The Beginner's Garden

QuickStart Guide

Plan, Plant, & Grow your own garden in as few as 30 minutes per week — no experience necessary.







The Beginner's Garden
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Introduction

Gardening has changed my life.

I never expected this when I set out to grow my own food. After my husband and I decided that I would soon quit my job to stay home with our two children -- age 6 and 2 at the time -- I wanted to help make up for the loss of my income in some way.

I set out to grow a garden for purely practical benefits. But I never expected this new hobby to turn into a passion. I never expected it to *change me*. And I certainly never expected the course of my life to change the trajectory in the way that it did, where now I not only grow my own garden. I also teach others to grow theirs.



When I started my first garden in 2013, I struggled to find the most basic gardening information. I read gardening books until my eyes grew sore. I utilized search engines; I listened to a few podcasts. I piecemealed gardening advice from a plethora of experts, and it obviously worked for me.

But you know what I really craved?

Someone who could really speak to me at my level -- a beginner's level.

A beginner who couldn't distinguish between a weed sprout and a bean sprout. A beginner who didn't know that plants wouldn't grow in cold, wet soil. A beginner who feared missing something important and everything might die.

That's why, as I gained knowledge, experience, and -- yes -- success, I made it my mission to help other beginners who are just like I was.

The Beginner's Garden Shortcut QuickStart Guide is the short, simple, step-by-step guide I wish I had in 2013. It gives you what you need to get started in a way even the most clueless beginner can understand.

Follow this guide, and make adjustments for your needs and climate. Then go further with more resources provided at the end of the book. And then…

Prepare for gardening to change your life.

Jill McSheehy
journeywithjill.net

Section 1:

Plan Your Garden

Chapter 1:

Identify Your Garden Goals



One of the first mistakes new gardeners make is jumping into planting. But success is more likely to become reality when you pause and *identify your garden goals*.

It's kind of like choosing a career or a college major. You want to begin with the end in mind. So let me break this down for you and make it simple. You'll make two different types of goals: broad goals and specific goals.

Step 1: Identify Your *Broad* Goals

I have a feeling 99% of new gardeners skip this first step. What do I mean by *broad goals*?

Ask yourself these questions: What do I want to get out of my garden this year? What do I want to happen this year? What is my main purpose for my garden? We'll come back to answering these questions in a moment, but here are a few ideas to get your mind thinking.

Broad Goal Example #1: Grow a Garden for Only Fresh Fruits and Vegetables

Do you want to have vegetables, fruit, and herbs for fresh eating only?

You want fresh food through the season but you're not concerned about having enough to preserve for the rest of the year. This might be you if you're just dipping your toes into gardening but you still aren't certain you want to jump in completely. You're not sure how deep you want to go or how much you can even manage.

Maybe your summers are busy and spending hours in the kitchen doing canning isn't even a consideration at this point. You just want fresh-picked produce during the growing season.

If your goal is fresh eating only, then that's going to affect *which* crops you grow and how much. You may not choose the best

tomatoes or beans for canning but instead the tastiest for fresh eating.

Broad Goal Example #2: Grow a Garden for Fresh Eating and Preserving

You might have a goal of growing enough fresh produce to both eat fresh *and* preserve.

You're willing to spend a bit more time in the garden and in the kitchen because you want to eat from your garden long after the season ends. While you may not see yourself growing enough food to last all year, you do picture yourself canning tomatoes and green beans or freezing peppers and berries.

Growing a garden with the goal to preserve will affect how much you plant, what types of fruits and vegetables you plant, and how much time you plan to spend in your garden.

Get Started with Home Canning

Broad Goal Example #3: Grow a Garden for Fun and Enjoyment

Another goal might be gardening for fun. To you, it's just a hobby. You don't want to spend a lot of time in the garden, but you would like the joy of seeing plants grow and harvesting what you can. You want to garden for the pure joy of it.

With a goal of growing a garden for enjoyment, you won't need an expansive space, and knowing this will impact how large you build your garden. And since you won't grow as many individual plants,

you'll need to choose the ones most likely to succeed in your area.

Broad Goal Example #4: Grow a Garden as a Family Activity

Maybe your children are young and you're looking for a fun activity to do as a family. Or maybe you live near grandchildren and you want to create a fun activity to do together to make memories.

Depending on their ages, you'll make different choices of which vegetables and fruit to grow. For example, if your toddler will help you plant, you may choose seeds that her fingers can easily grip. Older children may enjoy the fun of digging up root crops.

The ages of your kids and your stage of life will impact many other decisions you make in planning your garden. For example, with small children, you may opt for a smaller garden. With the eager hands of older children, you could manage a larger one.

Ideas to Get Kids Involved in the Garden

Broad Goal Example #5: Grow a Garden to Save on Your Grocery Budget

Do you want to save money? That was my main goal when I began as a new stay-at-home mom with a tight grocery budget. There are specific crops you can plant that will prove a better investment. For example, I chose to grow peppers because they were more expensive to buy at the store, and I chose not to grow other crops because they weren't as much of a drain to my budget.

Another factor here is your overhead gardening costs. For example, raised beds with purchased soil and compost can get expensive, so you might plan to plant in your ground instead.

Gardening on a budget will drive many decisions you make in the garden, starting with planning choices.

4 Crops You Can Grow that will Cut Your Grocery Bill

Broad Goal Example #6: Grow a Garden to Consume Fewer Pesticides

Do you want to eat healthier, and feed your family produce with fewer pesticides? Then you might want to focus on those crops that have the most pesticide residue when you purchase their non-organic counterparts at the store.

When choosing which plants to grow, look at the Dirty Dozen list created by the Environmental Working Group and start with these crops to avoid as many pesticides as you can. On the other hand, you can look at the Clean 15 (from the same group) to decide which crops will be a lower priority in your garden planning.

Grow these 5 Dirty Dozen Crops to Avoid Pesticides

As you can see, your reasons for gardening will shape the trajectory of your entire garden. Your broad goals affect what you plant, how much you plant, the scope of your garden, and how much time you plan to devote to it.

Your first step in your garden planning process is to identify your broad goals. But before we go there, take a moment and brainstorm. In your garden journal, write out your answers to the following questions:

What is the primary reason I want to garden?

What are other reasons I want to garden?

What would a successful gardening season look like for me?

Step 2: Identify Your *Specific* Goals

After you get clear on your broad goals, you'll want to identify some specific goals. The
options are endless here, but I'll give you a few examples to get your mind churning:

- Do you want fresh tomatoes for slicing during the season, or do you want to can tomatoes for sauces and salsas? (The purpose of your tomato harvest will determine what kind you grow.)

- Is there a specific crop you want to grow enough of to last all season through canning or freezing? (For me that first year I wanted to grow enough green beans to can and peppers to freeze to last all season. Knowing this will help you plan for *how much* of those crops to plant.)

- Are there specific herbs you'd like to have fresh or dried throughout the year? (For example, I want to have enough fresh basil for drying and preserving, and I love having fresh dill.)

- Have you always wanted to grow your own greens? (If you enjoy arugula, for example, it's pricey at the store but really easy to grow.)

As you can see, your specific goals can be quite varied, but they are oh so important. Without these specific goals you'll fly blind, planting and hoping it works.

Without a plan, you're going to do what I've done so often. You'll go to the garden center when the plants begin to come in and you'll buy what looks good in the moment. But that purchase may not help you meet your goals for your garden or help you have a great gardening season.

Do the planning first and you'll be much more successful in the end.

Assignment:

Write out your broad goals in your garden journal. Maybe one or more of the goals I've mentioned resonated with you. Or maybe you want a garden for a different reason.

Then, write out some specific goals that have come to mind.

We'll narrow the list in the coming lessons, and we'll talk about how to make your goals happen as we go along, but right now have fun and dream about your garden for this year!

Chapter 2:
Plan Your Garden Space



The second step in planning your garden is to plan your *garden space*. Do you want to plant in the ground? In raised beds? In Containers? Or a combination, like I do?

We'll talk about the size of your garden in the next section, but for now, unless you already have a garden space established, here

are some considerations in deciding which type of garden bed is right for you.

Option 1: Ground Bed

The first is the most obvious -- you can choose to plant directly in the ground. It's usually the cheapest option and doesn't require a lot of materials. The biggest challenge with planting in the ground is if it's an undeveloped space, you will need to spend time clearing the grass and weeds. While you may not have to spend much money, you will invest a lot of time into cultivating your ground bed.

To Till

The quickest and easiest way to do this is to use a tiller. In full disclosure, I'm not a proponent of tilling, but to get a garden started it's the quickest method. In fact, I tilled my soil at the beginning of each spring the first few years until I could transition to a no-till method. For a brand new garden area, it’s usually the best option for most people.

> This is one lesson that I have learned from experience: do not till when the ground is wet at all. Not only is it difficult, but wreaks havoc on the soil structure. And if you have clay soil like I do, when it dries, it will be very difficult to work with, and plants may even struggle to grow. So wait until you can place soil in your hand it squeeze it, and it crumbles on you.

Or Not to Till

Now let's assume your soil is of decent quality -- not rocky and not heavily compacted -- but you do not have access to a tiller. You have two options. One is to buy a hoe and get to work stripping the top vegetation. You don't want to dig too deep, just strip the top layer so the nutrient-rich topsoil remains in tact.

Alternatively, you can use what's known as *the lasagna method*, in which you lay newspapers directly on the ground. You saturate the newspaper to prevent it from blowing away, and then you add soil on top.

When I use this method, I bring a bucket of water and immerse the newspaper in the bucket before laying it on the ground. Then I'm able to cover the newspaper with several inches of soil and compost (6-8 inches).

Why does the lasagna method work? The newspapers smother any weeds and grass, and as the newspapers break down, they contribute to soil fertility. Again, this is some work, but in my experience, it's a really good option.

The best time to start this process is several weeks before your plant. But if you're ready to plant right away, be sure to lay down that layer of soil and compost extra thick. Until the newspaper breaks down, the roots of the plants will need that extra soil in which to draw nutrients.

Pros and Cons of a Ground Bed

One big positive for growing in the ground is that you don't have to build anything. If you have space in your yard then you're ready to go. Some crops grow better in the ground rather than raised beds or containers (like corn and black-eyed peas). But you'll also need to look at your garden goals and decide if the crops you want to grow would be better in the ground because you want to grow a large quantity (like bush beans, peas, or potatoes).

One challenge is this method really depends on the quality of your soil. If your soil is rocky, your plants can't find nutrients or and the soil often doesn't retain water well. If your soil has a lot of clay content, plants struggle to access the nutrients available. If your soil is sandy, fewer nutrients are naturally available to the plants and they will struggle with water stress.

If your natural soil is rocky, clay, or sandy, in most cases improving your soil is possible; it will just take time. My clay-based soil has taken several years of amending with compost and covering with wood chip mulch, but each year the plants grown in it fared better and better. So there's hope!

So let's recap -- why would you want to plant your garden in the soil? It doesn't require materials, just hard work. You can potentially have a larger garden. And certain crops do better, in my experience, in the bare garden, like corn or shelling peas and beans.

But, if you don’t mind buying some materials, or you don’t want to put in the time and effort to amend the soil, building raised beds might be a better option for you.

Option 2: Raised Beds

Many of you want to grow in *raised beds*. I love my raised beds. They're attractive and easier to maintain, especially when it comes to weeds. I almost always get my most prolific and abundant harvests from raised beds.

One huge benefit of a raised bed is that you can control your soil more easily. By adding concentrated amendments, you can affect the fertility, and by not stepping on the soil, you protect the delicate soil structure.

Raised beds drain better than surrounding clay soil, and conversely, they hold water and prevent nutrient leaching in sandy soil.

How much do raised beds cost?

Building raised beds will take a little construction and money up front. I have constructed raised beds by myself, even though I’m not handy with tools. I share that so you can find encouragement in knowing it's possible even for someone who isn’t a natural builder.

The lumber for a 4x8 raised bed will cost about $25-$30 (if you purchase treated pine), plus screws or nails. You may need to purchase soil as well, which for many people can cost more than the lumber. We will talk more about these options in the next unit.

Raised Bed Soil Options for Any Budget

What size should my raised beds be?

Raised beds can be as long as you want them to be, but you want them to be no wider than four feet. That way you can reach to the center to do the work without having to step on the soil. I have raised beds that are 4x8, 4x12, and 2.5x10.

The 4x8 is the standard size, and it can accommodate most plants in the garden easily. The 4x12 is ideal for larger plantings such as perennial crops. For example, I grow strawberries and asparagus in my 4x12 beds. The narrower beds (like my 2.5x10) are easier to work in because of their width, but with larger plants (like tomatoes or zucchini) you would need at least four feet if you wanted to plant more than one row.

If you build multiple raised beds, make sure you give yourself at least three feet between the beds in which to work comfortably. I situated mine too close together, and it's a chore to work between them and keep the area weeded. Learn from my mistake and give yourself plenty of working and walking space.

Raised beds are ideal if you have poor native soil, if you want a clean, contained garden area, or if you want to do less work during the growing season.

Do what I have done and start out with one or two this season, and you can add one or two in future seasons. We have nine (and counting!).

7 Common Mistakes in Raised Bed Gardening

Option 3: Containers

Finally, you may choose to grow in *containers*. While I won't be going into detail on gardening in containers, they do have their advantages: you can have them on your patio and you can move them as needed.

I grow my herbs in containers near my kitchen so I can go and clip some while I am cooking. Short-season crops do really well, especially lettuce and greens. Longer season crops present challenges especially in the heat of the summer, so before you plant your tomatoes or peppers in containers, be sure and do your research on how to properly care for them.

Assignment

Take a look at the land you have available and how much of it you want to allocate as garden space. Then decide if you're going to plant in the ground, in raised beds, containers or some sort of

combination. We'll start determining the size of your garden in the next lesson.

If this is your first season to grow a garden, decide if you want to invest the time into a ground bed, the money into a raised bed, or if you want to explore the flexibility of containers.

If you have grown a garden in the past, what worked well for you? What didn’t? Do you want to adjust or expand your garden space?

Make sure you look at your goals from our last lesson to make the best choice for your garden.

Chapter 3:

Determine the Size of Your Garden



Determining your garden's size is a HUGE decision. You must consider your goals, the space available, and the time you can realistically spend in the garden.

Most aspiring gardeners -- yours truly included -- start too big. I didn’t realize how much time a garden would take. So please,

plan your garden size conservatively. It always takes more time than you think it will.

Here are some guidelines you can use to determine the size of your garden.

Consider Your Garden Goals

Look back on *your garden goals* that you set in the first section, both your broad and your specific goals. If you want to grow enough green beans to preserve for the season, for example, you'll need more space than if you only want them to eat fresh.

Consider Space Available

If you have plenty of space like I do, you have more options on garden space. Your time and energy will present your biggest constraints.

If you live in a suburban setting but have a large yard, you'll need to consider *how much of that yard* you want to allocate to the garden. Remember that you can always add more later. We will talk about placement in a later lesson; right now just think about how much of your space should be taken up by your garden.

If you live in an urban setting, your options are more limited. While you may think that's a bad thing, it doesn't have to be. Your options are most likely already narrowed down to just a couple of spaces.

Regardless of the space you have to work with, don't be afraid to *think outside the box*. Not all of your plants have to be in your designated garden space. My blueberry bushes, for example, grow outside of my primary garden space. I planted them beside the fenced-in area where my dog stays. They serve as a hedge to cover that fence but I also believe my dog keeps wildlife away from my blueberries.

I also keep my herbs in containers outside on my patio, which is very far away from my main garden. Overall, when it comes to watering needs and ease of accessing the garden, I wouldn't recommend fragmenting it too much. But don't limit yourself.

Consider Your Time

Finally -- and again, I think this is the most overlooked -- *how much time* are you willing to devote? The last thing I want you to do is plant a large garden that you can't keep up with and you give up on before you ever get a good harvest.

Here are some basic guidelines I got from a gardening book called *The High-Yield Vegetable Garden*. The author suggests that it takes about thirty minutes to one hour per week to maintain a 100-200 square foot garden garden. That could be a 10x10 area or four 4x8 raised beds -- more than enough for a beginner.

If you can spend an hour or two per week, you could double that space. Three hours per week and you could probably manage up to 800 square feet. Just as a comparison, in my 3,000 square feet garden, I spend about 10 hours per week on it during the peak season.

But again, plan conservatively, especially if this is your first season. Your garden should bring you joy, not be a burden that weighs on you through the growing season. Determine the size of garden that will be manageable for your stage of life.



Assignment

Determine the size of your garden. Consider your goals, your space available, and your time. Think through what you have and what you want for your garden to determine a manageable size, keeping in mind that you can always make it bigger later.

Chapter 4:

Choose Your Crops



Here comes the fun part! This is where you get to choose your crops. It's possible you're already receiving seed catalogs in the mail. Depending on when you're reading this, you may even notice plants at your garden center. But before your eyes get too wide with all these possibilities, let's look at some realistic ways to plan your garden space.

I have tried to plant a garden that contained too many crops. And some years I planted too many new crops that I didn't know how to take care of properly. Some of my biggest mistakes in my garden were getting wrapped up in all the possibilities when I just needed to focus back on my main goals.

In this chapter, you are going to start dividing your crops into sections.

Jot down all the crops you'd like to grow in the *Ideas* section. This is a brainstorm. Dream big! Nothing is off-limits here. Write down everything you think you might want to grow! (Don't worry; we'll narrow down your big dreams next.)

Once you're finished with the brain dump, you're going to trim down these crops into three specific categories. As you'll be able to tell pretty quickly, I grew up a big baseball fan, but I feel like the labels fit perfectly for what we're going to do. You will start separating your big dreams into your Majors, your Minors, and your Rookies.

Your Majors

First, you're going to list your *major* crops. When you think of your majors, you're going to think along two lines, depending on your garden space.

Whether your garden is large or small, your major crops are your "must-have" crops. Look back at your *specific goals* for ideas on this. These are the ones your garden would not be complete without.

If you have a larger garden space, your majors will also be those that will take up the most space. These the ones you'll need to plan around.

For me each year, my majors include tomatoes, green beans, corn, and black-eyed peas for both of those reasons. They are not only my “must-have” crops, but they also take up the most space.

Your Minors

Once you identify your major crops, you will begin listing your "minors." These are the crops you would like to have or they're the crops that you will have but they don't take up as much space in your garden.

My minors include my okra, zucchini, carrots, and onions because I definitely want them but they don't take up as much space.

Your Rookies

Finally, you have a section for "rookies." If this is your first year, all of your crops are rookies to some degree. But for today's purpose, your "rookies" are the ones you want to try out. They have potential but they're not the heavy hitters.

These are the crops that are worth a try and they may work their way up into the minors or even the majors, but you're going to test them first.

Generally, you'll only actually put a handful of rookies in your garden. You really want to focus in on your majors and minors instead, and fill in with a few rookies -- just like any good sports team, right?

Some of my rookies in the past included corn, arugula, and kale. Corn is now a major, arugula is now a minor, and kale got benched indefinitely.

Now it's your turn! Start organizing the crops from your Ideas list into these three sections. Keep in mind, not every crop from your list will fit into a category this year. That's ok! That is your dream list and you can always change your plan for next year.

Some Tips

How do you decide which crops are going to be your majors? Here are a few of my guidelines.

Tip #1: Choose crops you eat often

That may be a no-brainer, but I've tried some crops that no one in our family likes to eat (like kale). So now I focus on green beans and tomatoes because I know that my family likes to eat these vegetables. It makes my garden feel more successful when we enjoy what I produce.

Tip #2: Choose crops that are more expensive to purchase at the grocery store

Some fruits, like blueberries, peppers, and herbs, are much more expensive to buy at the grocery store than to grow at home. Especially if you are on a tight budget, think about how your garden can help your grocery bill.

8 Foods I No Longer Buy at the Grocery Store (thanks to my garden)

Tip #3: Choose crops that are on the Dirty Dozen list

The Dirty Dozen list, as mentioned previously, is a list of the twelve fruits or vegetables that are found to have the most

pesticide residue when grown non-organically. If you want to help your family be healthier and reduce their pesticide load, you can choose to grow foods at home that are full of pesticides at the store unless you buy organic.

Tip #4: Choose crops suitable to your climate

This is easy to forget because we want to believe that we can grow anything. But I cannot grow iceberg lettuce where I am in the south like someone in the north can. If I want my garden to be successful, I need to grow crops that will grow well where I live.

With all of that in mind, get to work choosing your crops! Next lesson we'll decide how much of each crop that you should grow!

Assignment

In your garden journal, write out all of your Ideas that you might want to grow. After your brainstorm, write out your majors, your minors, and your rookies.

Chapter 5:

Calculate the Quantity of Each Plant You Will Grow



After you know how big your garden space will be and what crops you want to plant, your next step is to determine how many of each plant that you'll grow in your garden.

This is probably one of the most overlooked planning pieces you'll find in the gardening space. And there's good reason. Calculating the quantity of each plant you will grow is not easy. There are so many variables, and a lot of it you'll learn in your first season by trial and error.

For example, the soil quality can significantly impact quantity of harvests. One year I planted Roma tomatoes in two raised beds. Raised Bed A housed five tomato plants, and Raised Bed B housed six. But Raised Bed A, those five plants produced over fifty pounds of harvest, while Raised Bed B only produced eight. Same plants, different space. Huge yield differences.

So please understand calculating the quantity you'll need to plant is not an exact science. Just make your best guess and adjust in future seasons.

That said, I'm going to give you some basic starter ideas for some of the most common vegetables and how much space they require: onions, lettuce, peas, carrots, strawberries, blueberries, tomatoes, peppers, zucchini/squash, beans, cucumbers.

Cool Weather Crops

Onions

Determining how many onions to plant is fairly easy. When you decide how many onions to plant, you buy that many onion transplants, and each plant will grow to a mature onion.

Lettuce/Salad Greens

You will want to determine how much your family eats fresh of these crops because most salad greens are not crops that you will preserve. For my family, we don't plant more than 8 feet of lettuce and that is usually plenty. Most families will do well with a 4-8 foot row and you could consider staggering your planting so that you can harvest at different times.

Peas

You will first want to decide if you want peas for shelling or if you want snap peas. To have enough snap peas to eat fresh for a few weeks, you'll only need a row or two. But if you want peas for shelling, you will need a lot of space because you need a lot of plants. I recommend a 100 foot row minimum, to get enough peas to eat fresh and to can or freeze.

Carrots

You can fit a lot of carrots in a small place. You will want to decide if you only want to eat them fresh (in that case, just plant a couple of rows, or tuck them between other plants) or if you want to freeze or can them. In that case, you could plant an entire raised bed if you wanted. In my house, we never have enough carrots, so I plant as many as I can!

Berries

For strawberries, you will want to plant 5-10 feet row for fresh eating and more, up to twenty feet, for preserving. Remember that with strawberries you will get a small harvest the first year but more the second year.

For blueberries, you need at least two bushes for the required cross-pollination, and they will produce more over the years as they mature. Our family has five bushes and it is too many! Two to three bushes of blueberries will be plenty for most families, and the same is true for raspberry or blackberry bushes.

Summer Crops

Tomatoes

If you want just enough tomatoes to eat fresh throughout the season, you could have two plants and harvest all you need (although I'd recommend more if you have the space, just in case you run into disease or pest issues).

If you want to preserve tomatoes and eat them through the winter in canned products, then you could plant as many as you want. I usually plant about thirty paste tomato plants (for canning) to give us enough tomato products to last until the next year's harvest.

Peppers

With sweet bell peppers, you will have many peppers on each plant so I recommend at least two plants if you want to eat them fresh. If you want to freeze some of your peppers, four to eight plants is a good number. I freeze peppers from this amount to use all year.

Squash and Zucchini

Each squash and zucchini plant will grow very large and will produce abundant harvests under ideal conditions. Because so many gardeners struggle with pests such as the squash vine

borer and squash bug, I recommend two to four plants in case one of your plants dies.

You may not need many plants but they are big plants that need about a square yard each.

If you have a small space, start with two in early spring and plant again in the middle of summer. If you have a lot of success, you may be begging people to take them away!

Cucumbers

Cucumbers are similar to squash and zucchini, but most varieties need to be trellised. (We will talk more about trellises later.) I have had enough for canning and pickling with six feet of cucumbers, you may only need one to three feet if you plant to only eat them fresh.

Assignment

In your garden journal, list your crops and decide how many plants of each crop you want to plant or how much space you will need.

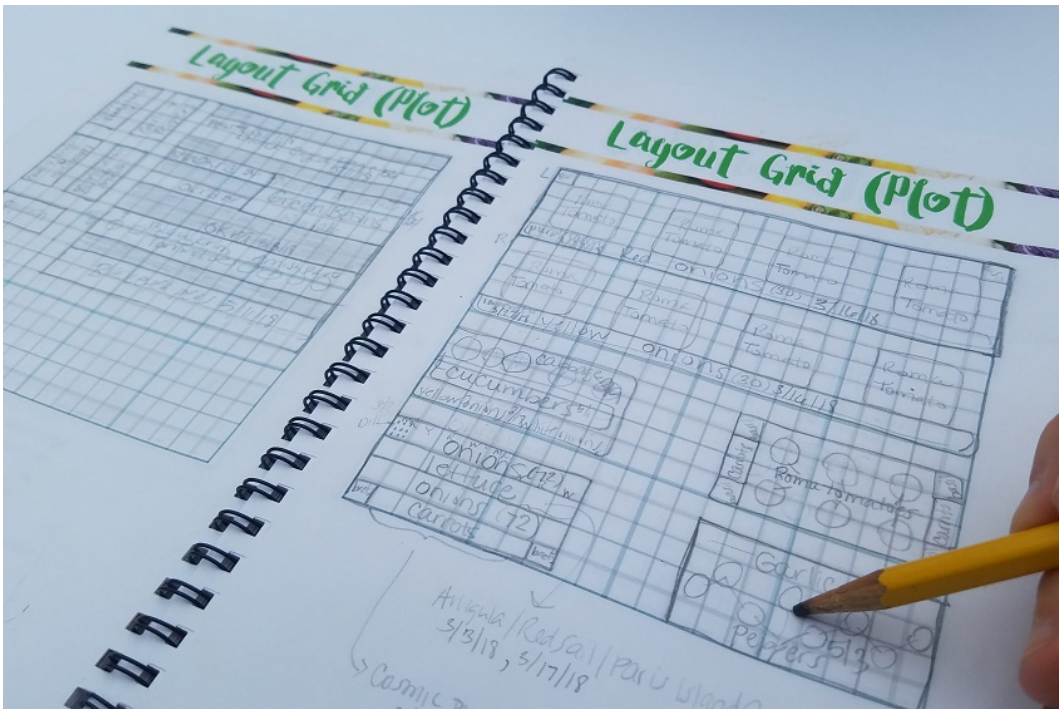
With some crops you buy a certain number of plants, for example you plant two blueberry bushes or six tomato plants. Other plants

are often planted per square foot, (ideal for a raised bed). Still other plants are typically planted in a foot-row spacing like peas or green beans.

Identifying the quantity of each plant you'll grow will be crucial in your ordering seeds or buying plants, so don't skip this part. You need to know ahead of time. In the next lesson you'll also use this information to plot your garden layout.

Chapter 6:

Map Your Garden Layout



Besides choosing my crops, mapping my garden layout has to be my favorite part of garden planning. I sit in front of my fireplace, usually with football playoffs on television in the background, and I dream about my garden.

Each year your garden is a blank canvas, ready for you to create and dream!

Know Your Garden Dimensions

So far, you've chosen your crops and you've estimated how much you need to plant. Now, it's time to map it out on your garden layout. If you have or are planning raised beds, you already know the dimensions of your garden space. But if you're growing in the ground, stop everything until you measure your space. Walk outside and stake the perimeter corners of the garden. This needs to be as precise as possible.

Once you know your garden bed dimensions, you will begin to pencil in where you want your crops using a garden map.

You can use standard graph paper or pre-set layout grids on either the Simple Garden Planner or on another printable. In general, each square will represent a square foot. (On a large garden plot, one square could represent two or four square feet as needed.)

Special Steps for Ground Beds

If you are planting in the ground, taking a few preparation steps will help streamline the process. First, draw the outline of your garden with the correct measurements. Second, shade in the border area, especially if you have a fence. You will need a “buffer zone” between your crops and the fence both for ease of working

and for a walking path. I recommend two to three feet. Finally, in a large space, you may find it helpful to shade in walkways. For example, my garden is divided into a north side and a south side. I have a wide walking path between these two areas.

Plotting Crops on the Layout Grid

Once you have your garden grid ready, you can start plotting your crops.

You may have read in your garden research the options of planting rows or planting by the square foot gardening method. Personally, I do both, depending on the plant and the type of bed. I've found tomatoes, for instance, benefit when I plant them in blocks in raised beds, but I plant them in rows in my garden. This is something with no strict design, as we all do things a bit differently. And I try different methods in different seasons.

Let’s look at the benefits and limitations of four different types of planting design:

Rows

Planting in rows is the most common and perhaps the easiest. As the name suggests, you plant your seeds or transplants in parallel lines with walking space in between. This method works for both

ground and raised beds, and its layout lends to a ready-made walking and harvesting path between rows. I use rows in my raised beds for crops like carrots, greens, and garlic.

Double Rows

In a double row planting design, you intentionally plant two rows near one another without a walking path in between. You weed and harvest on the outside of the double rows. This method allows you to squeeze more crops into the space and limits the walking paths in the garden (reducing soil compaction). It also provides flexibility for drip line or soaker hose irrigation methods since often times you only need one line per double row. I prefer this method and plant all of my ground beds in double rows.

Square Foot

A popular planting method especially for raised beds is known as the square foot gardening method, made popular by Mel Bartholomew in his book *Square Foot Gardening*. In this design, you view your garden as a grid and you plant crops in one-foot squares. With smaller crops (like carrots), you can plant multiple per square, and with larger crops (like zucchini), you'll earmark multiple squares per plant. This method is ideal for raised beds and I have used it in the past with onions, peppers, and carrots.

Per Plant

With certain crops you may only want to plant a specified number of plants. Perhaps your space is limited or you know how many of a specific vegetable is needed to meet your family's needs. Obviously, this would be the ideal method to choose for some perennials plantings such as blueberries or blackberries, but I have also planted zucchini, tomatillos, tomatoes, and peppers this way.

Spacing Requirements

Regardless of which method you use for which crops, you will need to estimate the spacing needs of each crop. Below (and in the Simple Garden Planner on page 32), you will find general vegetable spacing guidelines. This will help you plot how far apart the plants should be planted and how much space they will command in your layout grid. Keep in mind, this serves only as a a guideline. Take notes on your experience and adjust as needed.

Vegetable Spacing Guide

Vegetable	Between Plants	Between Rows
Bush Beans	6”	18”
Pole Beans	4”	24”

Black-eyed Peas	6”	36”
Broccoli	18”	24”
Cabbage	12”	36”
Carrots	2”	12”
Corn	12”	36”
Cucumbers (on trellis)	3”	30”
Cucumbers (no trellis)	10”	48”
Kale	12”	24”
Lettuce	6”	12”
Okra	18”	36”
Peas	2”	24”
Peppers	12”	24”
Potatoes	12”	36”
Spinach	4”	12”
Squash (Summer)	18”	36”
Squash (Winter)	24”	60”
Tomatillos	24”	36”
Tomatoes	36”	36”
Zucchini	18”	36”

Intensive Planting

Some gardeners prefer to plant very close together in a technique called *intensive planting*. The thought is that this helps with weed pressure and you can harvest more.

Personally, I don’t recommend this to beginning gardeners because, unless you know you have fertile soil, your plants end up competing for nutrients and water and they won’t grow as well. Paradoxically, you may find yourself with a smaller harvest because a larger number of plants have to compete with one another.

Also, with the limited airflow between plants, many gardeners, especially in more humid areas, fight diseases that thrive in moist environments. And I’ve never found intensive planting helpful with weed prevention. My weeds always find their way up unless I have a good layer of mulch!

While I have seen intensive planting work for some gardeners, they are usually very experienced. More often, I hear beginning gardeners regret planting their crops so close together because of the low yields, overcrowding, and disease issues.

Don't get overwhelmed with vegetable spacing. Just start with the vegetable spacing I recommend and adjust as needed in future seasons.

Companion Planting

Before you begin putting pencil to paper (and I always recommend pencil -- trust me, you will adjust as you go!), you may be wondering about companion planting.

With companion planting, you place complementary plants next to each other so each can benefit the other, or at least not harm the other.

Although I practice companion planting on a small scale, I advise beginning gardeners to please not stress over this. I spent way too much time worrying about companion planting when I first started. It caused more confusion in the beginning than necessary. Over the years I've even broken some rules and no harm came from it.

But if you do want to try it (because it *is* fun), here are some general guidelines that shouldn't cause too much stress:

- Interplant flowers and herbs with vegetables to attract pollinators and beneficial insects

- Plant root crops near shallow-rooted crops to make the most of the space

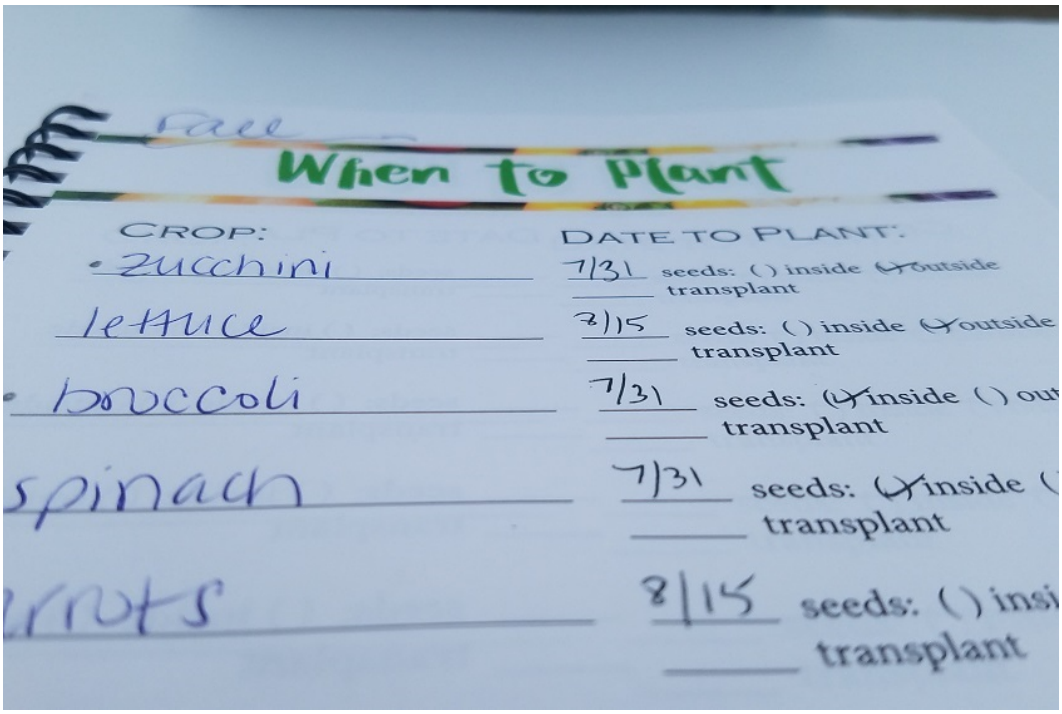
- Allow tall plants to provide shade to cool-weather crops
- My favorite combination: Tomatoes with basil, carrots, and/or onions

Assignment

Today's assignment is to plot out your plantings -- where each crop will go in your garden using the quantities you estimated and the spacing recommendations here. Remember to use a pencil, and have fun!!

Chapter 7:

Schedule Your Planting Dates



Did you get your garden plot mapped out? Wasn't it fun? I hope you wrote in pencil, because it never fails -- each year I plan but I end up changing something while planting.

I know it may seem like you're finished and just waiting on the weather to warm, but this next step is crucial: *scheduling your plantings*. If you don't, you may find yourself planting summer crops too early and spring crops too late. Or you'll work yourself

to death planting everything at once because you didn't realize many crops can be planted at slightly different times.

Remember, gardening is fun! And a big way to experience burnout is not planning your planting in a way you can handle. But first, let's go over some basic ground rules.

Average Last Frost Date

Before you go any further, you need to know your average last frost date. You can find this by following this link and typing in your zip code.

But as you discover your date, remember, this is the *average*. Your *actual* last frost for the year may be two weeks earlier or later than this date (or in my case one year -- three weeks later!), so you will want to keep your eye on weather patterns as spring approaches. But knowing the average last frost date will serve as a guideline for your planting times.

Another thing to be aware of is your microclimate. If you are in a valley, for instance, you will probably get your last frost later than people around you. If this is your first year and you're not sure if you're in a microclimate or not, my advice is to err on the conservative side and give yourself a buffer zone.

Frost or Freeze?

There is a significant difference between a frost and a freeze. In a frost, cool temperatures and lack of wind allow conditions to form where a light coating of ice forms over your vegetation. Some crops will absolutely die, like peppers, tomatoes, or basil.

You are at risk of a frost if the low temperature is from 26-36F, the wind is calm, and the sky is clear. In my area, if we get a late frost the weather center will send a frost advisory so that I am able to cover my crops and save most of them but anytime in the early fall or late spring that I see any low temperature at 40 or lower predicted, I take measures to protect my frost-sensitive plants.

A freeze is when the temperature dips below freezing and the liquid in the cells of the plants freezes. Some plants, like spinach and carrots, can handle a freeze, but some will not.

You are at risk of a light freeze if the temperature is 26-32F and a hard freeze if the temperature goes below 26F degrees.

It is good to know which of your crops can handle a frost or a freeze because some can handle one but not the other. Other variables also affect your plants' vulnerability, such as how mature they are (more mature plants can tolerate colder temperatures) and the length of time the temperature stays below freezing.

Know your soil temperature before you plant

When I first started gardening, I would go by the last frost date and as soon as that date passed I planted everything at the same time. But I began noticing that with some of my crops, the seeds were not germinating. I later learned this was due to the temperature of the soil.

Now before I plant any cucumber, squash, zucchini, corn, or bean seeds, I take the temperature of the soil using a soil thermometer.

In the early spring, it's always a good idea to rake aside any mulch so that the sun can reach your soil and help it warm up.

Assignment

Refer back to the crops you intend to plant in this season's garden, and schedule the date (or the week) you plan to plant them. There are a variety of ways to do this, but these are a few:

Option 1: Put it on a calendar

Print out a monthly calendar and circle your average last frost date. From there, count backward or forward (depending on the plant) how many weeks relative to that date you will plant those crops.

Option 2: The Simple Garden Planner

If you have a hard copy or printable copy of the Simple Garden Planner, you'll find space to plan your planting dates on pages 18-21. Alternatively, you could use the monthly to-do sheets on pages 24-29.

Note: How do you know when to plant each crop? You can usually find planting schedules at your state's cooperative extension web site. I recommend this resource over generic planting grids you find online because your local extension service will have the most accurate data and dates for your area. I also give general recommendations in the planting section of this resource.

This is our last lesson about planning your garden! Next, we will talk about how to prepare your garden site!

Section 2:

Prepare Your Garden Space

Chapter 8:
Choose Your Garden Location



Now that you have your crops planned out and know when you'll need to plant each one, you need to nail down where your garden should be located if you haven't yet. There's nothing more frustrating than planting your garden one year only to realize it needs to be moved to a different location in your yard. I have spoken to countless people who have faced this exact dilemma, and it's not easy to change.

If you want to avoid the headache of moving your entire garden, you want to consider these aspects to your garden location before you plant.

Sun

Most gardens need 6-8 (or more) hours of sunlight every day. Some plants can tolerate a bit of shade. Without listing each one, here's a general rule: if you are growing for the *fruit* or the *root*, your crops will need full sun. If you are growing for the leaves, they can tolerate a little bit of shade. When you think about the sunlight your garden location will receive, there are several things to consider:

- **House Location:** You will not want to plant your garden too close to your home because it will stay under your house's shadow. This is more of an issue if your garden lies on the east or west side of the house.

- **Trees**: In the winter, your garden area may appear to get full sun, but the deciduous trees are bare. Consider the shade they will cast when they are in full leaf.

- **Climate**: If you live in an area with extremely hot summers, you may find that your summer crops actually benefit from some afternoon shade.

But when in doubt, choose the sunniest location that you have to work with.

Access to Irrigation

In a perfect world, mother nature would take care of our water supply with an inch of rain per week throughout the growing season. But in reality, most of us will need to supplement and water our gardens.

As you are choosing your garden location, make watering your garden as easy as possible. We will talk about irrigation methods in a future lesson, but for now make sure that you choose a location with convenient access to water.

Soil Quality (for ground beds)

If you want to plant in the ground or if you're like me and have a combination of raised beds and in ground beds, you will want to choose a location with good soil quality.

Well-drained soil

The next time your area experiences a downpour, go out to your potential garden site after the rain and observe. If you see puddles standing where you want to plant your garden, this is an indication that the soil in that location may not drain well.

The first problem you'll encounter with water-logged soil is that you will have to wait longer until the soil dries out before you can

plant your crops. Another more concerning issue is that your plants will not get the oxygen that they need when the soil stays saturated with water. This can stunt their growth and they could eventually die.

My first year, I planned my garden location and prepared and mulched my beds in the fall. I had everything ready only to learn in the spring that my garden stayed under water. I hadn't realized that I had chosen a low lying location. I ended up having to move my entire garden, but I could have saved myself a lot of labor if I had observed my land during rainy periods.

But perhaps you have the opposite problem. Sandy soil that doesn't hold enough water causes complications of its own.

Whether your soil drains too much or not enough, you may be able to amend your soil, though this takes several years. If your soil is beyond the point where you could amend it (or if you don't want to wait), building raised beds will be your best option.

Don't plant where weeds don't grow

It may seem counterintuitive, but don't plant in a location where weeds don't grow. You may think it's a great location because you won't have to pull weeds. But if weeds don't grow there, your crops won't grow either.

Don’t plant too close to trees

We have already talked about the shade from the trees, but the roots of trees also create stress to your plants as well. If you plant too close to a tree, that tree will take the water and nutrients from the soil before your crops can use them.

I had that problem one year. I planted 15-20 feet from a pine tree but because the roots of this tree spread into my garden, it robbed my vegetables of water and nutrients. I ended up building raised beds in that area the next season.

Special Considerations

Microclimate

A microclimate in an area that is a little bit different than the areas surrounding it. For example, the west wall of my house will heat up everything around it when the sun shines on it in the summer. In a cooler climate, this might be a great thing to help keep your plants warm. In a hot climate like mine, this can be detrimental to my garden. The brick will store heat and release it through the night and hurt plants, like tomatoes, that need a cooler resting period at night.

Another microclimate could be a low lying area, often called a frost pocket, that would be more susceptible to late spring or early fall frost.

Observe the space you have available for a garden. Look at the sunlight, proximity to trees and heat-centers like a home, and any other factor you think might impact your garden (positively or negatively). From there, make your best educated guess as to which area would house your garden area the best.

Wildlife

Whether you live in a rural area like me or in a suburban area, you will likely experience threats from wildlife. We have deer and rabbits that would happily graze in our garden. It is so frustrating to come to the garden to see that your whole bed of strawberries has been chewed to the nub! I tried everything my first year to keep wildlife out and keep expenses down. We now have an electric fence around the garden area.

Wildlife can be frustrating and make you want to quit, so you will want think about what is in your area and what you can do to keep the wildlife from your crops. In general I've found the "old wives tales" do not work. Most of us will have to invest in some sort of barrier like a fence.

Assignment

Spend some time outside and make some notes about what you see that would impact the sun your garden would receive, the quality of soil, any microclimates in your area to best choose your garden location. Then, decide if you will look into methods to preventing wildlife from taking a share from your future bounty.

Chapter 9:

Build and Prepare Raised Beds



I love my raised beds! Because I can control the soil quality, I have the best result from my raised beds and I can better control the weeds. In this section, we will talk about the basics of raised beds: size options, wood options, the process for building your own, and what soil you might use.

Raised Bed Size

Width

While you can build your raised beds to any length, you must be more specific about the width. Many people make the mistake of building their raised beds too wide and they can't work in them easily. As long as the width of your bed is no more than four feet, you can reach easily to the middle from both sides.

I have some beds that are only 2 ½ feet wide and I can reach the whole bed from one side. This is ideal if you place the bed against a fence or structure. But if you have room on both sides of the bed, up to four feet wide will allow for more plants while not sacrificing convenience.

On a related note -- if you place multiple beds in a garden space in blocks (not in a straight line), make sure to leave plenty of room around each bed. You want enough room for yourself and a garden stool between the beds so you have plenty of room to work.

Length

As mentioned above, you can make your beds as *long* as you want. Most of mine are 4' x 8' but I have some beds that are 4' x 12' and 2 ½' x 10'. Most stores sell lumber in 4', 8', or 12' lengths, so choose the size of bed accordingly to limit the amount of cutting necessary. Your biggest barrier when it comes to length is your ability to transport the bed after it is built.

Height

The height of your raised bed will depend on many factors. Mine are ten inches high because I purchase ten-inch pieces of lumber. Unless you're only growing shallow-rooted crops like greens, ten inches is generally considered a minimum height. (Greens can grow in as shallow as six inches.)

If you have the budget and energy available, and eighteen inch bed might be an even better option. It's the perfect seating height and it allows for more nutrient-rich soil to be added (just keep in mind soil costs add up quickly).

Under most circumstances, eighteen inches is considered the maximum for basic raised garden beds. If you want to build higher due to comfort level or aesthetics, you will have to add extra stabilization to the bed to prevent the soil from causing the wood to bow out. Many sources online, including Youtube tutorials, can help you if you choose to build higher raised beds.

Raised Bed Materials

If you use wood as the structure for your raised beds, you have several options. Your decision will likely be most impacted by what's important to you.

Today's pressure treated wood is considered safe by many experts in the field; however, some home gardeners prefer to avoid it due to its potential to leach chemicals. This hasn't been proven, however.

I use pressure-treated pine because it is the most economical option. As long as the wood used was not manufactured prior to 2003, it does not contain arsenic. Modern pressure-treated wood uses copper; however, copper in high amounts would cause plants to die anyway. Just be sure if you use discarded wood (from an old fence, for example), that you verify that it was manufactured after 2003.

If in doubt, opt for the more expensive redwood or cedar alternatives. Untreated pine will work, but it will only last a few years.

Other options include bricks, pavers, concrete, and plastic "timbers" that look like wood. Never use old railroad ties (they contain creosote), and I recommend avoiding tires. Keep your eye out for what might leach into the soil and into your crops.

How to build a raised bed

You can find a plethora of options online for you building your raised beds. For me, I prefer to keep it simple: cut the lumber to size, attach the pieces with screws, and situate the frame in the garden. You may have to level the ground before placing the bed.

After you have decided on your raised bed’s size, measure your lumber with a tape measure and mark it with a square. Use your saw to cut as straight as you can on your line. When your pieces are ready, screw (or nail) them together. You want your boards as straight and flush as possible.

Many people will anchor their beds in the corners. Instead, we dig a 2” trench where our beds will lie and and that anchors our beds enough that we don’t need anything else.

If you anticipate problems with underground wildlife, line the bottom of the bed with hardware cloth to protect your underground crops. Though I did not do this and have had no issues, it’s much easier to prevent problems than have to deal with them later.

How to Build a Raised Bed

Raised Bed Soil

How you fill your raised bed will likely be determined by what you are willing to spend. Good soil costs more, and many home gardeners starting from scratch tell me that soil was their single biggest expense (or, more accurately, *investment*).

Because I try to keep my garden as frugal as possible, I have made use of native soil I have accessible to me on my property. That native soil serves as my base, and I amend it with compost.

If you don’t have any native soil to work with, you will want garden soil. Certified organic is best but it can be expensive, so get the best that you can afford.

Most garden experts I've consulted recommend a blend of screened topsoil and compost, supplemented with various other amendments such as worm castings, azomite, composted manure, peat moss, vermiculite, or greensand (to name a few).

In my experience, do what you can with what you have, and if you have to purchase soil, purchase as high of quality as you can afford. Look for organic certifications on bagged soil, or talk with people where you purchase bulk soil so you know where it came from to ensure no herbicide residue has made its way in the final product.

If you want to grow your garden organically, do not use bagged soil with added synthetic fertilizers. Supplement instead with the organic methods listed above.

Remember that your soil will settle over time so you will want to fill your beds to the top. And even though you won't have as many weeds, you will still have them. So plan to mulch your garden after you plant your crops to keep the weed pressure down.

Raised Bed Soil Options

Assignment

Think about your raised beds. Write your plan for building your beds or having them built. Start pricing soil or soil amendments if necessary and make a plan for filling your beds to get ready for planting.

Chapter 10:

Prepare Your Land (Ground Beds)



As much as I love raised beds, there is something special about planting in the ground. It can be a little labor intensive to prepare, but here are some tips to make it go smoothly.

Plan the Perimeter

This seems obvious, but it is often overlooked. So many people just go outside and start planting, but if you will think about and establish a perimeter you can plan much more efficiently.

Estimates aren't adequate. Unless a thick layer of snow prohibits you from doing this, go out this week and measure the perimeter of your garden and place stakes at all 4 corners. When you come back later to prepare the soil and plant, your garden layout plans will be precise.

Rows and Walkways

Next, you will need to get out your garden planner and we will talk about planning rows and walkways. When I first started gardening, I planned where my crops would go but I didn't leave enough room to walk between rows or as buffer around my garden.

It is helpful to plan your walkways in advance for a few reasons.

First, you want to walk on or near the planting areas as little as possible. If you know where your walkways are, you can avoid trampling where you plan to plant your crops.

Second, you might find it helpful to mulch your walkways in a different way than you mulch around your plants. A thicker barrier or layer of mulch in your walkway will suppress weeds better (seriously, who who wants to weed a walkway?). Often I will lay cardboard in my walkways with pine needles on top because both of those materials break down much more slowly than other methods.

I recommend that you allocate a minimum 3-foot spacing for walkways. This will give you plenty of room to access your crops and even transport your wheelbarrow or garden cart when you're working and harvesting during the season.

Clearing a New Plot

We have talked about different ways to clear your garden plot, like tilling or hoeing. But I want to suggest another alternative. If you have access to a large plastic, impermeable tarp, when the weather starts to warm up a couple of weeks before you start to plant, lay the tarp over your garden plot. This will generate heat which will germinate the weed seeds, but in the absence of light they cannot grow.

I did this one year in my new corn plot. After a couple of weeks, I pulled up the tarp and the weeds that had germinated had already died. Eventually, some more weeds did emerge but it allowed my corn to sprout and grow before the weeds took hold. This method

could be helpful in a new plot or if an area of your garden has been troubled by weeds in the past.

Note that this method isn't the same as "soil solarization," where you use a clear plastic sheet to heat up the soil with the purpose of killing weeds and disease. I did not do this because the only plastic I had access to was black, but if you have access to clear plastic, this method should work, too. Just make sure to bury the edges to prevent the heat from escaping. In this method, it's the heat, not the lack of sunlight, that kills the weeds and weed seeds.

Remember, do not plant until the soil is ready! Wait until the soil is warm enough and ready to work. Do not till and do not plant before the soil is warm. This damages your soil structure and negatively impacts the long-term health of your garden.

Soil Test

Finally, I want to talk about testing your soil. Ideally, you will test your soil in the fall so that you can amend it properly. But if you did not test in the fall, early spring is a good option as well. I test my soil by sending samples to my local cooperative extension and they send back a report of what my soil looks like. The report reveals what the Ph balance looks like and what nutrients my soil lacks. Their recommendations are often not organic, but I find the

test results helpful. I take these results and search for organic and natural ways to amend my soil and add needed nutrients.

A Beginner's Guide to Soil Testing

Assignment

Go outside and mark the perimeter of your garden. Think about how you want to plan your rows and walkways. Consider if the tarp method is right for your family. Finally, get your soil tested, and take steps to amend accordingly.

Section 3:

Cool Weather Crops

Chapter 11:
Lettuce and Carrots



In this lesson, we will begin to talk about planting your crops. I am separating cool weather and warm weather crops because they have different growing habits and require different care. This section begins with two cool weather crops -- lettuce and carrots.

Lettuce

Lettuce loves cool weather and hates hot weather. In ideal conditions -- cool to mildly warm -- lettuce produces beautiful leaves, but like every other plant it wants to produce seeds and reproduce. Unlike fruiting plants like tomatoes or zucchini, lettuce does not produce seeds within its fruit. When it comes to the end of its growing cycle -- or when the weather gets too warm -- it will send up a seed stalk, also known as bolting.

When the plant decides to switch from producing leaves to producing seeds, it puts all of its energy into producing seeds and the leaves start losing the sugars that make them palatable for us to eat. So when you see a cluster of leaves in the center of a plant beginning to grow upward, don't even harvest them! They will taste incredibly bitter. If you're not sure when the bolting process has begun, you can take a quick taste test in the garden. You'll know right away if it's edible.

After the plant has begun to bolt, you can choose whether or not to leave these plants in your garden. Usually I leave them because the flowers that form at the top of the seed stalk attract beneficial insects to my garden. But if you need the space to plant other crops, feel free to remove and compost the lettuce.

Planting Lettuce Seeds

I recommend that you plant lettuce seeds directly in your garden soil. Although lettuce will transplant easily, if you are gardening for economic reasons it doesn't save that much money compared to

what you would pay for a head of lettuce at the store. Plus, lettuce freely sprouts when planted directly in the garden as long as you plant them correctly.

Lettuce seeds do not need to be planted deeply. Instead, they sprout best when only lightly covered with soil.

Prepare the top of your soil by lightly raking it. Then sprinkle the lettuce seeds over the soil and rake it again. The seeds will be covered but they won't be planted too deep.

When to Plant

Lettuce seeds can be planted as early as two to six weeks before your average last frost in the spring. (In the fall, lettuce will grow well once daytime temperatures fall into the lower 80s as long as the seeds and sprouts stay irrigated.) In general, young lettuce won't tolerate freezes but it can handle frost. I usually plant my seeds about four weeks before my average last frost date and they germinate on their own when the conditions are right. Factors such as soil temperature and rainfall play a role in the speed of germination.

Growing Lettuce

After your seeds are planted, ensure the soil remains moist. I often time my planting when I know that rain is coming so that I don't have to go through the extra step of watering. If rain is not in the immediate forecast, irrigate your lettuce seeds lightly so that the water will have a chance to filter into the soil gently.

After the lettuce seeds sprout to a few inches high, you may have to pluck out sprouts that are too close to one another. This process is called thinning. The purpose of this is to ensure the remaining plants have enough space, water, and nutrients and do not compete with one another.

Harvesting Lettuce

You can begin harvesting leaf lettuce whenever the leaves are large enough to your liking. (I usually wait until they are about six inches in length.)

When you are ready to begin harvesting, cut or pinch the outside leaves. The inner leaves on most varieties will continue to grow and you will be able to harvest throughout the growing season -- or at least until warm weather causes it to bolt in the spring or freezing temperatures shut it down in the fall. Add mulch or shade your lettuce in the spring to delay the warming of the soil and extend your harvest.

Carrots

The next cool weather crop we will discuss is carrots. Growing carrots can be lots of fun, but they are a little picky in the early stages of their growth.

To start with, you need to have loose, deep soil as the planting medium. You can plant them in containers but you want them to be at least 12” deep. If you plant them in a raised bed or in the ground, make sure that the soil is worked thoroughly. Remove

any rocks in the soil or they will cause your carrots to split and grow abnormally. Add a generous amount of compost to clay or hard-packed soil, and work it in deeply.

Planting Carrot Seeds

You can plant carrot seeds in a similar way to planting lettuce seeds. Work the top of the soil with a rake and scatter seeds on top. Another option is to use a rake to create shallow grooves in the soil (like mini-rows) and sprinkle the seeds in those grooves, covering lightly with soil.

Carrots need consistent irrigation, especially at the beginning, to help speed germination.

They take a long time to germinate, so be prepared to babysit them for a couple of weeks and be patient. Sometimes as sprouting begins, it's hard to tell if the sprout is a carrot or a weed, but you will know the carrots because they have a wispy "V" shape that is the start of the carrot leaves.

After the "V" shaped sprouts come up, you will start looking for true leaves. These leaves look like baby carrot greens.

When to Plant

Carrot seeds can be planted as early as two to six weeks before your average last frost in the spring and one to two months before your average first frost date in the fall. Carrots are both frost-tolerant and even freeze-tolerant to some degree. The most tasty carrots are harvested after freezing temperatures, and some years I've had carrots survive all winter in my Zone 7 garden.

Their growth slows during the cold and dark months, but there's nothing better than harvesting in the middle of the winter!

Growing Carrots

When you see the sprouts growing to about 4- 6" tall, you may need to start thinning them out to at least two to three inches apart. This is a critical step you do not want to skip; otherwise, you'll harvest tiny carrots after months of anticipation. To grow big carrots they will need plenty of room to grow deep and wide.

Be prepared to exercise patience. One year, I planted my carrots in March and I harvested my first in June. So it can take a while. I usually plant my first carrots in March, about four weeks before my last frost, and again in September or October and I harvest them over the winter. In fact, my best and most tasty carrot harvests are my fall-planted ones.

Carrots are a great option to try your hand at companion planting. They do well when they are planted by tomatoes or something like lettuce that will be on top of the ground while carrots are underneath the ground.

Harvesting Carrots

One of the biggest challenges -- besides getting them to germinate -- is knowing when to harvest! First, write down when you plant them and keep track of how long they need to grow based on the "days to maturity" on the seed packet.

Then, you'll watch for lots of growth of the carrot tops. Take your fingers and move the soil away from the base of the carrot greens

to reveal the top of the carrot. If it’s one to two inches in diameter (depending on the variety), it is ready to harvest. Take a hand shovel or spade and dig around the carrot and gently pry it up, being careful not to pierce the root with the shovel. Do not pull it up from the greens until it’s fully loose or you’ll pick the greens and the root will stay in the ground!

It’s possible that some of your carrots will be ready and others will take a bit longer. If this is the case, harvest the mature ones and leave the smaller ones in the ground until they are ready.

As long as you’re patient, your carrot harvest will be well worth the wait!

Chapter 12:

Onions



Onions are one of my favorite crops because they're hands-off after you plant, and if everything goes well they are so fun to harvest! You can grow enough onions to have on hand for months in storage and even longer if you freeze them.

Choosing the Right Type

They key with onions is to pick the right type for where you are located. Depending on where you are in the United States, you could grow long-day onions, short-day onions, or day neutral onions.

Those of us in the south will grow short day-onions, those of you in the north will grow long-day onions, and day neutral varieties are a good option for those in the middle of the country.

To eliminate any confusion here, I recommend buying local. Your local garden supply store, feed store, or nursery will carry the right type for your location. Look for a bundle of what looks like miniature green onions. These are called onion transplants. Don't get this confused with onion sets -- these look like little onion bulbs without the green top. When I first started gardening, I thought that buying onion sets would produce bigger onions but I was wrong. If you want to grow green onions, buy onion sets. But if you want to grow bulbs, buy onion transplants.

How to Plant Onions

If you're growing onions for the bulb, you want to set the transplants in the ground about 4-6" apart. As long as the soil is fertile, they grow well this close together and it helps keep the weeds from competing with them. Rows should be about 12" apart but I often plant mine closer.

I also have better luck planting onions in my raised beds where you can plant in rows or by the square foot -- planting nine onions per square.

Planting Onions

The best crop of onions I have harvested was planted about six weeks before my last frost date. Onions do well in the cold as long as nighttime temperatures don't dip below twenty degrees. If you want to plant onion seeds, you need to start your seeds about three months before your last spring frost.

Onions do not compete well with weeds so you want to make sure to keep the area well-weeded. Mulch will help with not only weed issues but also it will help regulate the unpredictable temperature swings often present in the spring.

When to Harvest Your Onions

Onions are great at letting you know when they are ready to harvest. As onions grow, their leaves shoot straight up towards the sun. As they near maturity, the bottom of the leaves will start to turn brown and they will begin to fall over. So when the leaves start falling down, they are ready for harvest.

Sometimes, before the leaves droop the onion will bolt by sending up a flower stalk. There are several reasons that may cause an onion to bolt, such as too cold temperatures at transplant or too hot of temperatures as the bulb begins forming.

When the bolting process begins and you notice the seed stalk and emerging flower, this is an indication that the bulb is no longer growing. You can leave it in the ground because the flowers

attract beneficial insects, or you can go ahead and harvest because the bulb has stopped growing. If they bolt, they will not store well so you will want to use them quickly.

Curing Your Onions

If you plan to store your onion harvest, you will need to know how to cure them, or prepare them properly for storage. First, lay them or hang them up in a sheltered area. I use a table in my garage and set a fan on them. Leave them there for 3-4 weeks. The leaves will dry out so that you can store them without the risk of rot.

At any point, they are ready to be used in your kitchen! But if you want to store them, let the the leaves dry out completely. When you squeeze the neck of the bulb and only feel paper (no flesh), they are ready to store! You can trim the roots and the stem, and place them in your pantry or other storage location.

How to Grow Onions for Big Bulbs

Chapter 13:

Peas



Peas are so much fun to grow! As a cool weather crop, you can plant them early and harvest them, making room for a summer crop to go in behind it.

Three Types of Peas

If you want to grow peas, you'll need to decide if you want snow peas, snap peas, or shelling peas. You see snow peas frequently

at the grocery store; they're often used in Asian cooking. Snap peas are thicker than snow peas, but like snow peas you harvest the whole pod and just snap the end off before preparing. Shelling peas are what we buy when we get canned or frozen peas. These are actually the pea seeds that have been taken from the pod.

All three types of peas grow in the same way. You plant them at the same time and they grow similarly. But with snow peas and snap peas you want to harvest them when the pods are fairly young. If you let them grow too long they will become too tough to consume. For shelling peas, you will wait until the peas have filled the pod to harvest them. Then, you can remove the peas from the pod and cook, can, or freeze them.

The different types of peas will require different amounts of space to grow. For snap peas, 3 or 4 feet could be plenty for you to snack on while they are fresh. I like to grow shelling peas so that I can preserve them and enjoy canned peas throughout the year. But, shelling peas take a lot of room in my garden. One year, I grew a 100-foot row and I only canned about 6 pints! This is a lot of space in my garden for not a lot of usable peas, but because I have the space and I can harvest them early enough and plant a summer crop behind them, it's worth it to me to grow this much and more.

All that to say, if you want shelling peas you'll need a lot of space, but if you want snap or snow peas you won't need as much room in your garden.

Planting Peas

Peas do not like hot weather so make sure you get them in the ground early so they can finish producing before the summer heat hits. When the temperature is consistently 90 degrees or higher, your peas will stop producing. This means you will want to get your seeds in the ground about four weeks before your last anticipated spring frost.

When you are ready to plant, you will dig a ½" furrow and plant the pea seeds 2-3" apart. Peas do not transplant well so I recommend planting seeds and not purchasing pea transplants. You can buy peas that don't need a trellis, but I like the tall ones. I have T-posts with netting or twine between them and rows of peas on either side. Even if you plant shorter bush peas, you will want to plant them in these double rows so that they can give each other support.

When you plant this early in your cooler soil, it will take some time for the seeds to germinate. Be patient, keep your seeds watered, and realize it may take a couple weeks before you see little sprouts.

Harvesting Peas

Once you start seeing flowers on your pea plants, you know the pea pod isn't far behind. If you are growing snow or snap peas, pick them young. Snow peas remain flat, and snap peas bulk up a bit but still retain shine on the outside.

If you’re growing shelling peas, wait until the peas visibly fill out the pod into a cylinder shape, and pick just after the sheen on the pod starts to fade.

One last thing

You should know that rabbits love young peas. I lost my entire pea crop one year! If rabbits could be a threat to your garden, find a way to cover or fence your peas to keep the rabbits away. I have found chicken wire to be the best temporary option.

Chapter 14:

Potatoes



I started planting potatoes my first year and, after I learned one key thing about their growth, I've enjoyed this crop every season. Relatively easy to grow, they are such fun to harvest!

How to Find Seed Potatoes

You might be wondering, how do I even begin to grow potatoes? There aren't potato seed packets in the store! The reason is that to get potatoes, you plant potatoes!

I recommend that you buy seed potatoes from your local feed store. In my local store, they charge 55 to 60 cents per pound. By contrast, I've seen them in seed catalogs as high as $13 per pound and in the big-box garden supply store for $7 to $8 per pound!

You might wonder if you can plant the potatoes you find at the grocery store. First, if you buy potatoes that aren't organic, they have been sprayed with a sprout inhibitor. Since you want your seed potatoes to sprout, this isn't an option. You could, however, buy organic potatoes at around $1 to $2 per pound, which would be a good option if you didn't have access to a feed store.

How to Prepare Potatoes for Planting

Seed potatoes look like miniature grocery potatoes. Every eye on the potato will grow and turn into a little stem. You will want two to three eyes per potato piece that you plant.

Sometimes your seed potato will have five or six eyes. When this happens, you can cut your potato and plant each piece. For example, if you have a seed potato with six eyes you can cut it

into two pieces with three eyes each. Cut these potatoes a day or so before you plant them, setting them out in one layer in a sheltered but breezy location. Let the flesh of the potatoes dry out a little before you plant them. This prevents the potatoes from rotting in the ground before the stems emerge.

When to Plant Potatoes

In my area, potatoes have a variable range of planting times. Because they have a long growing season, potatoes can take 90-120 days to harvest. Smaller red potatoes will grow more quickly and the bigger white potatoes will take longer.

I like to plant them about six weeks before the last spring frost. For me, that's in the middle of February, but I have to keep an eye on the weather and soil condition.

One year I planted my potatoes at the usual time, but the ground was really wet and the potatoes rotted and never grew. Another year the winter held on for a few weeks longer than normal, and the potatoes not only took longer to sprout, but when they did sprout, the foliage suffered from late freezes.

Better indicators of the optimum time to plant potatoes is both the the condition of your soil and the trend of your weather patterns. If your soil is saturated and you're digging in soggy mud, wait a little bit for the temperature to warm and the soil to dry out before you plant. On the other hand, if warm weather patterns suggest an

earlier arrival of spring, and your soil is workable, you could plant earlier.

How to Plant Potatoes

Plant your seed potatoes about one foot apart in trenches that are about four inches deep. Each row should have two to three feet between them.

For every pound of seed potatoes you buy, you should be able to plant about a 10 foot row. This will depend on what type of potato you grow. For example, I grow Red Norland, Yukon Gold, and Kennebec potatoes. The Yukon Gold are really big and they don't have as many eyes, so I have to buy more of these than the red potatoes to fill the same space.

Hilling Potatoes

When your potato plant reaches 6-12" tall, you will want to hill your potatoes to make room for tuber growth at the surface level. Take the surrounding dirt or mulch and mound it up around your potato plant. I usually hill my potatoes twice during the growing season.

Harvesting Potatoes

As the potato plant grows, you will first get big beautiful leaves. Eventually you might notice some of your potato plants may begin producing flowers. This shows you that the tubers are growing underneath the soil! (Not all potato plants will flower, however.) Pretty soon after the flowers fade, you will notice the leaves starting to droop. This is because the plant is focusing on growing the tubers below. When the plant's vibrant green color begins to fade, and the leaves die back, you can know that it is time to harvest.

To harvest, take a large shovel and dig about one to two feet away from the center of the potato plant. Treat the shovel like a lever and you'll find potatoes attached to the plant near the surface level. For large plantings, grab a wheelbarrow! Be careful not to puncture the tubers with your shovel; if you do (because we all do), plan to cook and use those potatoes right away.

Common Problems

Potatoes, like tomatoes, are susceptible to early blight. You'll begin seeing the lower part of the potato plant turning yellow with black bulls-eye marks. Remove those leaves to prevent the spread of the disease, as it will inhibit tuber growth and in worst-case scenarios it will kill the plant.

You also want to keep an eye out for the Colorado Potato Beetle. The beetle itself usually doesn't do a lot of damage to the plant, but their babies will destroy your potato plants. Their bright yellow eggs are easy to spot on the underside of the leaves, and you can easily smash them with your fingers. The best thing to do if you spot the Colorado Potato Beetle is to remove all the adults as you find them and smash the eggs.

If you follow these tips, you will have so much fun planting potatoes! You may never want a growing season without them again!

Chapter 15:
Blueberries



Blueberries were a priority for me in my very first garden. They produce so much now, a few years later, that we stock our freezer, give them away, and sell them.

When you first start gardening, you might have your focus on what will produce results right away. But I suggest thinking about planting something like blueberries that will give you incredible results through the years with minimal effort.

I know that blueberries are more of a summer crop. But I've included them here with the cool weather crops because, if this is your first year for blueberries, you need to get started in the early spring when you start your cool weather crops. Once your plants get established, you'll harvest during the summer months (in my area that's June and July.)

Choosing Your Bushes & Location

You need to decide where to plant your blueberry bushes, but before you decide *where*, you need to know *how many* you're going to plant.

You will want a minimum of two to three bushes for maximum pollination. If you plant only one bush, it won't pollinate itself and you won't get the yield you were hoping for. Two bushes will work, but three or more will do even better.

Depending on the variety of blueberry, these bushes could grow five to six feet wide and even taller than that! So when you're considering locations, remember make space for both the outward growth as well as room to harvest around the perimeter of the bush.

The location you choose doesn't have to be in your garden. My blueberry bushes are in a different area of my yard and that works for us, mainly because blueberries need a completely different soil type than your other vegetables (more on that below). So don't limit yourself to only your garden area.

Preparing for Planting

Before you plant your blueberry bushes, and before you even buy them, there are a few things you must also consider when it comes to location:

Acidic Soil

Blueberries must have acidic soil. You will want your Ph level between 4 and 5.5. Having your soil professionally tested is the only sure way to know its Ph level. You can do this with your county's extension service or with a professional lab.

There are also at-home tests, but in my experience these tests tend toward the alkaline side. If you don't have a way to have your soil tested professionally, these at home tests are an option, but remember that they provide more of a range than an exact measurement.

If your soil test reveals a pH of over 5.5, you will need to add sulfur to your planting area. You can do this your first season before you plant.

Full Sun

Blueberries also need full sun to produce the most fruit. They can grow with some shade but they will not produce as much fruit, so choose a sunny site for your bushes.

Well-Draining Soil

You want to make sure your soil drains well. If the area doesn't drain well, the bushes are likely to suffocate and not be able to take in the air or the water around them. My soil is mostly clay and it doesn't drain well so I added organic material to my planting site.

Access to Irrigation

In their first year, blueberries will need consistent water, whether that comes from rain or from your supplemental irrigation. To ensure you stay on top of this, it helps to have easy access to an irrigation source. Once your bushes are established, they will require less attention to watering, especially if they are mulched well.

Buying your Blueberry Bushes

I recommend that you buy your bushes from a local nursery. I've looked at seed catalogs and I'm amazed at what they don't tell you about where different varieties will grow best. Your local nursery will have the varieties of blueberries that will do best in your area, and in my experience they are healthier and were better cared-for than even the ones you find at the big-box garden stores.

When you choose your blueberry bushes in the early spring, I recommend you select the ones that haven't completely leafed out yet. I know this sounds counterintuitive, but if you can find a

bush where the leaves are still budding, that will be the best. This gives the roots time to acclimate after it has been transplanted before having to push its energy into leaf development. This may not be possible depending on the bushes you have to choose from and when you are planting. It will most likely be fine to purchase a bush with some leaves, but if you have an option choose those with fewer leaves.

While there is some flexibility with leaves, it is important to buy bushes without any blooms. If all the bushes at your nursery have blooms, pinch them off. You don't want them to produce berries this first year so that they can become better established after they are transplanted.

Planting your bushes

Plant your blueberry bushes at the same level as they came in their container. I suggest you amend the soil with organic material like coffee grounds, peat moss, or pine needles to both contribute to the acidity of your soil and help with soil drainage.

Soak the bushes with water just after planting, and ensure they receive one inch of water per week the first year.

Learn More!

If you want to learn more about blueberries, check out the following free resources, including my free blueberry planting workbook for you to download. It takes you step by step through everything we have discussed in this chapter, but it adds more detail. For example, it will help you decide what to do if you don't have acidic soil.

Avoid these Blueberry Planting Mistakes
How to Adjust if You Don't have Acid Soil
Commonly Asked Blueberry Questions

I hope you check these resources out and fall in love with blueberries just as I have!

Section 4:

Summer Crops

Chapter 16:
Tomatoes



We have finally made it to the summer crops! These are the crops you can't wait to get into the ground but patience is a virtue with these heat-loving vegetables.

The first summer crop we will talk about is the most commonly grown in home vegetable gardens: tomatoes!

I hate to admit this, but I don't actually like to eat raw tomatoes. But I do love canned tomatoes and sauce, which is why I grow a

lot of tomatoes! Before you begin choosing the tomatoes you'll grow, you need to know the basic kinds and how you plan to use them.

Determinate vs. Indeterminate

Most tomatoes fit into one of two growth categories: determinate and indeterminate. A *determinate* type of tomato grows to a specific height, stop growing, and fruits all at once. One benefit of determinate tomatoes is that you don't have to stake them as heavily. They will need some support, but not an elaborate staking system like other types require.

If you plan to can your tomatoes, a determinate variety is perfect! It will grow, produce all of its fruit, then you can can it all and then you're done. One popular variety of determinate tomato is the Roma tomato. You've seen these at the store and they are perfect for canning, they're actually my favorite!

On the other hand, the *indeterminate* tomato varieties keep growing higher and higher until killed by frost or disease. You will harvest these tomatoes throughout the season as they keep producing fruit. Many of the most popular tomatoes like Better Boy, Cherokee Purple, and Brandywine are indeterminate varieties. With these, you can harvest a few tomatoes at a time and have them to eat fresh all season.

Indeterminate tomato varieties require heaving staking, and sometimes it's necessary to cut them back to keep them under control!

I grow both determinate and indeterminate, and they are both wonderful to have. My determinate tomatoes are more resistant to disease, and I can pull them up in mid-summer after fruiting to make room for another crop. My indeterminate keep me in tomatoes all season. That's why I enjoy growing both.

Fresh vs. Canning

Before you choose your tomatoes, you want to think about whether you want to eat your tomatoes fresh or to can them. Of course you can eat canning varieties fresh, and preserve slicing varieties, but overall you'll be happier growing the type that suits your overall purpose.

If you plan to can most of your tomatoes, you will want a variety of paste tomatoes such as Roma, Amish Paste, or San Marzano tomatoes. The reason they are called paste tomatoes is that they have more flesh and not as much juice as slicing tomatoes. When you're canning tomato sauce, you really want more flesh than juice.

Slicing tomatoes have more juice than flesh and are perfect for sandwiches or burgers. Your options for slicing tomatoes are endless, and tomato-lovers will appreciate the varying flavor profiles these tomatoes offer. Gardeners love to experiment with different varieties and compare the flavors.

Seed vs. Transplants

After you choose what type of tomato you want to grow, you need to decide if you'll grow them from seed or if you'll buy transplants. I start mine from seed about six weeks before my last frost date. I plant 30-40 tomato plants each year, which would be cost-prohibitive if I had to purchase that many as transplants. If you have a smaller garden, though, you may prefer buying the transplants rather than worry with indoor seed starting.

When you buy your seeds or transplants, you will choose between heirloom and hybrid varieties. Both have their benefits. Heirloom tomatoes are known for their complex and robust flavors, while hybrid varieties tend to resist disease better. If you want to save your own seeds for next year, you'll need to grow heirlooms, as seeds saved from hybrid plants will not produce true to the mother plant.

Planting Your Tomatoes

When you plant your tomatoes, you want to make sure that the last spring frost has passed. But the last frost date isn't the only factor to getting your tomatoes their best start. You want the nighttime temperatures consistently in the 50's. If nighttime temperatures dip into the 40's regularly, your tomatoes will not grow well or rebound from the natural transplant shock. Just wait for it to warm up a bit. Tomato plants thrive when the soil temperature has warmed into the 60s (minimum) to 70s.

As you transplant your small tomato plants into the ground or raised bed, plant them deep -- deeper than their container. I

usually pinch off the bottom couple of leaves so that I can plant it to the last set of leaves. Tomatoes grow roots from the stem and the deeper it is planted the more roots can extend to take up nutrients and water for the plant. This will especially help during the dry summer months.

Staking

Whether you've chosen determinate or indeterminate varieties, you will need to decide on how to stake your plants. Roma tomatoes do really well with what is called the Florida weave. This is where you have 2 stakes on either side of the plant and you weave twine between the stakes and around the plant. You start about 12" from the ground and weave a layer every 12" after that, usually with about three levels.

In my experience, this method doesn't work as well for indeterminate varieties because they outgrow the stakes so quickly. Options for indeterminate varieties include large tomato cages made out of livestock panel or concrete mesh, training them with a single-stem method, or training them on a trellis.

Whatever you decide, be ready to stake your tomatoes by the time they are 12-24" so they are stabilized when the fruits begin to weigh the plant down.

Growing tomatoes is a fun experience, but it's not without its challenges. You may have to try different varieties to see what

grows well for your area, and you'll need to keep vigilant for disease and pest issues you may face.

Chapter 17:

Peppers



Peppers are another popular crop in the summer garden. A great reason to love growing peppers is that they don't take a lot of room. You can fit a pepper plant into one square foot. That leaves a lot of room for flexibility in the ground, your raised bed, or even in a container.

Whether you grow sweet bell peppers or hot peppers, they require the same care.

Seed or Transplant?

As with tomatoes, you can choose to start your pepper plants from seed or to buy transplants. If you start them from seed, you want to start them indoors about the time you start your tomatoes. The difference between tomatoes and peppers is that peppers will take a much longer time to germinate and a much longer time to grow, but you plant them in the ground a few weeks later than you plant your tomatoes, so they benefit from extra time indoors. For best germination, you will want to buy a seedling heat mat to help keep your soil temperature up because peppers need a lot of heat. Alternatively, you could keep your seeds on top of a warm area like a dryer.

To transplant your peppers in your garden -- whether you start them indoors or purchase transplants -- you will wait until after the soil and weather have warmed up. I usually wait until about a month after our last spring frost. One reason is that they will die with frost. The other is that they need hot weather to grow and thrive. They will not transplant and establish themselves well if the soil is cool.

How to Plant your Peppers

Unlike tomatoes, your pepper plants do not need to be planted deep. You will plant them about the depth they were in the container. Ensure the soil contains ample organic matter like compost, and water the area well after transplanting.

Staking

It is easy to forget, but peppers do need a little bit of staking. This is not nearly as extensive as with tomatoes, but they do need support. I'll use a tomato stake or even a dowel rod if I have one, and place it 4-5" from the stem and tie with some string. Be careful not to tie it too tight; you want your plant to still be able to move in the wind but have the support it needs. Without support, the fragile pepper stem will fall over or snap with a wind gust, especially while it's holding the weight of almost ripe peppers.

Green or Red Peppers?

One common misconception is that when you grow bell peppers you have to buy green and red varieties. On the contrary, what actually happens is that all of these peppers start out green and as they remain on the vine, they will turn red. So if you want red bell peppers, just wait!

Yellow and orange bell peppers are a different variety, but red and green are the same. Sweet bell peppers, jalapenos, and other peppers start green and turn red if left on the vine.

Harvesting a mix of green and red peppers takes a bit of planning. If you leave all of your green peppers on the plant to turn red, the plant won't produce as many new peppers because its energy is going into maturing that fruit instead of producing new fruit. But if you pick all your green peppers, they don't have a chance to turn red. What do you do then?

Sometimes I designate one bell pepper plant that I let ripen to red and I designate another that I frequently pick the green peppers so that I have plenty of both. Other times, I harvest the green peppers early in the season, and once I have enough to freeze, I stop picking and let the remaining ones turn red. Later in the season, you'll notice the peppers turning red faster.

I leave my pepper plants in the garden until the frost kills them because they will continue to produce. Because they take so well to freezing, can you ever have too many peppers?

Chapter 18:

Zucchini and Squash



Almost every gardener I know makes room for zucchini or squash -- sometimes both! Gardeners usually have one of two experiences -- either they harvest so much they beg people to take it away or they have so many problems with bugs that they can't harvest much. In this lesson, I want to give you the basics on how to grow squash and zucchini but I also want to talk about some of the common challenges.

The first thing you should know about squash and zucchini is, like the other warm weather crops we've discussed, they like hot weather. You do not want to plant them in your garden before your last spring frost.

Seed or Transplants?

I recommend that beginning gardeners plant squash and zucchini from seed directly in the garden. You can buy transplants, but sometimes they have a hard time rebounding from the transplant shock.

I don't recommend beginners start squash and zucchini seeds indoors because unless you have experience in this area, you're more likely to fail. Squash and zucchini are particular with their light and they grow leggy very fast. The window to transplanting the seedlings outdoors is very short, and if you don't do it at just the right time, they will either die or languish.

Instead, I've found that if you wait for warm soil (around 70 degrees) and plant the seed directly in the ground, they will germinate quickly and often catch up to the transplants -- and most of the time the plant will be healthier.

Soil Conditions

Before planting, ensure there is a lot of organic material in the soil. Compost is my recommended option. If you notice your seedlings aren't growing at the rate you'd like, add some organic

fertilizer because squash and zucchini are heavy feeders and they love nutrients.

You also need to make sure the soil is well-drained. The difference in the quantity and quality of squash and zucchini I've planted in my clay soil (which isn't as well-drained) and in my raised beds (which drains well) is like night and day.

Planting Squash and Zucchini

You can either plant your zucchini and squash in hills or in rows. For hills, you make a mound of soil rich in organic matter about 6" high, and the plant grows down the hill. You could also plant in rows without hills. Don't get caught up in it, just know that each plant will take at least 3'x3'. The biggest mistake I've seen gardeners make (myself included) is planting them too close together. They'll compete for nutrients and disease like powdery mildew will flourish when the plants are too cramped. You'll get a much better harvest when you have one big plant with sole access to nutrients than lots of little ones that compete with one another.

Flowers and Fruit

Assuming all goes well, you will begin to see flowers on your plants. The flowers you find for the first few weeks will all be male flowers so don't be concerned if you don't see fruit starting to grow right away. These male flowers call out to the bees and

other pollinators so that when the female flowers bloom the pollinators are there and ready!

The female flowers have a small fruit at their base and when they are pollinated that fruit, the squash or zucchini, will grow. If it does not grow, or if it rots before ripe, it probably wasn't pollinated. If that's the case, you may not have enough bees in your area and you can take one of your male flowers and pollinate the female flower with it.

Pests

Squash Bug

The number one pest that people complain about on squash and zucchini is the squash bug. This bug will suck the juice out of your leaves and if there are many, they will kill your plant. Even if they don't kill your plant, they will weaken it so that it cannot produce a good harvest.

My suggestion is to find the eggs and squish them. Although the adults will do some damage, their offspring will harm your plant the most. You will have to look every day on the underside of the leaves for little golden eggs. They are sticky so you may have to scrape them off to be able to squish them.

I don't recommend using pesticides on these bugs because I haven't found any of them beneficial (none of the ones that I have tried have worked). And these pesticides -- organic or not -- could

cause problems with your beneficial bugs. If you choose to use a pesticide, keep it away from your flowers so that it doesn't harm your bees.

Squash Vine Borer

The other most pervasive squash pest is the squash vine borer, though it goes undetected to most beginning gardeners. You usually don't even realize you have them until you see your squash or zucchini plant completely wilted -- often in short order.

How do you know your plant is affected? Inspect the base of your plants. If you see sawdust-looking frass, the borer has already burrowed in the stem and it will eventually kill the plant from the inside out. At this point, you may or may not be able to kill the grub and save your plant, but here is one way you can try. Take a knife and cut into the stem and fish the grub out. Then, bury the stem in soil to promote further root growth and healing. Often this doesn't work long-term because the plant has sustained so much damage, both from the squash vine borer and from me.

Because the borer is hard to control once it has taken its place inside the stem, the best control is prevention.

One year I sprinkled diatomaceous earth around my plants before they flowered and it seemed to help. Even this organic method can kill bees so you don't want it on your plants when you have flowers, but it will be washed away in the rain if you use it early.

Another thing I do is plan for some of my plants to be killed. I plant more than I think I will need and I plant in different plantings. I'll

plant in the spring, early summer, and again in late summer. When I do this, I accept that some of my plants will die because of the squash vine borer, and it's okay because I know I'll have more. I've found that I get my best harvest from the planting in late summer. I think they have finished their life cycle by that time of year and have no problem with them. You'll need to test planting times in your area, as your best harvest may come early in the season before the borer moth emerges to lay her eggs.

The key with squash and zucchini is to try it out and see what works. My challenges will be different from yours and vice versa. So experiment and adjust as you go! For me, it's worth all the effort to get a great squash and zucchini harvest every year!

Chapter 19:
Cucumbers



Cucumbers are at the top of the list for many home gardeners. The good news is that they're pretty easy as long as you keep a couple of things in mind.

Variety Options

Cucumbers come in two primary types -- pickling cucumbers and slicing cucumbers. While some can work for either purpose, you

want to choose the variety that will be best for your family. Slicing cucumbers usually have a waxy coating that is not ideal for pickling because brine cannot easily penetrate the skin.

Conversely, although you can use pickling cucumbers for salads and other purposes, slicing cucumber will provide the best taste and texture.

Personally, I grow both. I enjoy the fresh taste of slicing cucumbers, but I grow pickling varieties to can pickles and relishes.

Some cucumbers are labeled as “burpless.” These have less cucurbitacin, which can cause bitterness and stomach issues. If this is a problem for your family, consider trying a burpless variety. Usually these are hybrids, so understand that you cannot save these seeds for the next season.

Planting Cucumbers

After you decide what type of cucumber to grow, I recommend you grow them from seed just like squash and zucchini. I have had the hardest time transplanting cucumbers, whether I’ve bought them at the store or I’ve started the seeds inside. Just like with squash and zucchini, cucumbers grow their best when I have planted the seeds directly in my garden once the soil has sufficiently warmed.

When you plant your seeds, make a small furrow and plant them about ½” deep and about 3” apart. Then you will cover the seeds

with soil and water them well. If they all germinate, take out every other one so that they're about 6" apart.

Trellising

When you plant your cucumbers, you will need to think about how to support their climbing growth habit. If you don't have a trellis, your cucumbers will end up sprawling all over your garden, which will not only take up space but it will also leave them vulnerable to disease.

I've trellised my cucumbers many ways, but my favorite is an an arch trellis. They still want to sprawl so they have to be trained to grow up the trellis, but once they begin fruiting, the cucumbers hang down inside the arch and it is really fun and easy to harvest!

If you aren't up for setting up an arch trellis (it's not hard but it's definitely a two-person job), there are many other types of trellises. You could use a hog panel or even tie some twine between 2 stakes. The cucumber plant has little feelers that it sends out that will wrap around whatever it can find. So whether you use wire or twine, these little vines will wrap around it and the plant will hold on as it grows up the support.

Harvesting Cucumbers

When it comes to harvesting cucumbers, you want to harvest them pretty young. Depending on the variety you choose, you don't want really large cucumbers because they're more likely to

become bitter. If you notice that they are bitter after you harvest them, there are a few things you can do.

First, bitterness is sometimes caused by uneven watering. So make sure your plants aren't getting too much, or too little, water. You don't want them to dry out then overcompensate by over-watering. Second, you can cut the stem end off of the cucumber and rub the cut areas together in a circular motion. This action will cause a white foam to form and it helps take away some of the bitterness. If you still notice bitterness, peel the cucumber because most of the bitterness is found in the peel.

Overall, cucumbers are so fun to grow! And they seem to do well in all climates! I've often had my best harvests in the fall. So you can grow them throughout your growing season as long as they are all harvested before your first fall frost. Just make sure, like squash and zucchini, that you wait to plant them until your soil is nice and warm!

Chapter 20:

Beans



Every beginning gardener should grow beans! When I first started gardening, I had no idea what to do with them. Now, beans are my staple garden crop, and hopefully you can enjoy what I've learned over the years.

Pole or Bush Beans

Both types of beans can be eaten fresh, sauteed, canned or frozen. The main difference is the way that they grow. I prefer to grow pole beans because I like for them to grow up our trellises. We have 2 trellises for beans and that is enough for us to can and eat all year. I haven't had to buy green beans in 5 or 6 years because I've always grown enough.

I also like the practical side of growing pole beans up my trellis. They are so easy to harvest, I rarely have to bend down for them. Plus they look really neat growing up like they do! You can even grow another crop under your trellis while your beans are using the space above ground.

Pole beans will produce later than bush beans, though, and they command the garden space for the full season.

Bush beans will bear more quickly and will produce all of their beans at one time, similar to determinate tomatoes. If you want to use your space for something else, bush beans are the way to go. They will produce quickly and then they're done so you can pull them up and put in another crop -- maybe even a second planting of beans!

Planting Beans

Once again, I recommend that you plant your beans from seed straight into your garden. You can buy the seed packets from your garden center or online, or you can buy them from your local feed store like I do.

Wait until after your last frost in the spring has passed, and ensure the soil has warmed to between 65 and 70 degrees. Otherwise, you'll run into issues with germination. Don't ask me how many times I've had to replant my bean seeds because I planted them too early!

When you are ready to plant, you'll want to dig a trench about 1" deep and drop your seeds about every 3-6" for pole beans, 6-12" for bush beans. Since the pole beans grow up, they need less room than the bush beans that grow out. If you don't have much room, pole beans are the way to go. If you have raised beds, you could even grow pole beans between your beds so the trellis goes between the beds. But a trellis does take some effort so if you want to avoid the trouble of a trellis, go with bush beans.

After they are planted, beans usually germinate within a week as long as the soil is warm enough. I've even had them sprout in just a few days! It's exciting to see them so quickly!

Harvesting Beans

The key to harvesting beans is to pick them young. It depends on the type you grow, but most of what I've grown you need to

harvest when they're 4-6" long. If they grow longer than that, they get really tough and you won't want to eat the pod. If you want them for shelled beans, then you can let them grow until they dry and you can shell the beans.

Overall, beans are great for a new garden area. They don't require a lot of soil fertility; actually they put nitrogen back into the soil. I've grown them in places where I'm trying to develop the soil; I'll plant in an area that isn't nutritionally-rich enough for other crops to help the soil get ready for other crops. They are a great crop and worth space in your garden!

Build an A-Frame Trellis for Pole Beans

Section 5:

Ongoing Care

Chapter 21:
Mulch Options



We've reached the last section, where we'll discuss some aspects of ongoing care that will help you in your garden. The first thing we'll talk about is mulch. I wish someone had talked to me about it when I first started my garden. I didn't realize, until my garden was overtaken with weeds, that I needed a *plan* to mulch my garden!

Why Mulch?

Mulch serves many purposes besides the obvious -- mulch just looks nice! Here are some of the practical benefits your garden will enjoy with a good layer of mulch.

Regulates Soil Temperature

Mulch helps to regulate soil temperature. Whether you're planting in the ground or in raised beds, plants are sensitive to the soil temperature. This is particularly true with your cool weather crops like lettuce, spinach, and greens that will bolt sooner when the soil temperature warms.

For some crops, though, you want your soil temperature to warm quickly so summer plants like cucumber, squash, and zucchini can thrive in the early spring. In this case, you'll want to wait to apply your mulch to these areas until after the soil temperature has sufficiently warmed.

Retains moisture

The second thing mulch does is helps retain moisture. Once the water reaches the ground, mulch keeps the moisture at the plants' roots where they need it and prevents water loss through evaporation. This is critically important during the heat of the summer when many plants suffer water stress. It will also limit the amount of supplemental water you have to provide in dry conditions.

Stifles weeds

The biggest thing that mulch does for me is it save me from hours and hours of weeding! When I've been lazy with mulch in an area of my garden, I've always had to spend way too much time weeding. But when I take the time and apply mulch like I should at the beginning of the season, it keeps the weeds from taking over. And when I don't have to spend all of my time weeding, I can enjoy my garden more.

Types of Mulch

Wood Chips

What kind of mulch should you use? I've used several different methods but I keep going back to wood chip mulch. If you do any research on the internet about wood chip mulch, you will find all kinds of opinions. For the best results, apply it correctly and it will benefit your soil for years to come.

You never want to mix wood chip mulch *into* your soil. It will eventually break down into your soil and create good fertility, which is great, but it requires nitrogen to break down those wood chips. Your plants need that nitrogen and they won't get it if all the nitrogen is being used to break down the wood chips.

Instead of mixing it into your soil, place the wood chip mulch on top. Yes, nitrogen at the surface of your soil where the wood chips meet the dirt will be tied up to help break down those wood chips.

But the nitrogen under the soil's surface where your plants need it will still be available. Always apply it to the top and never mix it in.

If you have an area with a lot of weed pressure, or through pathways, you may want to lay down a barrier first, such as layers of newspaper. This will block the light and prevent growth of those weeds through the mulch. The newspaper itself will eventually break down and add nutrients to your soil, just like the mulch will. I know in the six years of using wood chip mulch, I have noticed a difference in my soil quality every year. When you use wood chip mulch, you are helping the quality of your soil long-term.

Hay

Another option for mulch is hay. I've used hay before when I didn't have wood chip mulch available. It's more cumbersome to apply. And while I haven't had problems with this, some gardeners have had issues with hay introducing *more* weeds into the garden.

You also should know where your hay was grown and if they used any herbicides. If they did, your garden will be introduced to unwanted chemicals into your garden, which will stunt or kill your plants. As long as hay is from a pure source, it will do its job suppressing weeds and will eventually break down, contributing to the quality of your soil.

Straw

Many gardeners use straw as mulch in their garden. I keep trying because it's so much easier to apply than hay, but I have never had it work well. The weeds always seem to creep through no

matter how thick I lay the straw. So while I can't recommend straw based on my experience, I know it works well for others. If it's something you want to try, go for it! It will also contribute to the fertility of your soil.

Pine Needles

I use pine needles as mulch in my garden in addition to the wood chips. Because pine trees grow in my yard, I have plenty of pine needles available each fall. I usually use it in the pathways because it doesn't break down as quickly as wood chip mulch does. It will last for several years. This is a really good option if you have them available.

Plan in Advance

Whatever method you choose, make a plan and obtain your mulch ahead of time. If you have a small garden, you may buy a couple of bags of wood chip mulch from your garden center. We have a large space so we buy wood chips from our local lumber mill by the trailer-load. If you plan to use hay or straw, have a plan in place for how you will obtain this mulch from a trustworthy source.

Having a plan for what to use and when to apply your mulch will make a big difference in your garden. Your mulch will save so much headache and contribute to the quality of your soil for the long term.

Chapter 22:
Irrigation Options



No matter where you live, you will probably need to think about supplemental irrigation for your garden. Ideally, we would all receive enough rain every week and we wouldn't need to think about watering our gardens, but reality is far from this. While I can't tell you what would be the best fit for your garden and your family, I can tell you what works for me and offer some considerations for you.

Hand Watering

We've tried just about everything. I've hand watered with a spray hose. I've used the long-handled hoses with the sprayer at the bottom. I tried those because if you live in a humid area like I do you don't want to use a sprinkler because it can cause disease, fungus, and mildew to spread. When you water directly at the base of your crops, that will help prevent some of these issues. Hand watering is a good option for those who have small garden space or for those who enjoy watering.

Soaker Hoses

As our garden grew, we bought soaker hoses. These worked really well, especially in our raised beds. We laid the soaker hoses in the beds and connected them to the water hose as needed. Soaker hoses do a great job of distributing water evenly instead of in one big gush. Soaker hoses are a good option if your garden is too large for convenient hand-watering but small enough where a couple of hoses will do the job.

Drip Irrigation

When our garden outgrew our soaker hoses, we transitioned completely to a drip irrigation system. Irrigation systems can get really complex, but this one is fairly simple. We have one main hose and drip lines that connect to it throughout our garden. You can get a starter kit and supplement with extra drip lines to fill

your garden as needed. These are readily available at your local garden center and online.

I like that drip lines, like soaker hoses, distribute water directly to the base of the plants so you don't have the problems associated with sprinklers and disease. It also saves money. Some experts say that drip irrigation can use 60% less water than overhead watering using sprinklers. Why? You also don't have to worry about evaporation as much since the water is going directly to the plants. Plus, you run the lines at the base of the plants themselves, avoiding unnecessary watering of pathways.

Consider a Timer

To make it even easier for us, we set our irrigation system on an automated timer. Our garden is watered every three days from 4am-6am during the height of the summer (we adjust based on season and rainfall). This way, the plants do not receive water during the heat of the day and our garden's health isn't dependent on our remembering to water.

Adding the timer takes the guesswork out of irrigation. We can always delay the next watering if we get a good rain. I also don't have to worry about asking someone to water my garden while I'm on vacation.

One last thing to consider: if you live in an area that doesn't get much rain or if you're planting primarily in raised beds, these beds will dry out more quickly. You'll want to plan on watering more

than someone who lives in a more moderate climate or has all of their crops in the ground.

Remember when we talked about planning your garden's location and I asked you to think about how you would irrigate your garden? I would hate for all of your effort to go to waste because you didn't plan ahead to water your crops. Make your irrigation decision well before your first dry spell.

Chapter 23:

Pruning Tomatoes



There may not be a more highly contested topic than pruning tomatoes. Everyone has an opinion and they all seem to contradict. I've done some research and I've tried a few different things. I'll tell you how I take care of my tomatoes and you can test and see what works best for you.

Many people believe that if you don't prune your tomatoes that they will grow out of control and you wouldn't get the big, juicy tomatoes you seek.

While that could be true to some degree, it's easy to get confused because this advice will depend on the variety of tomato that you grow.

The One Type of Tomato Not to Prune

You will never need to prune determinate tomatoes like Roma tomatoes. If they're a determinate tomato, they will only grow to a certain size anyway so pruning will actually decrease your harvest.

Pruning off Early Blight

The one exception that I would make to this is if you start having problems with early blight. If you notice that the bottom leaves on your tomato plants are turning yellow and have a brown bull's eye on the leaf, they most likely have early blight.

Early blight is caused by a fungus that lives in the soil and can splash up on the leaves when it rains. Eventually this will kill the leaves and, though it is rare, it can kill the plant. If you see this problem, prune off those stems so that it doesn't spread.

If I see blight on my determinate tomatoes, I will remove those stems.

I prune all of the bottom stems off of my indeterminate tomatoes as well because blight seems to hit them so quickly. As your tomatoes are growing, by the time they are 6-12" you will want to make sure they stay off the ground to prevent blight. Another way

to help prevent it is to mulch really well, though I always mulch well and still can have problems with blight every year.

Pruning Indeterminate Tomatoes

Suckers are the stems that grow at a 45 degree angle between the main stem and the horizontal stem. Left to grow, they will create their own stems with more suckers, and you can imagine how this can get out of hand.

Some contend that you should remove all these suckers, some say leave them all, and some recommend you remove some but leave the rest.

What seems to be the consensus is that if you remove all of the suckers, then your plant will focus all of its energy on what is left -- fewer but larger tomatoes. If you want really big tomatoes, try removing all of your suckers so the plant's energy can go into making really big tomatoes.

If you want a lot of tomatoes but you don't care how big they are, then you might want to keep all of the suckers. This will leave you with a lot of tomatoes (and some pretty out of control growth), but the fruit may not grow as big. If you want good sized tomatoes, but they don't have to be the very biggest, then you might want to prune some but not all of your suckers.

One benefit to letting the suckers grow is the shade they provide. Sometimes the tomato fruit will get too hot and, when exposed to the sun, get what is called sun scald. To prevent this, especially if

your area gets hot summers, you might leave some of the suckers at the top of the plant to provide shade for the rest of the tomatoes.

There aren’t hard and fast rules when it comes to pruning your tomatoes. It all depends on your goals for your garden. If you have time to experiment, please do! One year I tested and pruned all of my tomatoes in one row and none of them in another row. The result? The unpruned tomatoes yielded much more than the pruned ones.

Conclusion

While I could talk gardening all day, my hope is that this guide has given you enough practical advice to help you get started on your garden.

From the fun part of planning to the exciting part of planting and watching your fruits and vegetables grow, you are ready to enjoy this most rewarding hobby for yourself!

For further resources to help you on your garden journey, be sure and subscribe to my podcast, the Beginner's Garden Podcast and join a wonderful gardening community inside the Beginner's Garden Shortcut Facebook Group.

Happy Gardening!