THE COMPLETE COMPACT GARDEN BLUEPRINT

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Introduction

First and foremost, congratulations on choosing to live a more sustainable, self-reliant life. Growing your own food is an excellent step toward self-sufficiency, as well as giving you the ability to throw off the yoke of Big Ag. I'd have to say that growing your own food will be one of the most rewarding things you'll ever do, and can dramatically enhance your independence.

This book is designed to provide you with a great deal of information within a short amount of time, but don't feel overwhelmed. It's a simple matter to refer back to the information in this book as you start building your own compact garden. You can experiment and build on the information provided here as well, creating a garden system that's unique to your needs, your available space, and your lifestyle.

This probably will not be your sole resource for gardening, and it wasn't designed to be the "only book you'll ever need". There are plenty of other valuable resources out there. In fact, the more resources you use, the better your results will be, and the more independence you'll be able to gain. You'll also find that the more you explore the world of self-sufficiency, the more your own system will evolve and change.

This book was written for both experienced and beginning gardeners, even those without that proverbial green thumb. Understand from the outset that there is no such thing as a natural inclination toward being a great gardener, and a "green thumb" is nothing more than a myth.

Anyone can design and grow their own garden. Growing your own plants simply requires the right garden design, a little light, a little water and the right nutrients. There's not much more to it.

Your success (or lack thereof) will come from your dedication to caring for the plants that live in your garden. It will hinge on your curiosity and ability to learn new things. You'll make mistakes – we all do. You'll take a couple of wrong turns along the way. It's all a learning experience, and there's no single path to becoming a great gardener.

What's more – you might find that the mistakes you make along the way actually lead to breakthroughs, helping you garden better and grow more than would otherwise be possible.

There are two things you need to do before you get started with this book. First, you need to make a garden calendar. This will help ensure that you're able to schedule what you're able to grow in your garden. Google's calendar tool is helpful, but you can use pretty much anything you want. Even a simple Excel file can help.

You can even do it by hand. Contact your county's local extension service (a quick Google search should give you the phone number) and ask about their garden planting schedule. This will be customized to your region and climate.

Next, you need to start a gardening journal. In this, you'll detail what you did in the garden on a daily basis. You'll list what worked, what didn't work, what yielded mixed results and what you'd like to try later on. Keep a separate Word document or sheet of paper for each vegetable you plant. Detail planting dates, germination time and rates, how long it took to harvest, issues with pests and diseases, and anything else that you might need to know in the future.

These two tools will be the foundation for your compact garden, and will help you in the future. Successful gardening is really no more than having access to the right information, and you can create the data you'll need in the future pretty simply just by recording as you go.

Chapter 1

Site Selection and Area Prep

Let's start with the most important element first. All the planning in the world won't help if you don't have the right site selected. You can fertilize, plant, water and cross your fingers all you want, but if the site you choose for your garden is wrong, you'll find no joy here. So, the first thing we're going to cover is how to choose the right location for your garden, and then how to prepare it for planting.

Where to Situate Your Garden

One of the best things about starting a compact garden is that you can easily fit it almost anywhere. However, you'll need to keep a few things in mind. You need the right amount of light throughout the day. You need access to water. You need the right nutrients in the soil (or available to your growing plants in other ways, but we'll cover those systems later).

Ideally, you'll situate your compact garden against a south-facing wall. However, any area with a southern exposure will work, so long as it's not overly shaded throughout the day. Why south? In the Northern Hemisphere, the sun lies more to the south, and in the winter, it dips strongly toward the equator.

Building your garden close to a building's wall (with the wall behind the garden, not blocking the sunlight) will also provide some a bit of protection from wind (in the US, cold winds come from the north). It can also help to add warmth to the soil at night, as the structure releases warmth accumulated during the day.

Don't worry if you don't have a southern facing wall that will work. Just make sure that the site you choose has good sun exposure throughout the day, and that it will receive sunlight during the winter months. It would be best to scope out your yard several times throughout the day. Note areas of sunlight and shadow during the morning, during the

early afternoon, and then during the evening. Based on this information, you should be able to choose the right site for your garden.

Once you've chosen your garden site, you need to take things one step further before you start preparing the soil. Take time to make sure there's no vegetation shading your garden location – something as simple as a tree branch blocking the sunlight can ruin your results. If there's shade, remove it.

Trim tree branches back, or cut down saplings that might cause problems. If the source of the shade isn't removable, or you've done as much as you can, check that your garden area receives at least six hours of sunlight during the day.

There's no need to set out a lawn chair and hang out in the yard. Just check back several times throughout the day and see how things are progressing. If the site receives at least six hours of sunlight each day, then you should be able to grow almost anything you want there.

With that being said, you should carefully consider what vegetables you want to grow, particularly if you only have six hours of sunshine. Some plants require more sunlight throughout the day, while others will thrive with less. This is just a basic guideline on what will work with most plants. Check the growing instructions for the plants you're considering before you put any seeds into the ground (ideally, before you actually buy the seeds in the first place).

Site Preparation

Since you're creating a compact garden that will only measure a few feet, there's no need to invest in heavy equipment. You don't need a tiller. You'll just need one simple hand tool – a good shovel. Now, let me stress that you need a GOOD shovel. If you've got an old, rusty one that's been hanging around your house for the last decade or so, it may work, but it may also break on you halfway through the process.

Of course, if you intend to build a raised bed, you'll need a few other tools. It's simpler if you're going to plant straight into the ground, but there are pros and cons to both in-

ground gardens and raised beds. For instance, in-ground gardens require less prep work, and are generally less costly, while raised beds cost a bit more, but the soil warms up faster, allowing you to plant sooner each year. For the purposes of this explanation, we're going to assume that you're going with an in-ground garden.

NOTE: Make sure you're not digging around water or telephone lines. If you're not 100% sure where your utility lines enter the building, contact the utility companies and they'll come out and mark where it's not safe to dig. Never dig without knowing where your lines are located.

For Immediate Use

If you intend to get started growing right away, you'll need your trusty shovel, as well as a tape measure and a way to mark where you're going to dig. Measure and mark off a rectangle that measures one foot wide by four feet long (the length should be against the wall of the building, if you're going this route). Clear out anything that's growing here (larger than grass). Dig down about six inches into the earth. Turn that earth over, including any grass – this will naturally compost in the ground, adding nutrients.

Now, you'll need to do the same thing in another 1 x 4 foot section directly south of your garden. Take this soil and add it to the area you just turned over. This will provide you with a full foot of loose earth, which is essential to plant growth. You may also hear this termed "double digging".

Delayed Planting

If you don't intend to plant immediately, you can let nature give you a helping hand here. Measure and mark out where your garden will be, and then add several inches of organic matter. You can add vegetable cuttings from the kitchen, grass clippings from the yard, even newspapers will help. Keep the organic matter on the soil for about a year.

By adding layers of organic matter, you encourage earthworms to make the area their home. They will soften the soil and, more importantly, add their castings to the dirt, providing even more nutrients for your plants. Additionally, it will also cool the soil while killing any plants currently growing there (and encouraging the composting of that material, as well). With that being said, it does nothing about weed or grass seeds under the soil.

If you're not keen on having a bunch of rotting organic matter, you can buy several bags of compost and just add them straight to your soon-to-be garden. Cover the whole thing with black plastic, and then just leave it alone. Nature will do everything else for you.

Raised Beds

If you don't want to deal with soil prep at all, or if you don't have any soil to speak of (apartment dwellers, those who live in highly urban areas, etc.), you can build a raised bed. All you'll need is a few 6 x 6 boards built to fit, and some top soil (you can buy it, or you can dig it from somewhere else). Note that building a raised bed is more expensive, as you'll have to purchase the boards (or find scrap somewhere).

You'll need to measure and cut the boards (meaning you'll need a saw), or you can have them cut at your local DIY store. You should have one board that measures six inches by four feet, and two that measure six inches by one foot.

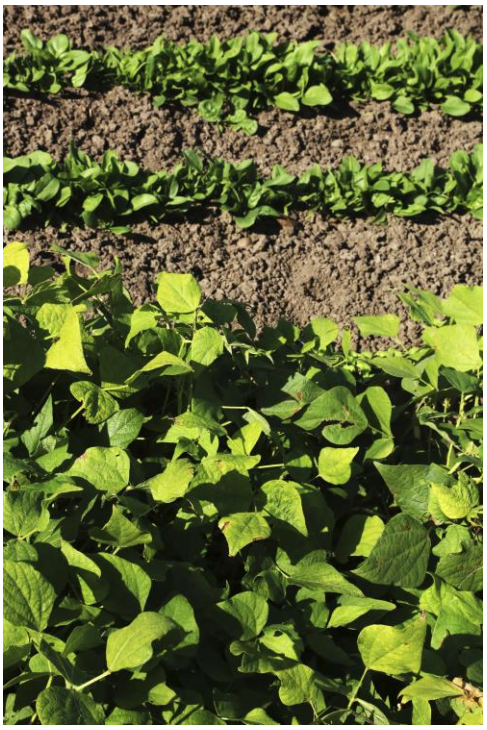
Companion Planting: Give Your Plants Good Friends

If you think that you need to plant just one type of plant per row or container, there's good news. Not only do many plants do well together, some actually help one another thrive. This is called "companion planting" and it really boils down to giving your plants some good friends. The most famous pairing is actually a three-way combination called the "three sisters". These are corn, squash and pole beans. Here's why they work so well together.

First, they grow and mature at different rates. Squash is fast growing, and will provide natural mulch for the corn and beans. It also helps the other plants outcompete weeds and grasses. Corn gives your beans something to grow up (eliminating the need for trellising), and it also provides vital shade during the hottest portions of the day. Beans are also “nitrogen fixing”, which means they remove it from the atmosphere and put it in the soil, where it will boost the growth of both the corn and squash.

This principle can apply to both indoor and outdoor gardening. Below, you’ll find a helpful chart that will ensure you’re able to get the most out of both your indoor and outdoor spaces.

Plant Type	**Good Friends**	**Bad Company**
Peppers	Carrots, onions and basil	Beans, kale or cabbage
Potato	Cabbage and beans	Squash, tomatoes or cucumber
Tomato	Celery, basil, onion, parsley	Cabbage, potato or fennel
Onions and garlic	Lettuce, tomatoes, beets, carrots, and cabbage	Peas, parsley, beans
Carrots	Chives, peas, radishes, lettuce	Parsley or celery
Kale, broccoli, cauliflower or cabbage	Potatoes, onions, beets and celery	Peppers, beans or tomatoes
Spinach	Peas and beans	
Beans and peas	Cucumbers, beets and cabbage	Fennel, garlic or onion
Beets	Onion, lettuce, or cabbage	
Lettuce	Beans, cucumbers and carrots	Parsley or celery



Succession Planting for Year-Round Growth

Take a cue from Mother Nature – as soon as a spot opens up for something to grow, something does. You can do the same thing in your garden. Succession planting ensures that you have crops growing throughout the year, and helps to maximize the yield you get from your compact garden.

Succession planting refers to two intertwined concepts. First, you plant multiple times during the growing season, which gives you more than one harvest from certain plants (you'll find information on the back of the seed packets concerning planting in succession).

Second, it means tilling under or removing plants that have already produced, and then planting something more appropriate for the later season. For instance, when your bush or pole beans slow or stop producing, you can remove them and add cool weather crops like broccoli, cauliflower, spinach, cabbage and more.

Planting in succession really gives your gardening efforts a huge boost, and is something that anyone attempting to maximize the value of a compact garden should practice.

Indoor Hydroponics

Growing indoors allows you to have significantly greater control over your plants. It eliminates the chance of pests destroying your crops, and gives you complete control over light, water and soil conditions. In addition to the tower, bottle and in-ground gardens highlighted throughout this book, we also highly recommend creating an indoor hydroponics wall. We've included a build plan for this in the back of the book.

Chapter 2

Planning Vertically

A four by one foot garden isn't particularly spacious, which means that conventional horizontal growing isn't the best way to get the richest reward for your efforts. On the other hand, vertical growing can help you maximize the yield of your compact garden, giving you several orders of magnitude more food from such a small space than would be possible otherwise. In this chapter, we'll discuss mixing vertical and row planting to really ensure you're getting the most growth from your small garden.

What You'll Need

By mixing containers along with vertical growing areas, you're able to dramatically increase the amount of growing space you have in your compact garden. There are several containers you need. Here's what you'll need based on the compact garden measurements discussed in the previous chapter:

- 4 5-gallon buckets
- 12 2-liter bottles (up to 18 if desired)
- 60-72 12-ounce water bottles

With these containers, you'll have four square feet of space for root vegetables like sweet potatoes, regular potatoes and beets. You'll also have space on the ground for peas and beans. You'll have four planters for tomatoes and peppers, as well as 12 of them for bok choi, collards, kale and/or lettuce. Finally, you'll have 60 – 72 planters for smaller greens like arugula, cilantro, basil and the like.

When it comes to plant choices, you'll have to work with the space you have. While growing vertically does give you additional space, you will probably not have a lot of room for larger plants, such as crookneck squash, which requires three feet of space

between each plant. A sampling of good options, including prime veggies and tasty herbs that might work well in your garden include the following:

Vegetables

- Kale (including Siberian dwarf kale)
- Collards
- Spinach
- Bok choi
- Mizuna
- Swiss chard
- Broccoli
- Cauliflower
- Potatoes
- Sweet potatoes
- Bush beans
- Tomatoes
- Peppers

Herbs

- Cilantro
- Parsley
- Garlic
- Basil
- Dill

Diagram 1 is an option for those who don't like the idea of adding plastic to their garden (and there are plenty of people who worry about the danger plastic poses not only to the environment, but also to the human body through the addition of BPA and BPS). It still gives you options for vertical growing where space on the ground is at a premium.

You'll use wire fencing or other trellising materials wrapped into one-foot diameter cylinders. Line each cylinder with landscape fabric, and then fill them with your choice of

growing medium (we cover growing mediums/materials a little later in the book). There are several advantages to this method, including the fact that you've turned 4 square feet of earth into 24 square feet of garden. You can grow plants around the full circumference of each cylinder.

To plant in the cylinders, simply cut an X into the fabric where you want the plant to go, and then space out the plants normally (according to the planting instructions for that specific vegetable). While this method has become more popular recently, it's actually an old technique that's been around for quite some time.

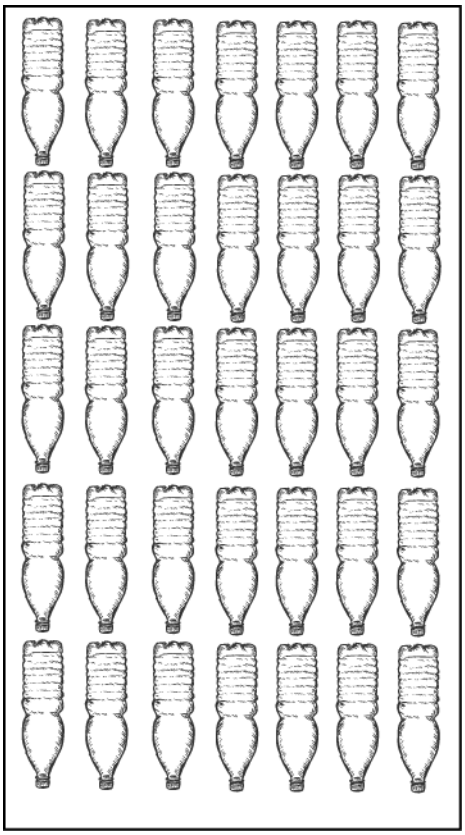
In terms of plant choices, you may want avoid larger options like tomatoes, as they tend to produce only once, and then die off. It's an ideal solution for smaller plants, though.

Diagram 2 shows you an idea of how to set out the plastic containers we talked about in the beginning of this chapter. However, understand that this is just one option. You can create whatever arrangement works best for your garden and the plants you ultimately decide to grow.

There are also plenty of other reasons that you might want to consider a different alternative, including rethinking your use of plastic (if that's the case, then the example in Diagram 1 is a good choice). Other potential challenges include not being able to

suspend your five-gallon buckets in the air without spending a small fortune on supplies. Note that all plastic containers should actually be suspended above the soil in your 4 x 1 garden plot.

In Diagram 3, you'll see another vertical gardening plan that could be built at almost no cost whatsoever using recyclable plastic bottles and a little bit of creativity.



In most of these cases, you'll have to spend at least a little bit of money, although many materials can be found for free if you look hard enough. This includes landscape fabric (which could feasibly be replaced by snow fencing after winter ends).

A Word on Plastic: There's a lot of concern out there about BPA and BPS in plastic, and rightly so. While there are safer alternatives to using plastic in your compact garden, they're not available free or cheap, although you could check Craigslist and Freecycle to see if anyone in your area is giving away things that might help. Even the much-vaunted pallet, which can be used easily in vertical gardening, isn't without its problems. After all, you have no idea what the wood has been exposed to and has absorbed during its industrial and commercial use.

The fact of the matter is that plastic is everywhere, and there's no way to escape it. The majority of the foods you buy at the grocery store are wrapped in plastic. Even conventionally grown food is irrigated through plastic tubing. Even the receipt printed at the grocery store register contains BPA (thermal heat tape).

In the end, the BPA and BPS exposure from the use of plastic bottles in your garden is pretty negligible when you consider the immense exposure you have in other areas of your life. With that being said, creative problem solving is one of humanity's greatest strengths, so if you can come up with a solution that is both BPA/BPS-free and economically viable, use it.

Chapter 3

Determining Your Gardening Budget

It's time to discuss the dreaded "B" word – budget. Yes, you'll have to spend some money, even on a compact garden. The good news is that you don't have to spend all that much. In fact, depending on where you live and whether you're able to scrounge any of the supplies needed, you may only need to pay for seeds or plants.

Of course, the garden design that you have in mind will affect your costs. In this chapter, we're going to discuss budgeting, the various materials you'll need (in addition to what we touched in the last chapter), and other factors that will ultimately affect how much you end up shelling out to create your compact garden.

Before we get too far, though, make sure that you've jotted down all the notes about your garden in your journal, including the design you want to follow, thoughts on the types of plants you'll grow, and where you intend to create the garden in the first place. You may find it helpful to create an actual sketch of your soon-to-be garden, but it's not totally necessary if you're not particularly skilled at drawing.

Growing Mediums: The Right Foundation for Plant Health

All plants need something to grow in. Even hydroponic systems give plants nutrient-filled water for this, combined with some sort of permanent growth platform (floating Styrofoam, for instance). In this section, we'll take a look at the various mediums available to you and what you'll need to know in order to budget correctly. We'll start by discussing the cylinder model highlighted in Diagram 1 in the previous chapter.

In order to grow plants, your cylinders will need to be filled with a growing medium. You can use a number of different things here. For instance, you can find premixed potting soil available if you have the money, or if you're able to find it on sale during the fall and are planning well ahead. However, you can make your own potting soil for less without too much trouble.

If you want to take a more DIY approach here, you can easily create your own planting medium. You'll need either perlite or vermiculite. However, perlite is less expensive, so that's what we'll base our budget on. You'll also need 2 bales of compressed peat, as well as 10 40-pound bags of compost (if you're feeling particularly DIY, you can make your own compost from organic matter around the house. It takes a little time and patience, but you'll have no additional costs at all if you go this route).

You should include some sort of fertilizer in the mix. You can use organic, composted manure, or you can opt for something like Miracle-Gro, which can be purchased just about anywhere. Of course, it does increase your costs, so if you're working on a tight budget, you'll do better going with composted manure.

The quantity you mix together based on the information below should be enough to fill all four of your cylinders with some left over. However, you can stretch the mix a little further (or add to it if you don't have enough because your cylinders are larger) by adding in a little topsoil (about a quarter of the total volume).

Here's the list:

- Bales of peat: $24
- Landscape fabric for your cylinders: $20
- Fertilizer: $10 or so (depends on what you purchase)
- Compost: $15
- Perlite: $15

Of course, if you decide to use buckets and plastic bottles rather than tall cylinders, you'll have less to purchase. You'll still need five bags of fertilizer, as well as a bag of perlite and one bale of peat. The money you save can be put into other areas, including additional fertilizer to really give your plants a jumpstart and ensure they grow strong and healthy.

Where to Buy

There's a never-ending list of where you can buy most of these supplies. You should be able to source almost anything you need from your local big box DIY store (Lowe's, Home Depot, etc.). However, there are plenty of other options – even Wal-Mart carries some gardening supplies, although you probably won't find everything you need there.

You also have access to other areas depending on where you live. Organic nurseries are great places to look, but so are local hardware and feed stores that supply the needs of farmers in the surrounding area. If you live in a highly urban area, you may not have access to these suppliers, though.

A great source of information can be found online – gardening forums. A couple of questions will yield a treasure trove of information about not only where to buy, but how to apply different types of fertilizers, where to get the right seeds (important if you want organic or heirloom varieties) and a great deal more.

When it comes to seeds, the cheapest and most expedient option is just to buy from Wal-Mart. They won't be heirloom varieties, but they'll be affordable, and most Wal-Mart stores should carry enough of a variety to satisfy your needs at least in the beginning.

Let's Talk Seeds

We mentioned seeds in the previous section, but this topic bears further discussion. Without seeds, you'll be forced to purchase plants, which is far more expensive. Don't worry that starting vegetables from seed is hard – it's actually pretty simple if you can start them indoors and then transplant the plants to your garden when they're large enough and the weather warms up during spring.

We've talked about where to buy seeds, but there's one source that you need to know about we haven't covered yet. Local gardening clubs can be a great place to find seeds for low or even no cost. Run a quick Google search on your city or town with the words "garden club" or "gardening club" and you'll be surprised at just how many there are in

your area. If you're coming up short online, you can also ask your local county extension agent for information.

While these clubs are great sources of information and advice for new gardeners, they're also good for something else. Most clubs have an annual seed exchange or seed swap. Why is that important to you?

First, chances are good that you're going to end up with not enough of one type of seed, and too much of another. A seed exchange allows you to get rid of your unwanted surplus, while trading for those that you do need. Many local gardeners save seeds from their harvest from year to year, and these exchanges will give you access to vegetables and vegetable varieties you won't find elsewhere (hard to find heirloom plants, exotics from other geographic areas and more).

Of course, that still leaves you with the need to get the bulk of your seeds in the first place. Wal-Mart will be the best solution here – they're affordable, located in almost every town in the country, and many can be accessed 24 hours a day. You can buy vegetable seeds for anywhere from under $1 to $2 or $3 depending on what you want. This is the best source of "the basics", but you also have access to other options.

Check out RareSeeds.com. Operated by Baker Creek Heirloom Seeds, it's an amazing resource for the aspiring gardener, with hundreds of varieties, many of which you've never heard of. Give their online catalog a perusal, and you might be surprised at the options you have available. You don't necessarily have to buy from RareSeeds.com – you can make a list of what you want to grow based on what they have available, and then buy seeds from another place or get them from a local exchange.

With that being said, websites like RareSeeds.com may be the only place you can find certain cultivars. Another site worth checking out is JohnnySeeds.com. This is an employee-owned company dedicated to all things gardening, from vegetables to fruit, flowers and herbs. Both of these sites are excellent resources not only for the seeds you'll need, but also information about gardening, ranging from how-to content to information about pests, diseases, growing seasons and a great deal more.

Another option for getting your seeds (on the cheap) is through the Seed Savers Exchange (http://www.SeedSavers.org). Based in Iowa, this group helps connected growers around the world with a special focus on heirloom varieties. You do have to pay a small fee to join, but that can be well worth it. There's even a discount if you qualify as a low-income family (or individual). Make sure to check out their annual publication, which lists over 10,000 different varieties of seeds (vegetables, fruits, flowers and even trees).

Another similar option is the GardenWeb Seed Exchange. You'll need to sign up as a member on the forum (http://www.GardenWeb.com). Join the forum, and you'll find a wealth of information at your fingertips, including contact information for people with seeds they want to trade or barter with. As a special note, there's no membership fee. However, there's also no centralized publication, so you'll need to interact in the message boards to find what you want. Still, it's well worth your time.

Track Seeds and Performance

A very important aspect of successful gardening is knowing what grows well and what doesn't. Your gardening journal is an ideal place for this information, and it shouldn't take more than a few minutes and some minor observations throughout the year. What should you record?

- Plant type
- Variety name
- Seed source
- When you started the seeds
- When they first germinated
- How quickly they grew
- Number of plants vs. seeds planted
- When harvest occurred and yield

Based on this information, you'll be able to weed out varieties and even whole vegetables that don't do well in your area. It will help you focus on ensuring you have the right seeds, and are able to source them year after year from the right provider.

The Special Case of Potatoes

Potatoes should be a stable crop in your compact garden, and they come with lots of benefits. They're easy to grow. They last a long time with the right protection once you harvest them. They're loaded with energy. You also won't need to buy any seeds. This applies to both regular and sweet potatoes.

Regular potatoes can be grown from the sprouts that emerge from each eye – if you've ever forgotten about a bag of potatoes in your pantry, only to find that they'd started getting soft and sprouting shoots, you've seen the beginning stages of new growth. Each of those eyes can be cut off and planted, where it will form a brand new potato plant, along with a bundle of potatoes underground.

The situation is a little different with sweet potatoes, but just as simple. To grow sweet potatoes, you simply need to put one end of the potato in a glass of water, and leave the other end dry. Over several weeks, you'll notice "slips" begin to develop from the dry end, as well as roots forming in the water. Remove the slips from the potato and plant them in your garden. You'll enjoy a harvest of fresh, homegrown sweet potatoes later in the year.

If you're using the tower plan highlighted previously, only plant slips at the bottom of your towers. They'll grow and spread, creating vines. You can cut the vines back if necessary, and the leaves are edible (and can be used as a spinach replacement in a pinch).

Important Tools for Compact Gardeners

Since you're not creating a massive garden, you don't need quite the same array of tools and hardware that other gardeners will. However, you definitely will need to have the right tools on hand. You should make sure you have the following on hand:

- Shovel
- Hoe
- Trowel
- A good, sharp knife (for harvesting)
- A water hose
- A nozzle with a mist or light spray setting
- Watering can

Of course, you're free to add whatever other tools you feel you need. As your experience with gardening increases, you'll develop a better idea of what you personally want and what you don't want. Some gardeners prefer a kneeling mat, while others keep a stock of newspapers for use in composting and starting seeds. Yet others keep a supply of small flowerpots on hand for starting seeds, or a collection of egg cartons for a simple alternative for seed starting.

Chapter 4

For Lazy Gardeners

Gardening is incredibly rewarding. It's an ideal way to become more self-sufficient and self-reliant, while ensuring that you're able to save money and enjoy the freshest, most healthful food on the planet. However, it's not for everyone. Maybe you don't have the time. Maybe you don't have any space, even for a compact garden, and a container garden just isn't the right fit. Perhaps you have physical limitations that make gardening out of the question. Whatever the case, there's a solution.

Applying This Method

Ok, so it's not really for "lazy" gardeners. It's really all about finding the help that you need to get that garden up and going, and then maintain it throughout the year. It might work well if you plan a vacation and need someone to take care of the garden while you're gone, or it could work if you simply don't have the time to dedicate to the garden in the first place.

The most important thing to understand here is that this plan relies on Craigslist. Yes, that site comes with a few issues, but as long as you're careful about whom you respond to when placing your ad and screen people relatively well, you'll do just fine.

Pressed for Time

Most of us don't have enough hours in the day as it is. If time is preventing you from gardening, then you can put an ad on Craigslist asking for help in the garden and offering a split of the produce grown. You'd be amazed at how many people are almost literally chomping at the bit to grow their own produce but don't have a place to do it. If you have the space, they'll supply the time. Many will actually offer to bring some of their own plants and split that harvest with you as well.

Here's an example of such an ad:

*Help Needed with Small Garden in *Location**

Help! I need someone to help me create and manage a small garden. I'll handle all the equipment, but I need someone to put it all together, and then help maintain it.

It should take no more than a couple of hours per week in terms of maintenance after setup (setup should take just a day).

I'd be happy to pay for the help, but I'd really rather split the harvest 50/50.

You'll be surprised by both the number of responses to your ad and how quickly they start coming in. As a note, always be cautious when meeting someone from Craigslist in person.

Strapped for Cash

You can also use Craigslist to help supplement your gardening equipment. A quick search will yield all kinds of equipment, from gardening boxes to tools, compost and fertilizer, seeds, even mature plants, all available for low cost.

This plays into your ad (you said you'd be supplying the equipment). Of course, Amazon will have everything you need and you can have it shipped right to your house, but you'll be paying full retail price there. With Craigslist, you can source the equipment you need for less. You may also check out your local Freecycle group. While it's not as heavily trafficked as Craigslist, Freecycle is, well, free. It's definitely worth a look (http://www.Freecycle.org).

Chapter 5

Preparing Your Soil

If you've opted to avoid using premixed potting soil and go the DIY route, then you'll need to put some sweat equity into preparing your growing medium. Don't worry, though. There's actually not that much that needs to be done. Whether you're going the perlite and peat route we talked about previously, or planting straight into the ground, soil prep isn't that difficult.

First Things First

If you'll be using your own soil in any capacity here, whether planting in the ground or mixing in some of the soil with perlite and other material, you need to have a soil test conducted. This will tell you many things, including the pH level of the soil (whether it's acidic or alkaline). This information will be necessary to determining what type of amendments you add (lime, potassium, etc.).

You'll also need this information to tailor the soil to the needs of the plants you'll be growing. Different plants thrive in different soil conditions. For instance, blueberries do well in poor soil with a low pH, while tomatoes need a decent amount of calcium and potassium (but too much can cause problems). You can get a soil test done at your local county extension for very little money. Once you have the results, ask what they recommend in terms of soil amendments, and then follow that advice.

Adding Organic Matter

If you're unable to get a soil test done, you can still take steps toward enriching the soil you'll be using. One of the best options is to add organic matter to the area where your garden will be, but you need to start about a year before you plan to create your garden. It takes time for organic matter to break down, and sometimes Mother Nature throws

you a curveball (like cold weather, which slows down or stops the microbial action that turns organic matter into rich material your plants will need to thrive).

The simplest option here is to just pile up organic yard waste on top of your compact garden space. You can add:

- Grass clippings
- Raw (uncooked) vegetable waste from the kitchen
- Fruit waste (banana peels, apple cores, orange peels, etc.)
- Eggshells
- Small twigs and sticks (nothing larger than a half-inch in diameter, though)
- Dead leaves

Just pile this up in the area and let it sit. Mother Nature will eventually turn it into rich, dark compost. It will also attract earthworms, which will speed up decomposition and also soften the soil underneath, giving you an easier time when it comes to turning the soil over.

A home composting pile is an excellent option, but it's not something that everyone can do. You might live in an area where it's not allowed (HOA agreements often preclude composting), or perhaps you simply don't have the time to wait for your own compost to mature. In that case, you can buy compost from most farm supply stores (and even some big box stores). You'll find a couple of different options here, including straight compost, and manure/compost mixes. Choose the option you want (and can afford).

Taking a Short Cut

If you're pressed for time or just don't want to bother with adding organic matter, you can add topsoil to the area. You can buy it from Home Depot, Lowe's, garden supply stores and many other places. However, it won't be as rich as what you can achieve with a little effort, time and a bit of compost.

Another option is to buy "gardening mix", which is a combination of soil, organic matter, perlite and other ingredients. It's sort of a "garden in a bag" and you'll just need to add

the seeds. The drawback here is that you have to pay for it, and you don't really know what's in it, unless you're buying certified organic, which will cost you more.

Mixing Your Soil

We've covered base soil prep – you should now know what you need to get an in-ground garden started. However, if you're going to be using the tower or bottle methods outlined earlier in this book, your work is not yet done. There's a reason stores sell both gardening mix and potting mix – different growing environments mean that your plants will have different requirements when it comes to growing mediums.

If you've ever attempted to grow vegetables in a pot using soil you dug out of the yard only to see them wilt and die despite your best efforts, you have firsthand experience with this problem. In this section, we'll detail how to mix the soil you'll use in your towers and your buckets/bottles.

For Towers

If you'll be building towers, you should prepare your soil as follows:

- 1 part perlite or vermiculite
- 2 parts peat
- 2 parts compost

It's really not recommended to add native topsoil to your towers unless it contains a high degree of organic matter already. The reason for this is simple: most natural soils compact easily, and when put into the form of a tower, that process is accelerated. There's a lot of weight pressing down on the lower layers, and compaction will prevent your plants from thriving (or even getting started, really).

Compaction also poses a problem when it comes to water absorption (compacted soil doesn't absorb water). Watering is a critical consideration for all container gardens, and we'll discuss that in greater detail later in this book.

For Bottles

If you'll be using bottles and buckets for your compact garden, things are a little more lenient. In fact, you can experiment with different mixture ratios of the main ingredients we've covered so far. Just remember that removing a percentage of compost and perlite will mean that you have to water and fertilize more frequently (these are water retainers and slow-release nutrients that help take some of the load off you in terms of ongoing garden maintenance).

Hydroponics and Aeroponics

There are plenty of other gardening methods out there besides container gardening and in-ground gardening. Hydroponics is pretty well established, and involves growing plants in nutrient-rich water without any soil at all. Aeroponics is different, and involves growing plants in air and nutrient-rich mist.

Both of these methods require some degree of expertise, and can be expensive to set up. For first time gardeners, container and in-ground gardening represent the least difficult and least expensive avenues. You can always branch out to another method down the road when you've become more familiar with the gardening process and/or have more funds to spend on equipment.

Chapter 6

Putting It All Together

No matter how new to gardening you might be, there comes a point at which you have to put down the books and pick up the hoe. You have to put it all together. All the plans in the world won't help if you don't actually turn over a few shovelfuls of dirt and plant some seeds. This is the "make or break" point of your gardening experiment – the point at which you go from a researcher to a gardener. In this chapter, we'll cover everything you need to put your plan together and get planting.

Your Garden Calendar

Remember the garden calendar mentioned initially? This is where you'll really start to need that document. It's essential for timing your garden. Different plants thrive during different seasons. Spinach and cauliflower are great spring or fall crops. Cucumbers and tomatoes do better during late spring and summer. Okra is definitely a summer crop, as is eggplant. Lettuce tends to thrive during cooler weather. Your garden calendar is going to be an indispensable aid in this.

The Benefits of Automation

We've mentioned using Google's calendar tool before, but now we're going to expand on why it's such a beneficial thing. Of course, you can use pretty much any other calendar app or program, so long as it shares some primary characteristics with Google's offering.

One of the most important features here is the ability to receive email reminders. This takes the burden off you to look at your calendar days ahead of time. For instance, you would set an event (first day of planting, dates when specific seeds need to be planted, etc.), and then you would receive an email notification about it the day before. If you

have Google Now on your phone and use Google's calendar function, it's even more seamless. Of course, there are plenty of other options out there that can approximate this functionality – find the one that works best for your specific needs. Here's an example of what your calendar might look like:

1: Plant melons	2	3	4 Fertilize	5	6 Fertilize	7
8	9	10	11 Harvest spinach	12	13	14
15	16	17	18	19	20 Fertilize	21
22	23	24	25 Hill potatoes	26	27	28 Weed garden
29	30 Harvest squash	31				

This is just an example – your calendar will look very different, but you can see how handy automatic email reminders (or phone reminders) can be, particularly given how busy most people's lives are these days. Remember that your calendar will need to take into account several different things, including your geographic region, weather patterns, climate zone, the size of your garden, the specific vegetables you grow, and a great deal more.

With that being said, there are a few activities that you'll need to do on a regular basis. While the exact dates will vary depending on your situation, the order will be at least similar, if not identical.

Major Milestones for Tower Gardens

Before we get into the actual steps and general times when each should take place, it's worth pointing out that this plan includes you starting your seeds indoors, not planting them straight in the ground. Follow the instructions on the back of each seed packet concerning starting seeds inside.

The vast majority of vegetables you'll grow can be started inside during the winter months to ensure that you've got decent growth when the soil warms up enough to plant and the danger of frost has passed. Now, with all that being said, let's take a look at your general garden calendar.

- Early March: With the tower plan, there's very little open soil, so you'll need to start all of your plants indoors. Let them grow until they've produced four true leaves – don't count the two "starter" leaves.

  Make sure you're starting your early spring plants first. This should include kale, spinach, chard, beets and other cool weather plants. If you have room, or if you don't mind omitting something else, you can also plant things like cauliflower, cabbage and broccoli.

- Mid-March: Now's the time to plant peas in the top portions of your towers. Make sure to soak the dried peas before you plant them – this will help speed up the germination process, and also provide you with more even germination. Planting dried peas without soaking is possible, but the results are very inconsistent (this applies to pretty much all dried beans, including black beans if you decided to go that route).

  While space will definitely be at a premium with the tower design in your compact garden, it might be worth using a couple of five-gallon buckets to grow potatoes (and/or sweet potatoes). If you decide to make this addition to your garden, drill several holes in the bottom of each bucket for drainage, and then place two seed

potatoes in the bucket. Cover those with a rich mixture of soil and let them grow. As the plants grow, continue to hill them – cover the growing vine with organic matter to encourage more potatoes to grow.

Once they flower and begin to die off, just dump the buckets out, and sift through the soil to retrieve your spuds. You should see somewhere between three and eight pounds of potatoes per bucket. Around this time, you should also start your tomato and pepper plants indoors (sweet potato slips, too).

Make sure the starter soil mix is identical to what you'll be using in the outdoor garden, and start as many plants as you can fit indoors. You'll eventually winnow those down to just the three best/strongest tomato and pepper plants (you can give away unwanted plants, or barter them for other things you need).

- Early April: On or sometime around the first of the month, you should start transplanting your seedlings from their starting pots to the towers or bottles and buckets out in your garden. Pay attention to weather forecasts. Make sure you know the last day of frost for your area.

  If you're in a northern region of the country, you may have to wait for this. Southern extremities may be able to start earlier. Your county extension will be able to give you this information. Also, remember that when you plant in your towers, your plants will need the same amount of space between them as if you were planting in the ground. This information will be on the back of the seed packet (unless you got them from a seed exchange).

  As a note, it's highly recommended that you start short-season plants like lettuce and spinach at the bottom of your towers. As their growing season ends, you'll be able to replace them with things like tomatoes and peppers. You want these at the bottom because most of the nutrients will eventually work down to that level

and be present in heavier concentrations (which both peppers and tomatoes need in order to thrive).

- Mid-April: During the middle of the month (again, depending on your climate zone), you should be well past any danger of frost (except in very northern climates) and you can begin setting out your warm weather plants. If you intend to plant bush beans, you need to soak and start them outside the tower.

  Do not seed them in your towers, or you risk not having a harvest. Remember that they will grow straight up until they find sunlight – start the beans outside the tower, and then plant the seedlings (note that traditional transplanting is not possible with bush beans). Other things that can be started at this time include cilantro, chives, parsley and other herbs.

- Early May: If you're growing kale, plant onion sets between the kale plants. Once the onions grow to some size, transplant the kale to another area so the onions can grow to full size without unwanted competition. Harvest kale, spinach and lettuce as the plants grow. You'll have a constant supply of greens and help prevent them from bolting (going quickly to seed). Harvest leaves from the outside inward – harvesting interior leaves will reduce or even eliminate growth.

- Mid-May: Now that the weather is warming nicely, it's time to transplant your pepper and tomato plants to the lower levels of your towers (or to bring them outside if you're using buckets and bottles). Remember that the higher up the tower you plant these, the lower your yields will be. You can also now start your potatoes and sweet potatoes in buckets, but they will not fit in the towers.

- Early June: Things are really heating up now, both in terms of temperature and growth. If you planted peas, they can be harvested now. Once done, clear out the pea plants and make room for other additions.

As a note, all of the plants that you clear out of your garden that aren't being transplanted to other areas can be used in a compost pile. This will give you a free source of rich organic matter for use next year. Keep an eye on your beets during this time. Harvest them when they're large enough to eat, but don't let them sit so long they grow larger than the diameter of the hole in the fencing material.

- Mid-June: Your tomato plants should be a good size now, and ready for tying up. Tomatoes naturally tend to fall over. You can prevent this by attaching a piece of twine to the tower's structure, and then looping it under the tomato plant (tie the twine to itself or the tower, not the tomato plant). You'll need to do the same thing for your pepper plants, as well.

- Early July: July is all about harvesting as things ripen, and most of your veggies should be ready now. From July onward, the tower calendar and the bottle garden calendar are the same.

Major Milestones for Bottle Gardens

While the two calendars eventually merge, tower and bottle gardens have very different early milestones. Follow these steps if you're building a bottle and bucket garden.

- Early March: In one of your buckets, plant snap or snow peas. Soak them overnight in water to help them sprout earlier (this trick can and should be used with other similar vegetables, including bush/green beans and black beans). You can also plant your seed potatoes in the other bucket (and you can mix in peas with the potatoes to maximize your harvest down the road).

  Do not plant sweet potatoes at this time, though. In your other containers (various bottles), you can start planting other things, including spinach, lettuce,

collards and kale. Use three seeds to a single bottle, and once they've sprouted, thin it to just a single plant.

- Early April: Once April rolls around, start thinning out your plants so that you have just one per container. For lettuce, you can keep up to three plants per container. Eat the trimmings in a salad, or add them to your compost pile.

- Mid-April: Your beets should be ready to thin now. You want no more than one beet per two inches of soil in your containers. The greens can be eaten as well, so don't toss them out. If you're not interested in eating the greens, add them to your compost (you'll notice a trend here, always building your compost to ensure that you have access to this rich, essential amendment for your garden).

  You should start your tomato and pepper plants about this time (indoors). You can also start sweet potatoes (again, indoors). Make sure that your indoor containers have the same growing medium/soil mix as your outdoor containers to minimize shock when you transplant.

  Once your potatoes are growing well, "hill" them. This refers to covering all but the top few leaves with dirt, which ensures stronger growth and more production. You don't even need to use dirt to do this. You can use wood chips, mulch, even shredded newspaper. Now's also the time to start your herbs indoors.

- Early May: Harvest greens like spinach, kale, lettuce and the like. Remember to harvest leaves from the outside in to avoid damaging new growth and stunting or killing the plant. Continue hilling your potatoes as they grow taller.

- Mid-May: With the advent of warmer weather, it's time to take your tomatoes and pepper plants outdoors. These should be planted in your five-gallon buckets. Transplant your sweet potato slips to the bed you've prepared. Plant no more than four slips in two square feet. You'll need to make room for them by

harvesting some of what's currently growing there – it will likely be edible and shouldn't go to waste.

- Early June: It should now be time to start harvesting some of those delicious peas. Once they stop blooming, remove the plants (they're ideal additions to your compost pile). Loosen the soil in the buckets and start adding the herbs you started indoors. You can add any excess herbs to the smaller plastic bottles, as well.

- Mid-June: Your pepper and tomato plants should be growing strong by this point. In fact, they may be shading both your small and large bottles. The shade is actually a good thing, as it protects the more delicate plants from the harshest heat of the day. It will also help prolong the time before the greens bolt and go to seed.

  Harvest your greens as long as possible, and once they do form seed heads, uproot them and replace them with other options (arugula and mizuna are great choices, but you can go with something else if you prefer). If you planted chard, it should last throughout the summer.

- Early July: It's time to start harvesting your potatoes now. To determine if they're ready to harvest, just reach into the media and feel around the roots. Harvest any that are of a size that you want (they're edible at all stages). The potato plants will likely start dying off during July (they're not particularly heat tolerant), so save a couple of potatoes for seeding during the next planting session, and once the plants begin to die off, remove them from the bed.

  Add new compost and turn the soil, and you'll be able to plant bush beans or other crops that do well during the later months of the year. Carrots are good options, but almost any bean variety will do well. Squash and zucchini can also do well, but remember these plants grow very large, so plan your layout

accordingly. Pay attention to your tomatoes during this time. You'll notice clusters of small fruit, but probably few large ones.

You can encourage them to grow larger by pruning smaller ones. This encourages the plant to send its energy to the remaining fruit, meaning a larger harvest for you. The small, green ones you pick can be eaten (fried green tomatoes are a real treat).

Of course, if you're growing cherry tomatoes or other small-fruiting varieties, this doesn't apply to you. If you're not seeing the growth you want from your tomato plants, you can cut some of the "suckers" off the plant – this refers to the tops of the plants (or the bottom in this case, since you're growing them inverted).

Removing suckers encourages the plant to branch. Note that suckers can actually be turned into new tomato plants by scraping off a bit of the skin and then letting it sit in water for several days. Once roots form, they can be planted and a new tomato plant grown.

- Mid-July: Now's the time to prepare for your cooler weather fall planting. You'll once more need to start plants indoors. This should include things like broccoli, cauliflower and cabbage. You can add a second harvest of spinach as well if you want. If you eat lots of greens, then it might be a good idea to start a second harvest of chard, kale and collards indoors now as well.

  Your original crop will likely be showing signs of heat, wilting and discoloring. As the heat increases, your outdoor-grown greens will begin to get a little tougher. Don't discount them just yet, though. A little cooking will tenderize them nicely.

- Early August: Your tomatoes should be doing very nicely by this point, with lots of fruit hanging on the plants. Most will be green. Feel free to start picking them once they get to a decent size (whatever size you want, really). Vine ripening

isn’t really necessary, although it does enhance the flavor, and your tomatoes will ripen just fine sitting on your kitchen counter. This also keeps them away from pests and animals that will start munching on them as they approach full ripeness.

The simplest way to ripe tomatoes indoors is to create a set of racks lined with newspapers (a set of shelves will work well). Rotate your racks as the tomatoes ripen, adding fresh ones and eating ripe ones. This should last you through the duration of summer. It’s important to ripen tomatoes together, though.

As the fruit begins to turn red, it emits ethylene gas. This helps the surrounding tomatoes to ripen faster. Of course, you can feel free to let your tomatoes ripen on the vine if you’re not experiencing problems with pests.

- Mid-August: By this point, your carrots should be sprouted and ready to thin (if you chose to plant carrots, of course). You want to remove all the plants except for about one per half inch. That should still give you lots of carrots. For the fall veggies you just started indoors, transplanting time is almost here. You don’t want to set them out too early, or the late summer heat will kill them. They’ll eventually take the place of the beans and sweet potatoes.

  As the month wears on, start replacing your sweet potatoes and beans with cauliflower, cabbage and broccoli (assuming the fall crop has matured enough to be transplanted – make sure they have at least four “true” leaves).

- Early September: You should be able to harvest all of your beans and sweet potatoes by this point. Remove the plants after harvesting and transplant any fall veggies that haven’t made it outdoors yet. To give your fall crop the best chance of success, limit your plants to no more than one per square foot. Cabbage in particular can be damaged by close spacing.

You'll also want to start replacing your arugula and mizuna with lettuce. Add three seeds to each eight-ounce bottle, and then thin down to one as they grow. By this point, you should have a very good idea of just how many plants (and of what type) each of your containers can support, and you can stagger your planting so that you smoothly transition from summer greens back to lettuce and spinach.

- Mid-September: Your tomatoes should be mostly done by this point, although they'll continue to grow and produce until frost finally kills them. You'll find that late tomatoes don't taste as good as their earlier counterparts, so you might consider removing your tomato plants and replenishing the soil in the bucket.

  Don't throw out the soil, though. Sift out the roots and then fertilize and add some topsoil if necessary. If you want, you can then grow turnips and radishes as fall crops. If not, store your buckets away out of the weather so they'll be ready for next year.

- October through December: By this point, you'll only have cold-hardy plants in the garden. You can nurture them throughout the cold season, although some won't make it for the duration. Your lettuce will probably be the first to succumb to the cold. Your other leafy greens will go next. Plants in the actual ground will have the best survivability, and you should see at least a modest harvest from things like broccoli and cauliflower.

Year End Preparation

Once the growing season is done, it's time to button things up. Take down all of your containers. Recycle the plastic bottles – chances are good that the sun has damaged them to the point that they won't be usable next year. You can add new ones easily enough. If your buckets are showing signs of sun damage, you can get new ones easily

enough. Food-grade plastic buckets can be gotten free of charge from most bakeries (including the ones inside Wal-Mart stores).

Your Garden Journal

It's been a while since we touched on your garden journal, but it bears further exploration. Like your calendar, your journal will become an indispensable tool and aid in your efforts to grow your own food. The information about food-grade plastic buckets being available at no charge from bakeries is a prime example of the type of information you'll be recording in your journal, along with planting dates, growth rates, harvest yields, container placement and the like. Your journal will become an essential tool in your quest to grow your own food.

As a note, you might find it helpful to keep two journals. Actually, it would be two versions of the same journal – a physical copy and an electronic one. You can easily create a Google Doc and save it to Drive for access from your computer, laptop, tablet or smartphone. You can also use other programs for this, including:

- Google Keep
- Evernote
- Microsoft OneNote
- Simplenote
- Springpad

There are plenty of other options out there. These are just a few of the many apps available for use with your devices. We highly recommend combining that electronic version with a hardcopy as well. It's a whole lot easier to jot down notes in a physical notebook while you're in the garden – you don't have to worry about getting dirt or water on the screen of your device, for one thing.

This brings us to formatting the actual entries in your journal. Really, the sky's the limit here in terms of how detailed you want to get. You can make it as simple or complex as

you want or need. Here are a couple of examples of basic entries that let you fit multiple notes on each page, without sacrificing detail.

Tomato:

- (Big Boy)
- (Indeterminate)
- (Started March 1, 2015)
- (Germination rate)
- (When transplanted outdoors)
- (Number of transplants)
- (Green tomato harvest date and pounds of fruit per plant)
- (Ripe tomato harvest date and pounds of fruit per plant)
- (Ripe fruit harvest beginning and ending dates)
- (Duration from germination to ripe fruit harvest)
- (Length of harvest period)
- (Last frost)
- (First frost)
- (Weather issues that affected plant growth or fruit development)
- (Pest problems)
- (Notes for next growing season)

You can follow this format for all of your vegetables. You don't need to write them out as bullet points, either. Jot down the information in sentence form or write entire paragraphs if you want to. Use whatever format you're most comfortable with and ensures that you have access to the most important information at a glance. That's what your journal is really all about – giving you access to this type of information quickly and easily.

Chapter 7

Estimating Your Garden's Yield

It can be challenging to estimate the yield your garden will provide. That makes it hard to budget for what groceries you'll need to buy, throwing a wrench into your budgeting. The best advice would be to use the first year as a beta test – see how much your compact garden produces during the first year, and you'll know that you should get at least that much the second year.

You'll actually see higher yields the second year because you'll be more experienced with gardening, and have a better understanding of placement, plant needs, the transplanting process, and everything else. In this chapter, we'll talk about the expected yields of certain plants, and what you might expect from your compact garden if you take decent care of it.

Note that your yields will depend on a wide range of different factors. These include your efforts in terms of fertilizing, watering and ensuring your plants have plenty of light, your agricultural growing zone (which you can find at http://www.planthardiness.ars.usda.gov), and many others (including whether you use the tower plan, the bottle plan, or just dig straight into the earth). With that being said, here are some rough estimates of what you might expect from your compact garden.

Plant Type	**# of Plants**	**Yield per Plant (in Pounds)**	**Total Yield in Pounds**	**Days to Harvest**	**Harvest Duration (Days)**
Radish	12	2	24	25-35	1
Tomatoes	4	10	40	60-80	90
Turnips	16	1/4	4	50	1
Peppers	4	2	8	90	75
Onions	108	1/6	18	120-180	1
Carrots	216	1/12	18	75	1

Kohlrabi	9	2/3	6	60	1
Beets	64	1/4	16	55	1
Peas	6 (squares)	1	6	55	40
Broccoli	5	1-1/2	8	60-70	30
Cucumbers	2	5	10	55	45
Cabbage	2	5	10	80	1
Squash	2	8	16	55	45

These numbers are based on a four by four plot, and should give you a total of 190 pounds over the course of a season. Your mileage may vary, though. Remember that different plants have very different maturation rates, yields and space needs (which will impact the number of plants you can have in your garden).

It's vital that you customize the plans and information found in this book for your own needs. That includes both your available space, as well as your personal tastes when it comes to vegetables. While some growers will find more value in maximizing yields (which can be done by focusing on the most productive plants, giving you over 300 pounds in a season), and others will benefit more from focusing more on varieties they prefer to eat regardless of the yield.

Appendix 1: Hydroponic Indoor Growing Wall

Material:

Items to Source from Hardware Suppliers

- 2 – 80” 2 x 4 boards (cedar if possible)
- 2 – 48” 1 x 4 planks (cedar)
- Scrap wood (ideally sourced from pallets) to make 80” boards
- 4 – 52” 1 x 2 planks (cedar)
- 1 – 52” x 80” plastic sheeting (black)
- 1 – 80” length of snow fencing
- 1 – Plastic tub
- 1 – 48” length of metal gutter
- 2 – gutter endcaps (to prevent outflow)
- 1 box of drywall screws

- 2 – 48” T-12, 2 bulb fixtures
- 4 – 48” T-12 daylight bulbs (6500K)

Items to Source from Hydroponics Suppliers

- 1 – 10’ section of half-inch plastic tubing
- 1 – 50’ roll of quarter-inch tubing (you’ll actually need only about 5 feet)
- 1 hole punch
- 1 package of quarter-inch barbed connectors (10)
- 1 package of quarter-inch drip heads (10)
- 1 Ecoplus 1056 water pump
- 1 Hydrofarm TM01015 timer
- 3 sheets of Grodan 2-inch starter plugs (50/pk)
- 2 yards of Nufoam 24 x 2
- Liquid fertilizer

Assembling Your Hydroponics Wall

Step 1: Measure and cut the 1 x 4 and 2 x 4 boards. The 2 x 4 boards will measure 80 inches from end to end, and the 1 x 4 boards will attach to the ends at a 45-degree angle.

Measure the 1 x 4 boards at 48 inches from the inner ends.

Step 2: Cut 1 52-inch 1 x 2 cedar board and 2 48-inch 1 x 2 cedar boards.

Step 3: Trim the plastic (black) to 80 inches by 52 inches. Cut your snow fencing into 16 x 24 rectangles. The Nufoam should be trimmed so you have two pieces roughly 54 inches by 24 inches.

Step 4: In between the 1 x 4 boards, install the plastic, followed by the Nufoam (side by side). Then add the snow fencing.

Step 5: Attach screws to the bottom and top of the assembly. Leave the screw heads slightly protruding from the wood so tubing can be attached later.

Step 5A: Trim excess foam so that 2 x 4 and 1 x 4 boards sit flush against each other.

Step 6: Brace the frame on the back with 1 x 2 boards

Step 7: Sideboards should be attached to the top of the 1 x 4 boards. The Nufoam between the 1 x 4 boards will make these wider than your 2 x 4 boards. Make sure the screws penetrate both 1 x 4 and 2 x 4 boards. Scrap wood can be attached in the corners as bracing/support. Pre-drill your mounting holes to avoid damaging wood.

Step 8: Add feet to the sideboards. Scrap lumber can be used. Make sure each foot is a minimum of 12 inches long.

Step 9: Place plastic tub under wall.

Step 10: Cut grooves in each side of the tub to allow the gutter to mount flush.

Step 11: Install plastic in the gutter, leaving about 2 inches in the gutter. Trim excess plastic, snow fence and grow mat.

Step 12: Drill drip holes in the bottom of the gutter (needed to allow water to drain into the plastic tub).

Step 13: Place pump in the tub. Run tubing up the side of the wall, and then across the top of the grow wall. Connect the tubing to the exposed screw heads (zip ties, twist ties, etc.).

Step 14: Install drippers 6 inches apart along top section of tubing. Drippers should make contact with mat.

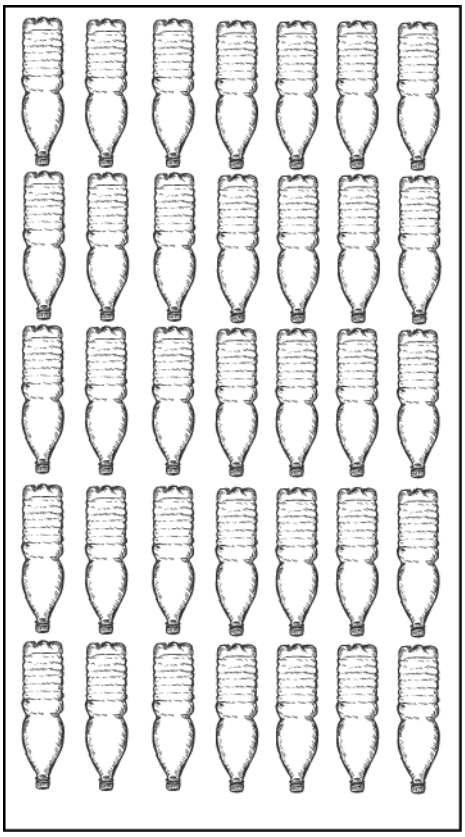
Step 15: Install rockwool plugs, making sure they contact the grow mat. Plugs should be pushed into the mat, but not too far. Leave sufficient room for root growth.

Step 16: Run a length of twin across the front of each row of rockwool to ensure all plugs remain in place and in contact with the mat.

Now it’s time to install your lighting. Position the lights roughly a foot from the wall to maximize light exposure for your plants. Emergency blankets (reflective) can also be used as makeshift “hoods” to reflect even more light to your plants.

Test your pump’s operation and for leaks in the tubing. Fill the reservoir and activate the pump. Give it time to pump water through the tubing, and then check the system’s operation.

Appendix 2: Plastic Bottle Garden Plan



While this plan is designed for outdoor use, it can easily be modified for indoor use with the addition of a catch pan underneath. This gives you a more cost-effective option than the grow wall described in the previous section, but it will yield less overall.

Pic

Materials You'll Need:

- 1 sheet of plywood
- 60 screws (drywall screws work well)
- 12 2-liter bottles
- 48 16.9-ounce water bottles
- Newspaper
- Soil mix

Note that most of the materials for this project can be sourced from waste materials, including the plywood sheet. However, they can also be purchased new if you prefer. Sourcing lumber is simple at construction sites, although you may not find a full sheet of usable plywood available here.

Step 1: Cut the bottoms off your bottles and rinse them thoroughly. Next, cut a piece out of the side of each bottle as illustrated. Do this for all bottles.

Step 2: Drill a screw through the bottle caps. This is necessary for weight dispersion across a greater area of the bottle (and to ensure the bottles last a full year).

Step 3: Install your bottles on the plywood, using even spacing.

Step 4: Add a wad of newspaper to each bottle and then fill each bottle with soil mix.

Appendix 3: 4 x 4 Outdoor Garden Plan

Step 1: Find the sunniest spot in your yard capable of sustaining a 4 x 4 foot in-ground garden.

Pic

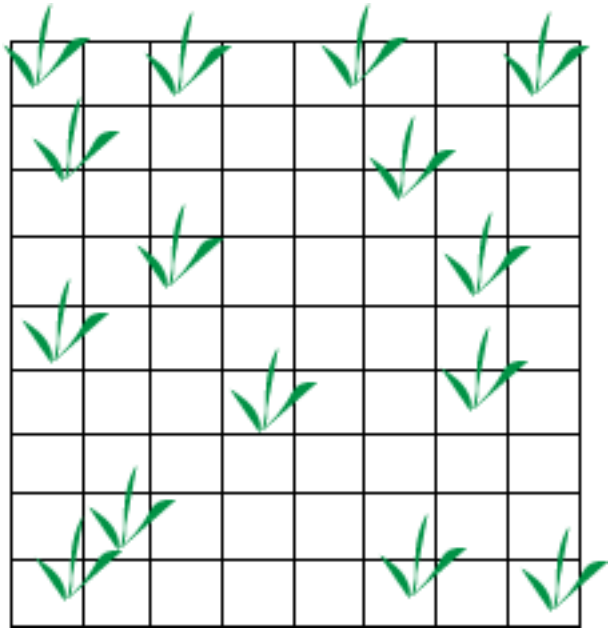
Step 2: Check drainage (higher elevations are preferable to low lying areas).

Step 3: Mark off your garden area. If possible, laydown organic material and allow it to sit for a year. Otherwise, follow the directions listed in the outdoor garden chapter.

Step 4: Mark off 1-foot squares with twine.

Step 5: If you're going to use garden towers, build and install them now.

Step 6: First planting.



Appendix 4: Garden Tower Build Plan

Materials Needed:

- 3-foot high fencing (2 sections, minimum 40 inches in length)
- 3-foot wide landscaping cloth (2 seconds, minimum 42 inches in length)
- Zip ties or wire for attaching the landscaping cloth

Tools Needed:

- Box cutter
- Wire cutter
- Pliers
- Leather gloves
- Measuring tape

Step 1: Measure 19 squares in the fencing. This should form a cylinder of 1 foot in diameter.

Step 2: Cut the fencing to your desired length (using wire cutters).

Step 3: Measure 20 squares in the fencing.

Step 4: Cut the fencing with wire cutters.

Step 5: Form a cylinder out of the fencing.

Step 6: Use cut ends of fencing as hooks (bend the ends back on themselves) to hold the cylinder together.

Step 7: Measure tower diameter.

Step 8: Measure and cut your landscape fabric. You'll need 2 sections at 42 inches in length.

Step 9: Place one section inside the cylinder.

Step 10: Poke holes in the fabric at the top and bottom of the cylinder. Secure the fabric to the fencing with zip ties. You can provide additional support by repeating these steps inside the cylinder, as well.

Set this section aside.

Step 11: Repeat the above steps (5-7) with the 20-square section of fencing. However, do not secure the last 2 end sections (step 6).

Step 12: Insert the lined section of fencing into the one you just constructed. Sections should overlap by two squares.

Step 13: Turn the cylinders so that the seams are opposite one another, and secure the two together by weaving the loose ends together.

Step 14: Reinforce the two sections by weaving spare wire around points where they connect. The goal is to create a single tower out of the two cylinders.

Step 15: Work the second section of landscape fabric between the smaller and larger cylinders. This may require some effort.

Step 16: Attach the landscape fabric to the outer cylinder the same way you did the first section.

Step 17: Dig a hole for each tower you're building. Holes should measure 16 inches across and 8 inches deep. Save the dirt from the holes.

Step 18: Place the tower in the hole and add the dirt removed from the hole into the tower. Backfill around the tower to make it is secure and to prevent it from falling.

Step 19: Fill the tower with soil mix.

Step 20: When transplanting time comes, simply cut an X into the fabric and pull back to access the planting area.

Step 21: Add the plant to the hole you just made.

Step 22: After transplanting, water the tower (and all plants) thoroughly.

Conclusion

This guide should have provided you with the inspiration and information needed to start your own compact garden. Using the tips and tricks outlined in this book, you have the ability to start your own garden for next to nothing in terms of costs, and even find help if you're pressed for time in the area of maintenance.

Be resourceful here. Use the material and seed sources listed, or find those in your nearby area that offer lower costs or less hassle. Source what supplies you can from waste material wherever possible to further reduce your costs and increase your self-reliance.

Growing your own delicious, healthy food is simpler than you might have ever imagined. It just requires that you get started.