn.

You can buy a prefab barn as they are offered by many retailers in the farming industry. Unfortunately, you will not have a barn that works for you. The only way that you can create a custom structure that will support your needs, livestock and grains is to design and build that structure yourself.

Solar Dehydrator

Dehydration will be one of your best friends. When it comes to fruits or vegetables or even meats dehydration can extend the shelf life of these items as much as 20 years! If you store these foods properly they could even outlive you?

Utilizing the power of the sun to dehydrate your food can be very productive. You will be surprised at what a full day of sun is capable of. In fact, there are even ovens that work entirely off the sun's power!

The basic design for a solar dehydrator is a rectangular shaped box that is propped at an optimal angle to get sun. Or you can build an angular box in the shape of a triangle with the longest side being that which faces the sun.



These boxes will be filled with shelves that can hold thin sliced vegetables and fruits to be dried. The very best designs are painted black to attract the sun and bring in as much drying heat as possible.

Many people on small acreage farms swear by solar dehydration and use it more than any other method.

Storing Dehydrated Foods Properly

The storing of dehydrated foods is hardly as technical as canning. If the canning process is not followed properly you can kill everyone in your family. Things like botulism could poison everyone in your household. That is not to say that canning is a complicated process but it is one where the recipes must be followed properly.

The ease of storing dehydrated foods is what makes them so appealing. You will need several storage containers to do this properly. Ball jars are a wonderful way to store dehydrated foods and most farms will already have them. 5-gallon buckets are another great vessel for storing dry foods as long as they seal tight.

Probably the most important material in storing dehydrated foods are Mylar bags of many sizes. There are three sizes that you should store on your phone if you wish to go this route and utilize your dehydrator to its maximum.

- 5 Gallon
- 1 Gallons
- 1 Pint

Beyond the bags, you will also need a collection of oxygen absorbers. These absorbers should be added to each individual container no matter if you are storing 5 gallons or 1 pint insert that oxygen absorber and it will protect your food from pests and oxidation inside.

The 5-gallon container is one that can be used to store copious quantities of dehydrated and dried foods. These are great for things like beans or dehydrated vegetables. A combination of the bucket, the Mylar bag and the oxygen absorber within makes the perfect storage vessel.

I really like the 1 pint bags as well. They make great snack size bags that can hold things like dehydrated apples for snacking on fruit when the trees are bare and all the fruit has long fallen.



The solar dehydrator is an essential part of the 4 acre self-sufficient farm. Having the option to harness the power of the sun and store this food for years will take the burden of food waste off your back.

Smokehouse

The smoke house is a brilliant structure. It is one that most Americans have given up building on our own. Though, many Americans opt for a smaller plug in smoker or utilize their grills as smokers. I think modern day homes would benefit from a few structures, like a smokehouse, added to their property.

The size of the smokehouse will depend on how much livestock you keep on your property. For this particular 4 acre farm, we are going to be supporting chickens, pigs and two cows. Everything on that list can be smoked to some degree or another.

Cows and Goats - Certain cuts of our cows and goats can be smoked to jerky stage. This will give them tremendous shelf life.

Poultry - The chicken and ducks can be smoked and eaten right away.

Swine - Of course the pigs can be smoked for several types of applications

Vegetables and Cheese – Meats aren't the only things that benefit from a little smoke. You can smoke things like potatoes and onions to add great flavor. My favorite food to add smoke to homemade cheeses.

The best building resources stone and brick for a useful smokehouse. The basic structure consists of a main hanging room where things like hooks and metal shelves would be installed. These would hang and hold meats or other items that are in the process of being smoked. The other part of the smokehouse is the fire box that will fill the room with smoke. These can be placed in multiple locations around the structure. What matters is your ability to access the box to keep the flow of smoke going.

For the early homesteader, I really like this build using cinder blocks and a flue. This offers a wood enclosure but is reinforced with a brick firebox and a great foundation made of mortar and cinder blocks.

These are video instructions for creating the smokehouse from scratch. Unless you plan on smoking half animals this smoker will suffice. You will find that this is just what you need to get the all your smoking done.



Root Cellar

In a way, you could call it the pre refrigerator. It was the first time we utilized a consistently colder environment to store and preserve our food. The root cellar is a structure that is built most of the way underground. I have seen them with fancy rooves and bases built of bricks. I have also seen them made of filled cinder blocks and a simple, slanted roof.



Despite the design of the structure the root cellar will do its job of regulating temperature for all the items you choose to store inside. The root cellar has an incredible ability to extend the shelf life of fresh foods which is what makes it so appealing.

In the wintry weather, this root cellar will keep things from freezing and in the summer, it will keep produce cool.

There are four core elements that make up a great root cellar. You must build a structure that excels at all four or your root cellar will not flourish.

1. Ventilation
2. Darkness
3. Humidity
4. At least 3/4 of earth shelter



Ventilation

A root cellar will typically be built with two vents. You should position one on or around the highest point of the roof. This vent will take harmful gases that hasten ripening as well as heat out of the root cellar. The next vent should be further down in the structure and will be used to spread fresh air all over the fresh produce and other items being stored in the cellar.

Improper ventilation will look like speedy ripening of fruits and excessive moisture buildup in your cellar.

Darkness

Things like garlic, onions, carrots and potatoes will be stored in your root cellar. These plants grow in the dirt away from the sunlight. In fact, the sunlight will encourage them to sprout. Sprouting will negatively affect the flavor as well as hasten the rotting process. Be sure you keep the sunlight at bay.

Humidity

The amount of humidity in your root cellar is very important. If you keep the place too dry you will start making dehydrated fruit and vegetables. You will be able to recognize this by the shriveling of produce that you are storing down there.

You can mist your produce if you aren't getting enough moisture down there. I have also seen cobblestone floors installed in root cellars to promote this type of moisture.

At least 3/4 of earth shelter

By burying your shelter to the level suggested you will be promoting the first three requisites of the root cellar. By having this thing underground, you will be increasing the efficacy of the root cellar. Ventilation, humidity and darkness will all be increased if you are building the shelter at least 3/4 of the shelter underground.

Storing Food

Many people talk about storing vegetables in things like sawdust and sand in the root cellar. The better move is to store them in fresh fallen leaves that are moistened. These leaves will keep your produce moist and will also make it much easier to get at the food. Sand and sawdust make such a mess. Be sure you compost the leaves the following year.

Store roots like potatoes close to the ground. This will be the coldest area of the root cellar. Carrots and turnips can be placed in five gallon buckets using the leave method we mentioned earlier. These will store for weeks if not months at a time.



Store hardy vegetables in the root cellar as well. Things like cabbage, squash, pumpkins, broccoli, parsnips, sweet potatoes will all store well. You can also keep hand fruits like pears, apples, plums and Asian pears.

Beyond what you have grown you can also use this space to store dried beans. Many dry foods that are sealed and contain an oxygen absorber will be great down in the root cellar. That said, go big on the root cellar. It could turn out to be a space that is used to generate more space in your home.

The root cellar is a necessary piece of your 4 acre farm. Without a way to preserve food long term you will find yourself begging the spring to come so you can plant something that will sustain you. The Native Americans always said that winter was bad but early spring was when most of the real starving began.

Greenhouse

The extension of a growing season is always going to be something that helps your self-sufficiency. Having a working greenhouse will allow you to do just that. Now, depending on your climate and location you are going to face some challenges in managing a greenhouse.

This is a system like any other that will show up on your farm. You will find out which works best for you and when you do the benefits will rain down on you. We are going to look at several methods for greenhousing on your property. From this information, I think you will be able to choose the greenhouse that makes sense for your needs.

Another benefit of the greenhouse system is that you can protect sensitive plants like berries from things like birds and squirrels. This is a huge benefit not just as a backyard gardener but when you are investing much more in this food. Yield is what will keep your farm going and keep your family fed. This should be the primary function of all the systems on your farm.

Let's first look at which types of materials can be used to create an effective greenhouse on your property. We will focus only on the most common and easily accessible materials so that you can get them cheaply and easily.

Frames

The frame of the greenhouse is what will keep your structure up. You will never have success with your greenhouse if the frame is not structurally sound. I have worked with many frames and each have benefits.



Wooden frames can be manipulated in many ways. When you have the right tools, you can cut and assemble the frame of a wooden greenhouse into nearly any shape you would prefer. The wood is very sturdy when built properly and offers a cheap and easy structure to build on. Shelving can be drilled or hammered into the wood frame easily as well.

Of course, wood will rot if it is not treated properly. You may find that less natural materials fit your idea of a greenhouse a little better than the wooden frame we are discussing.

PVC and plastic frames can be used to hold up your greenhouse as well. These are great options but unlike wood these are not renewable. You cannot grow PVC pipe. Today they are available at your local chain hardware store but if your property is one hundred miles away it could be challenging to get your hands on these materials.

Covers

There are several types of covers for your greenhouse. Most of these are broken up by thickness of the sheeting. You will want to have a sheeting that is thick enough to withstand the pressures of the outside world i.e. winds, hail, snow but also thick enough that plenty of sunlight and UV rays can get in.

These covers or greenhouse plastics come in four basic forms:

- Polyethylene
- Copolymer
- Polyvinyl
- Polycarbonate

These four are listed from weakest to strongest. The strength of the plastic also coincides with the price of the plastic. This is an important consideration when building your greenhouse. These will all have to be changed after a while.

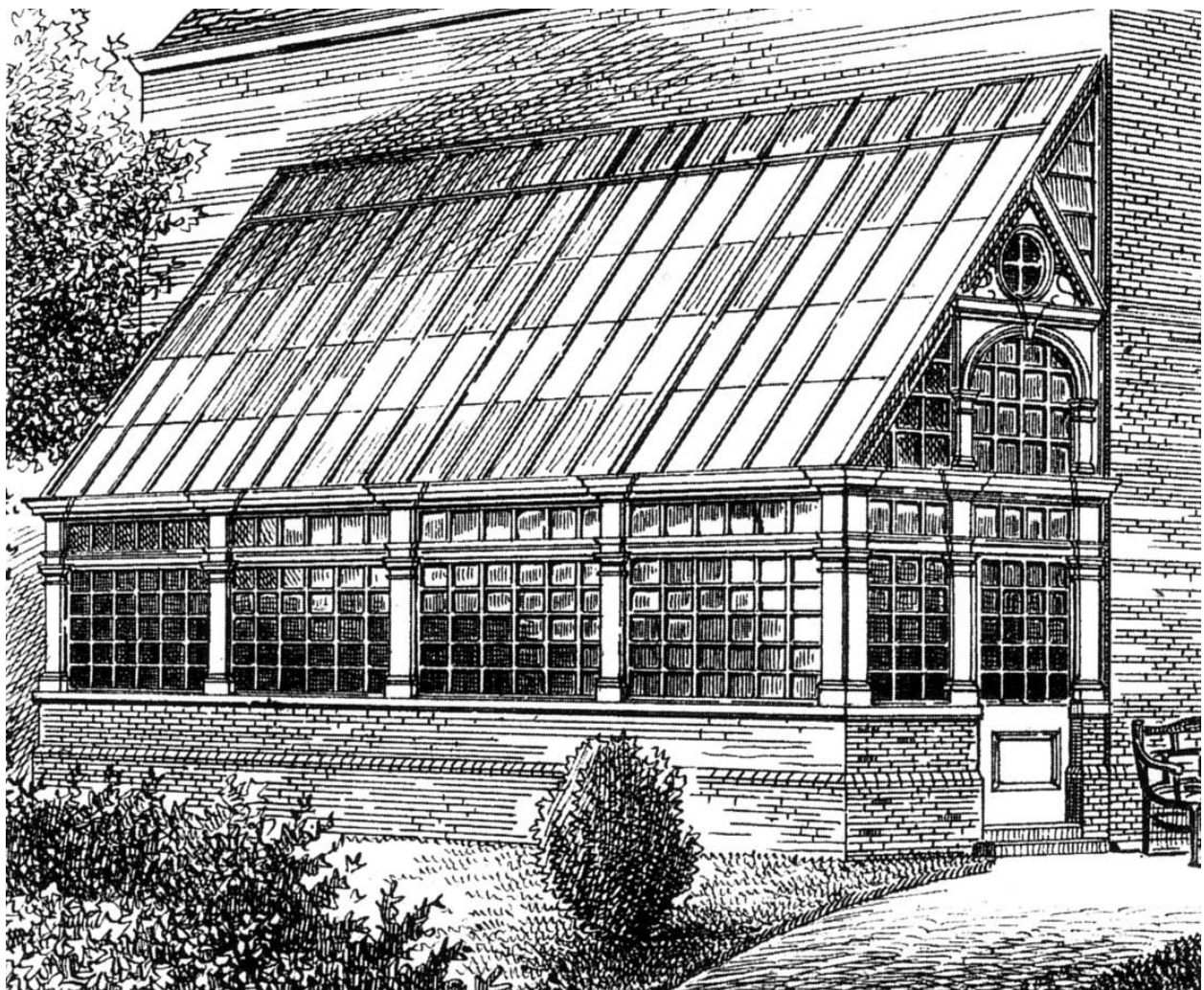
Locations

With a greenhouse, you are looking for a location with maximum sun exposure. This can be achieved in many ways and I have seen some very creative applications. When deciding on a location you must also taking heating the greenhouse into consideration if you are looking to grow all year long. The green house will need to be kept at an optimal temperature through the cold nights.



The best location for your greenhouse is going to be on the home acre. This will be a structure that you deal with on a regular basis so it's something you want to keep close. You could be harvesting out of this location on a daily basis depending on what you decide to grow inside.

The greenhouse could also be added onto the home itself. In climates without harsh winters this method can double as ambient heat as well. The heat that is trapped from the sun can be cycled around the house and be used to heat the home as well as grow the food.



This will require some planning as you must have a home that experiences as much sunlight as possible. The location of the greenhouse should get the brunt of the direct

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sunlight. This method makes a lot of sense if you are building with solar panels in mind as well. Harness the sun's power for energy, heat and food from one location.



Conclusion

As you can see there is a lot that goes into a small farm. We avoided all the heavy machinery that is typically found on larger scale farms. It's quite an undertaking but the benefits are huge.

By farming you will learn more about yourself than anything else. That may sound counterintuitive but it's the truth. If you really want to see what you are made of start something that requires your attention 7 days a week. See if feeding your family off the land isn't one of the most challenging things you can imagine.

You have much to consider now. Go back to the layout and begin to explore both the idea of owning your own farm and how your layout will affect your success. The benefits of taking back food production are endless. The work that goes along with that is endless, too.